

# KODIAK SUBAREA CONTINGENCY PLAN

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## **BACKGROUND: PART ONE - SUBAREA INFORMATION**

### **A. SUBAREA PLAN**

This Subarea Contingency Plan (SCP) supplements the *Alaska Federal/State Preparedness Plan for Response to Oil and Hazardous Substance Discharges/Releases* (the **Unified Plan**). The SCP in conjunction with the **Unified Plan** describes the strategy for a coordinated federal, state and local response to a discharge or substantial threat of discharge of oil or a release of a hazardous substance from a vessel, offshore facility, or onshore facility operating within the boundaries of the Kodiak Subarea of Alaska.

For its planning process, the federal government has designated the entire state of Alaska as a planning “region” and the western half of the state, including Kodiak Island, as a planning “area.” The State of Alaska has divided the state into ten planning “regions” of which one is the Kodiak Island Region. As part of the unified planning process, this SCP addresses the Kodiak Island Region, and to avoid any confusion in terms, the region is referred to as the Kodiak Subarea.

This plan shall be used as a framework for response mechanisms and as a pre-incident guide to identify weaknesses and to evaluate shortfalls in the response structure before an incident. The plan also offers parameters for vessel and facility response plans under the Oil Pollution Action of 1990 (OPA 90). Any review for consistency between government and industry plans should address the economically, culturally and environmentally sensitive areas and any related protection strategies. Additionally, such reviews should compare the quantity and type of response personnel and equipment available within the subarea and the state (including industry and federal, state, and local government) to probable need during a response.

### **B. SUBAREA DESCRIPTION**

The descriptions which follow provide a general overview of the physical, meteorological, geologic, and geographic characteristics of the Kodiak Subarea. The information, included in the plan to help familiarize responders with the Kodiak Subarea, was compiled from several sources, including the Kodiak Island Borough Coastal Management Plan and the Alaska Department of Community and Regional Affairs (DCRA) Community Database.

#### **1. Area of Responsibility**

The Kodiak Subarea planning region corresponds with the Kodiak Island Borough municipal boundaries and 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.

## **2. Physical Setting**

At 3,588 square miles, Kodiak Island is the largest island in Alaska and is the second largest island in the United States. Kodiak Island consists primarily of mountainous terrain with mountain ridges generally trending northeast-southwest. Although several peaks are greater than 4,000 feet in elevation, most range between 3,000 and 4,000 feet. About 40 small cirque glaciers (none greater than 2 miles) are evident along the main divide. Numerous hanging valleys feed into the main canyons radiating from the central divide. Relatively short, swift, clear mountain streams drain the uplands.

Kodiak Island Borough lands along the west side of Shelikof Strait extend inland to approximately the Gulf of Alaska drainage divide within the Aleutian Range of the Alaska Peninsula. Similar to Kodiak Island, the mountain range is oriented northeast-southwest. Mountain elevations within this area are generally less than 5,000 feet and the stream and river drainages are generally short and steep. Higher elevations of the Aleutian Range along the west boundary of the Subarea include glaciers and perennially snow-capped peaks of active and inactive volcanoes.

## **3. Climate**

The Kodiak Subarea experiences a characteristic maritime climate. The North Pacific high pressure system dominates the area during the summer, bringing south to southwest winds and typical average air temperatures ranging from 50-54 degrees Fahrenheit. In winter the weather is controlled by the Aleutian low atmospheric pressure system. Winds associated with this system are generally north to northwesterly, resulting in low temperatures at or below freezing. Summer winds tend to be slightly higher than in winter and are more consistent in direction. Shelikof Strait is bounded by mountains on the north and south and can be subjected to high winds related to the funneling of air between these mountain ranges.

Kodiak is warmed by the Japanese Current, which prevents the extreme seasonal temperature variations encountered in mainland Alaska. Kodiak's climate is similar to that of Southeast Alaska, but with less precipitation. January temperatures in the Kodiak Subarea range from 14 to 46 degrees Fahrenheit. July temperatures vary from 39 to 76 degrees. Average annual precipitation is 54.5 inches, with considerable ranges in precipitation amounts throughout the Subarea.

## **4. Geology**

Exposed bedrock and shallow soils prevail along the rugged coastline of the Kodiak Subarea. Northwest Kodiak shows effects of glaciation, with long, narrow fjords and U-shaped valleys. These lie perpendicular to the mountains and the geologic fault lines. Typically rivers enter at the heads of the fjords and are characterized by shorter, wider estuarine embayments. Southwest Kodiak Island and the Trinity Islands tend toward long, continuous shorelines with a few crenulate bays. Most of the sandy beaches occur on the western coast of Kodiak Island and the Trinity Islands.

Shelikof Strait is a trough formed by plate subduction tectonics. The Strait is a southwest continuation of Cook Inlet extending approximately 170 miles to a juncture with the waters of the North Pacific Ocean. The mountains and lowlands surrounding Shelikof Strait exhibit a full range of characteristic glacial features, and the offshore geology of the Strait also displays evidence of past glaciations. Ice scour and moraine deposits in Shelikof Strait attest to the fact that ice completely filled the Strait and spilled out onto the Continental Shelf during past glacial advances.

The seafloor in Shelikof Strait is broad and generally flat with closed basins. Along the south side of the Alaska Peninsula, Shelikof Strait has relatively steep slopes descending over 190 meters in the south;

areas of deepest water in Shelikof Strait occur along the southeastern side adjacent to Kodiak Island where they reach to depths of 240 meters.

## **5. Geography**

Land development in the Kodiak Subarea has been limited to some extent by the dramatic topography of the archipelago, where elevations rise steeply from sea level to peaks of 2,000 to 4,000 feet. Most developable parcels of land are located on the relatively flat land along major bays and inlets. These bays and inlets generally form the terminus of the major drainages on Kodiak Island, and these populated areas often coincide with important wildlife habitat areas.

Until recently, the ownership status of many areas within the Kodiak Subarea was described as “unclear.” While the status of certain areas may still be indeterminate, the Kodiak Island Borough Coastal Management Program has documented a trend over the last decade toward increased private ownership of discrete parcels of land in the subarea. The general pattern of land ownership has been described as numerous small parcels of privately owned land surrounded by federal or state lands which are managed for wildlife and retained in public ownership.

Major landowners in the Kodiak Subarea include the Kodiak Island Borough, the municipalities and villages in the subarea, state and federal agencies, and local and regional native corporations. Most of the Borough land was originally obtained and selected under municipal entitlement from the State of Alaska; other parcels were obtained through trades with the State. Over 50 per cent of Borough land is located on Shuyak Island and Raspberry Island. State lands fall under the jurisdiction of the ADNR, ADF&G, and occasionally other state agencies. Federal lands include Kodiak National Wildlife Refuge land, National Parks lands, and U.S. Coast Guard property. Much of the surface and subsurface land in the Kodiak Subarea is owned by regional and village Native corporations established under the Alaska Native Claims Settlement Act (ANCSA) of 1971. Some of these lands are located within the boundaries of the Kodiak National Wildlife Refuge.

The Kodiak Subarea includes the City of Kodiak, the U.S. Coast Guard Base, the road system communities of Bells Flats, Pasagshak, Anton Larson Bay and Chiniak, the rural communities of Akhiok, Karluk, Larsen Bay, Old Harbor, Ouzinkie, and Port Lions, and numerous remote facilities and settlements, including Ben Thomas Logging Camp (Kazakof/Danger Bay), Big Sandy Lake Logging Camp, Lazy Bay/Alitak Cannery, Munsey’s Bear Camp and Lodge, Olga Bay Cannery, Port Bailey Cannery, Port O’Brien/Uganik Bay Cannery, Port Williams Lodge/Cannery (Shuyak Island), Uyak Bay Cannery, and Zacher Bay Lodge/Cannery (Uyak Bay). Most of these communities and facilities are profiled in the Resources Section of this plan.

## **6. Coastal Resources**

The diverse habitats of the Kodiak Subarea support extensive fish and wildlife populations that are extremely important to the social, economic, and cultural welfare of local residents. Offshore areas support a highly productive marine ecosystem, rich with intertidal, benthic, and pelagic plant and animal life which supports extensive populations of marine and anadromous finfish, shellfish, seabirds, and marine mammals. Rocky shorelines and cliffs provide nesting areas for seabirds and pupping/haul-out areas for seals and sea lions. An assortment of shorebirds and waterfowl utilize the resources of the Kodiak Subarea, either as permanent residents or for nesting, wintering, or staging/feeding sites along their migratory paths. The rivers, lakes and streams in the subarea provide aquatic habitats for resident and anadromous fish important to commercial fisheries, subsistence harvests, and recreational activities.

These fish resources are also a critical food source for upland populations of the Kodiak brown bear. In addition to the brown bear, elk, Sitka black-tailed deer, mountain goats, and numerous smaller mammals also populate upland areas in the Kodiak Subarea. The south side of the Alaska Peninsula also provides habitat for moose.

These resident and migratory populations of fish and wildlife depend on the availability of appropriate habitat and environmental conditions in order to exist in the Kodiak Subarea. A healthy coastline and continued abundance of marine, intertidal, and upland food sources are vital to the survival of all inhabitants of the Kodiak Subarea, including human populations. The protection of marine and coastal resources from the devastating effects of oil pollution is of primary concern to local residents, and these concerns are reflected in the Sensitive Areas section of the KSCP. For additional information on fish and wildlife diversity and abundance in the Kodiak Subarea, refer to the Sensitive Areas portion of this document.

## **7. History, Culture and Economy**

Kodiak Island has been inhabited since 8,000 BC by Sugpiaq Eskimos. In 1792, Russian fur trappers settled on the island. Sea otter pelts were the primary incentive for Russian exploration at that time, and the commercial harvest of sea otter fur eventually led to the near-extinction of the species. Kodiak was the first capital of Russian Alaska, and Russian colonization had a devastating effect on the local Native population. By the time Alaska became a U.S. territory in 1867 (the same year during which the capitol was moved from Kodiak to Sitka), the Koniag region Eskimos had almost disappeared as a viable culture.

In 1882, a fish cannery opened at the Karluk spit, and this sparked the development of commercial fishing in the area. The City of Kodiak was incorporated in 1940, and the Kodiak Island Borough was incorporated in 1963. During the Aleutian Campaign of World War II, the Navy and Army built bases on Kodiak Island; the Air Force has also been active in Kodiak in the past. Fort Abercrombie was constructed in 1939, and later became the first secret radar installation in Alaska. The Coast Guard eventually assumed the U.S. Navy property on Kodiak, and today the Kodiak Coast Guard base includes approximately 2,000 military personnel and their families.

The 1960s brought growth in commercial fisheries and fish processing in the Kodiak Subarea until the 1964 earthquake and tsunami virtually leveled the downtown area, destroying the fishing fleet, processing plant, canneries and 158 homes. The infrastructure was rebuilt, and by 1968 Kodiak had become the largest fishing port in the U.S. in terms of dollar value of landings. When the 1976 Magnuson Act extended U.S. fisheries jurisdiction to 200 miles offshore, Alaskan groundfisheries saw a significant reduction in foreign competition and the groundfish processing industry in Kodiak began to develop as well. Today, Kodiak culture is grounded in commercial and subsistence fishing activities. Kodiak is one of the nation's top ports in both seafood volume and value. Municipal, state and federal agencies are the second largest local employer, and summer tourism continues to expand throughout the Kodiak Subarea.

## **8. Pollution Risks From Oil And Hazardous Chemicals**

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 refined petroleum products are transported through the Kodiak Subarea and adjacent waters. Refined 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 discharges 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 1989 *Exxon Valdez* oil spill demonstrated that the Kodiak Subarea faces significant pollution risks from spills originating outside the subarea.

A qualitative risk analysis was performed as part of the Kodiak Subarea Contingency Planning process, and the results of this analysis are presented later in this section.

### **C. SUBAREA COMMITTEE AND WORK GROUPS**

The Kodiak Subarea Committee is a group of experienced representatives from federal, state and local government agencies, assembled as a preparedness and planning body for the Kodiak Subarea. Each member of the Kodiak Subarea Committee (Captain Ed Thompson, U.S. Coast Guard; Kurt Fredriksson, Alaska Department of Conservation; and Jerome Selby, Kodiak Island Borough Mayor) is empowered by their respective agency to make decisions and to commit the agency to carry out their roles and responsibilities as described in the Unified Plan.

The Subarea Committee has delegated the task of researching and drafting the Kodiak Subarea Contingency plan to three work groups: Logistics, Operations and Sensitive Areas. These work groups developed the Kodiak SCP section-by-section, with the Subarea Committee providing input and editing throughout the process. The Operations Work Group, led by the U.S. Coast Guard (FOSC for coastal spills), was responsible for the Response and Risk Assessment portions of this document. The Logistics Work Group, led by the Alaska Department of Environmental Conservation (SOSC), developed the Resources and Hazardous Materials sections of this document. The Sensitive Areas Work Group, led by the Kodiak Island Borough (LOSC), developed the Sensitive Areas portion of this document. All work groups were involved with writing and editing introductory and background text, as well as the scenarios included in the plan.

Work group participants represented a wide variety of interests, including industry representatives (shipping companies, facility owners/operators, cleanup contractors), emergency response officials, environmental groups, fishing industry representatives, private consultants, oils spill response contractors, regional citizens advisory councils, and members of the public. Work group meetings, held approximately once a month from March 1997 through April 1998, were open to the public and were advertised through the local Kodiak media. The Kodiak Subarea Committee and Work Groups invited representatives from the following agencies, organizations, and private industries to participate in the Kodiak SCP development:

- Alaska Department of Environmental Conservation
- Alaska Department of Fish and Game
- Alaska Department of Military and Veteran Affairs/Division of Emergency Services
- Charter boat operators
- Commercial fishing industry groups
- Community members/local residents
- Kodiak Island Borough Community Development Department
- Kodiak Emergency Services Organization
- Prince William Sound Regional Citizen's Advisory Council
- Cook Inlet Regional Citizen's Advisory Council
- National Park Service
- Kodiak National Wildlife Refuge

- Kodiak Area Native Association
- Tesoro Alaska Petroleum Company
- Cook Inlet Spill Response and Prevention, Inc.
- Alaska Chadux Corp.
- Petro Marine, Inc.
- Kodiak Oil Sales
- Kodiak Fisheries Technology Center
- National Marine Fisheries Service
- U.S. Coast Guard
- Interested community members
- U.S. Department of the Interior
- Kodiak local & regional fishing organizations
- SERVS Vessel Response Corp.
- Arco Marine
- Alaska Department of Natural Resources

## BACKGROUND: PART TWO - KODIAK SUBAREA SPILL HISTORY

Each of the communities and remote settlements in the Kodiak Subarea faces the risk of oil or hazardous materials pollution from local shoreside facilities and/or vessel traffic. Considerable vessel traffic transits the waters of the Kodiak Subarea, ranging from small fishing and recreational vessels to large crude oil tankers and freight vessels. Both crude and refined oil products are shipped through the waters adjacent to Kodiak Island. In addition, Liquefied Natural Gas and crude oil tank ship traffic in Cook Inlet and Prince William Sound also pose a potential threat to Kodiak Island and its adjacent waters.

By comparison with other regions in the state, the threat of an inland spill on Kodiak is minimal. There are no refineries in the Kodiak Subarea, however the subarea does support a number of fish canneries and processing plants, which are a potential source for chemical spills (primarily ammonia and chlorine). The largest inland facility on Kodiak is the USCG base, which has several fuel farms containing gasoline, diesel, aviation fuel, and bunker crude oil.

While it is difficult to accurately quantify the risks posed by vessel transits and upland storage facilities in the Kodiak Subarea, an examination of the oil spill history in the subarea provides some insight into the types of oil spills which have plagued Kodiak in the past. The tables which follow summarize recent oil spill data for the Kodiak Subarea (as compiled by the U.S. Coast Guard, NOAA, and ADEC). These data illustrate that Kodiak is threatened both by major releases from tank vessels and upland facilities and by smaller, chronic releases from the local vessel fleet.

**Table F-1: Oil/Oil Product Spills In The Kodiak Subarea By Source And Fuel Type**

[Source: USCG MSD Kodiak files]

### TOTAL NUMBER OF OIL SPILLS, 1991-1997

	Fishing Vessels	Commerc Vessels	Commerc Facil.	Public Vessels	Public Facil.	Recreat. Vessels	Aircraft	Unknown
<b>Diesel</b>	121	3	2	6	0	0	0	77
<b>Waste Oil</b>	45	1	0	3	6	1	0	27
<b>Lube Oil</b>	15	2	0	4	0	0	1	2
<b>Hydraulic</b>	27	2	3	1	0	0	0	6
<b>Jp-5</b>	0	0	0	4	2	0	0	0
<b>Unknown</b>	7	0	3	1	0	1	0	26

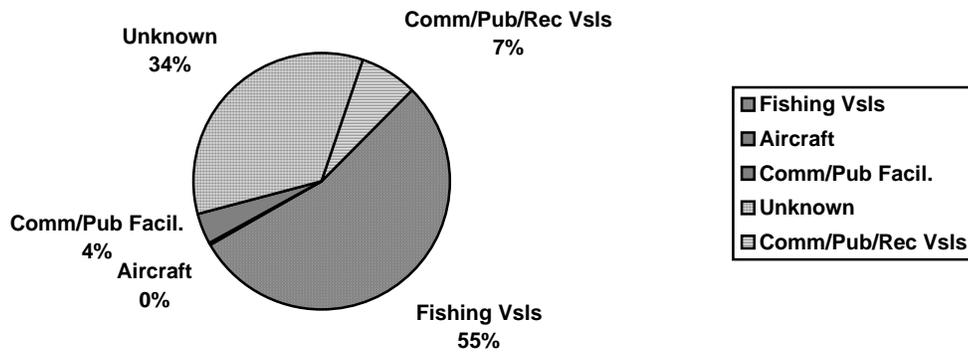
### TOTAL QUANTITIES OF OIL SPILLED (in Gallons), 1991-1997

	Fishing Vessels	Commerc Vessels	Commerc Facil.	Public Vessels	Public Facil.	Recreat. Vessels	Aircraft	Unknown
<b>Diesel</b>	23,108	409	14	9	0	0	0	1,873
<b>Waste Oil</b>	182	200	0	14	32	5	0	111
<b>Lube Oil</b>	332	160	0	5	0	0	8	53
<b>Hydraulic</b>	122	2	55	1	0	0	0	24
<b>Jp-5</b>	0	0	0	191	502	0	0	0
<b>Unknown</b>	220	0	16	1	0	10	0	257

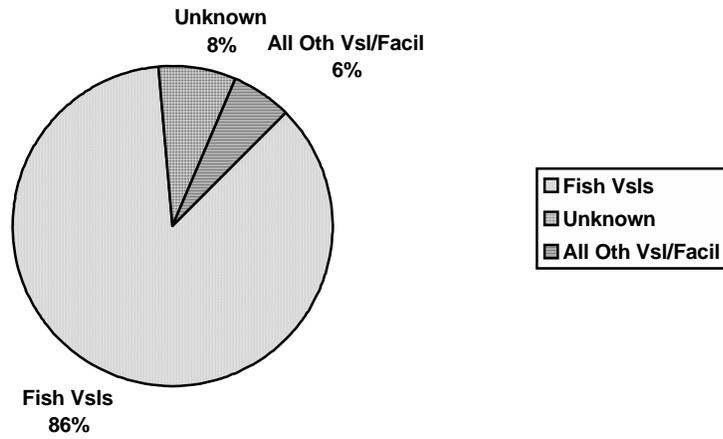
**Table F-2: SPILL TOTALS And AVERAGES BY VESSEL TYPE, 1991-1997**

Vessel Type	Total # Spills, 1991-1997	Average # of spills per year	Total Amt. Spilled Product, 1991-1997	Average Amt. spilled product per year
Fishing Vessels	215	30.7	23,964	3,423
Commercial Vessels (Tugs, Barges, Tankers)	8	1.1	771	110
Commercial Facilities	8	1.1	85	12
Public Vessels	19	2.7	221	32
Recreational Vessels	2	.3	15	2
Aircraft	1	.1	8	1
Unknown	136	19.4	2,318	331
Public Facilities	8	1.1	534	76

**Figure F-3: Total Number of Oil Spills By Source, 1991-1997**  
 [Source: USCG MSD Kodiak]



**Figure F-4: Total Quantities of Oil Spilled by Source, 1991-1997**  
[Source: USCG MSD Kodiak]



**Table F-5: Oil Spills (50 Gallons Or More) In The Kodiak Subarea, 1991 - 1997**

[Source: USCG MSD Kodiak records, ADEC, NOAA]

Vessel/type or Source	Date	Type of product	Amount (gallons)	Comments
T/V Exxon Valdez*	3/89	crude	11 million	devastating wildlife loss
M/V Powhatan (tug)	6/91	diesel	300	
F/V Windrunner	11/91	diesel	840	derelict vessel release
F/V Alaska Spirit	1/92	diesel	200	
F/V Mahato	1/92	diesel	2,000	vessel sank
F/V Silver Star	3/92	diesel	42	vessel grounded & sank
USCG Air Station	4/92	JP-5	4,700	fuel valve failure
USCG Air Station	4/92	diesel	46,200	onshore pipe broke
F/V Dutchess	5/92	diesel	500	grounding
F/V Point Sophia	5/92	lube oil	100	vessel sank
M/V La Poncena	7/92	waste oil	200	
F/V Selief	7/92	diesel	100	grounding
F/V Ocean Hope 3	7/92	diesel	250	
F/V Judy M	7/92	diesel	200	vessel fire, partial sinking
F/V Forum Star	7/92	diesel	50	refueling
Kodiak Power Plant	9/92	diesel	125	tank overfill
F/V Miss Angel	10/92	diesel	2,000	vessel sank
F/V Massacre Bay	1/93	diesel	5,040	
USCG Air Station	1/93	Jet A	10,000	fuel valve frozen
F/V Yukon	3/93	diesel	1,000	vessel sank
Safeway Store	4/93	diesel	50	overfill heating tank
F/V Topaz	5/93	diesel	100	
Source unidentified	7/93	unknown	50	.25 x 5 NM sheen
F/V Francis Lee	7/93	diesel	10,000	vessel sank
Arctic Dream (passenger vessel)	9/93	diesel	100	vessel grounded, sank
Source unidentified	9/93	diesel	60	200 ft x 2 NM sheen
F/V Trade Wind	9/93	diesel	50	refueling
F/V Edith Mae	10/93	diesel	200	
USCG ISC Kodiak	10/93	diesel	300	hose failure
Source unidentified	12/93	diesel	50	
USCG ISC Kodiak	1/94	diesel	980	fuel overflow
Kodiak Baptist Mission	1/94	diesel	600	aging pipe fittings leaked
F/V Eagle	2/94	diesel	4,000	vessel sank
FNT 180 (barge)	3/94	lube oil	110	55 gal. drums overboard
USCGC Jarvis	3/94	JP-5	100	
USCGC Jarvis	3/94	diesel	100	tank overfill
F/V Shakari	5/94	diesel	150	
M/V Miller Freeman	5/94	diesel	100	
F/V Millenium	6/94	diesel	75	
F/V Serenity	6/94	diesel	150	vessel sank
Source unidentified	6/94	lube oil	50	1 NM x .25 NM sheen
USCG ISC Kodiak	6/94	JP-5	1,300	drainline leaked
F/V Destiny	6/94	diesel	300	vessel burned & sank
F/V Ocean Hope 3	8/94	diesel	50	
F/V Dylan's Dream	8/94	diesel	600	vessel sank
F/V Dylan's Dream	8/94	lube oil	120	" "
F/V Knight Island	8/94	diesel	4,000	vessel sank
F/V Knight Island	8/94	gasoline	200	" "

F/V Sockeye	9/94	diesel	100	
Bells Flats Constr. Site	9/94	MC 70	10,500	buried drums road sealer
USCGC Sherman	9/94	diesel	150	tank overflow
USCG ISC Kodiak	11/94	waste oil	100	steam plant spill
F/V Merlin	11/94	diesel	80	grounding
F/V Hustler	1/95	diesel	1,000	grounding, tanks holed
F/V Excalibur II	2/95	diesel	50	
Source unidentified	3/95	diesel	150	
Source unidentified	8/95	diesel	300	oil on shore
M/V Kodiak Safari	9/95	lube oil	50	vessel sank
Ward's Cove Packing	9/95	diesel	40	
F/V Royal Baron	10/95	diesel	2,000	sinking
F/V Royal Baron	10/95	lube oil	50	“ “
USCGC Harriet Lane	10/95	JP-5	90	
USCG Air Station	10/95	av. fuel	100	
F/V Blue Fox	1/96	diesel	200	vessel sank
F/V Sally J	1/96	diesel	1175	fire/sinking
F/V Blue Fox	1/96	diesel	300	
F/V Desiree C.	4/96	diesel	700	vessel sank
F/V Dutchess	4/96	diesel	250	
Source unidentified	8/96	diesel	1,000	federalized spill
Source unidentified	11/96	diesel	50	
USCG Air Station	12/96	JP-5	500	
F/V Peril Cape	1/97	diesel	260	vessel sank
F/V Sandra W.	1/97	diesel	2,800	vessel sank
F/V Renegade	8/97	diesel	400	

\* The *Exxon Valdez* oil spill, which occurred prior to 1991, is included in this chart because of the spill's enormous size and the significance of the spill to Kodiak residents.

## **BACKGROUND: PART THREE - RISK ASSESSMENT**

A qualitative risk assessment of oil and hazardous substance spill threats in the Kodiak Subarea was undertaken as part of the subarea contingency planning process. This risk assessment assisted the planning process in several respects. The level and types of spill risks observed in the remote villages of Kodiak were used to help determine the contents of the equipment packages that will be staged at these locations. Likewise, the response priorities described in the Response Section of this plan were developed to be useful for the types of spills described in the Scenarios Section of this plan. The Kodiak Subarea Contingency Plan has been designed so that it can be utilized not only during catastrophic, large-scale spills but also during smaller, fishing vessel source spills, which are more commonly encountered by Kodiak response personnel.

Kodiak Subarea Committee Work Group members relied on historical oil spill data recorded by the Alaska Department of Environmental Conservation, NOAA, and the U.S. Coast Guard MSD Kodiak, in combination with observations by Subarea Committee and Work Group members, to identify the potential sources and types of oil spills which may occur in the Kodiak Subarea. These categories of spill risk have been qualitatively analyzed for the purpose of this plan, and include the following possibilities:

- crude oil tanker spills in adjacent waters
- crude oil tanker spills originating in Prince William Sound or Cook Inlet
- operational spills at fixed facilities
- catastrophic spills due to equipment failures or tank ruptures at fixed facilities
- operational spills from fishing vessels during refueling
- fishing vessel-source spills due to vessel casualties
- freight vessel non-persistent spills due to casualties or groundings
- freight vessel bunker fuel spills due to casualties or groundings
- “orphan” spills which originate from underground storage tanks or other unidentified sources
- operational spills from tank vessels during refueling at Kodiak facilities
- tank vessel non-crude spills which result from casualties or groundings
- fish processing vessels with hazardous substances (ammonia/chlorine)

Upon examining historical spill data, and analyzing near-miss events and other observations and data regarding the threat of oil spills in Kodiak, Work Group members from the Kodiak Subarea Committee determined that the risk of oil spills in Kodiak varies among communities on Kodiak Island. Important variables such as season, prevailing weather, and time of day may aggravate the risk of certain types of spills.

### **A. FINDINGS FROM RISK ASSESSMENT IN KODIAK SUBAREA**

Kodiak Subarea Committee work group members made the following conclusions regarding the risk of oil and hazardous substance spills in the Kodiak Subarea. These observations are reflected in the four scenarios which were chosen for inclusion in this plan, in the response priorities identified in previous sections, and in contents of the Borough-owned spill response equipment packages which have been staged for use as first response resources in the remote communities of Kodiak Island.

(Respective order of findings does not necessarily reflect severity or priority of risk)

**1. The most common type of oil spill in the Kodiak Subarea is a fishing vessel-source diesel spill which occurs during refueling.** Fishing vessel diesel spills are the most common type of oil spill on

Kodiak, according to the records of the USCG MSD Kodiak and a NOAA report documenting oil spills on Kodiak Island during an eleven year period (1985-1995).

**2. Foreign-flag freight vessels, especially log ships, pose a formidable spill risk, especially early in transit when such vessels carry significant quantities of bunker crude oil on board.** In the fall of 1996, a near-miss occurred when the Korean flag logship PAN DYNAMIC suffered a loss of propulsion in Danger Bay. The PAN DYNAMIC had onboard nearly 500,000 gallons of bunker crude oil, and had the vessel grounded or the hull ruptured, the resultant spill would have presented significant challenges to responders, including a possible language barrier, an unresponsive Responsible Party, no vessel contingency plan, and the remote location of the threatened shoreline areas. Freight vessels like the PAN DYNAMIC frequently transit the waters adjacent to Kodiak, particularly during the summer months. The recent grounding of the KUROSHIMA (November, 1997) in Dutch Harbor, Alaska further illustrates the risk posed by foreign cargo vessels. The KUROSHIMA grounded in a winter storm and spilled approximately 40,000 gallons of bunker fuel. This scenario could easily have occurred in Kodiak.

**3. In several of the remote communities on Kodiak, the municipal/village tank farms pose a considerable risk for both operational spills during refueling and catastrophic spills resulting from old or poorly maintained tanks and piping.** Limited funding and resources in many smaller communities contribute to this problem.

**4. The U.S. Coast Guard Integrated Support Command (ISC) Kodiak has the largest quantity of fuel stored at their upland facility in Women's Bay, and a tank failure at this facility presents the potential for a large volume spill on Kodiak.** The fact that a large quantity of response equipment and personnel are collocated with the facility serves to mitigate the risk of a large-scale spill or release at ISC Kodiak.

**5. In Kodiak, as in many parts of rural Alaska, the term "worst case scenario" may be linked more closely to geographic location, type of fuel, and weather/seasonal conditions than to the actual quantity of oil involved.** Most areas and communities in the Kodiak Subarea are not accessible by road system, and adverse weather conditions often complicate air and sea travel in the region. For this reason, a spill which originates in or threatens remote areas, especially environmentally sensitive or subsistence use areas, will pose many logistical challenges during a response. Other factors, such as the type of product spilled, nationality of vessel master and crew, and attitude and resources of the Responsible Party, can seriously complicate a spill response.

**6. The large number of underground storage tanks on former defense sites poses a potential spill risk, especially when the location and/or contents of these tanks is unknown.** The risk of leaks from underground storage tanks is chronic in the Kodiak Subarea, and while the quantity of oil or other hazardous materials stored in these tanks is generally limited, it is important to recognize that underground storage tanks on FUDS and other such sites do pose a spill risk.

**7. A crude oil tank ship operating in Prince William Sound, Cook Inlet, or other areas adjacent to Kodiak could potentially affect Kodiak Island, even if the spill source is located considerably beyond the limits of the Kodiak Subarea.** This lesson was learned by Kodiak during the T/V EXXON VALDEZ spill, which devastated many shoreline areas in the Kodiak Subarea. It is important that the Kodiak Subarea plan be linked, through notification procedures, communications and response actions, with subarea plans for adjacent regions. It is important that, when more than one local government is affected by a spill, the local governments work together within the command structure.

**8. The fish processing plants located in the City of Kodiak as well as in several remote communities pose a moderate threat of hazardous substance releases, due to the significant quantities of chemicals such as chlorine and ammonia which are involved in processing fish products.**

**B. SUMMARY AND CONCLUSIONS**

Based on the findings summarized above, the following elements were included in the body of the Kodiak Subarea Contingency Plan. As the KSCP is updated, the categories of risk facing the Kodiak Subarea should be reevaluated, and the plan contents should be amended to reflect these changes.

- A fishing vessel spill scenario has been included in the Scenarios Section of this plan. This scenario is presented not only to reflect a common spill source in Kodiak, but also to demonstrate that the response strategies in the KSCP can be applied during small, routine spill responses as well as during larger spills.
- The recent M/V PAN DYNAMIC and M/V KUROSHIMA incidents illustrate the significant spill risk posed by logging and freight vessels, and a spill scenario was developed to reflect the possibility of such a spill in Kodiak. The Work Group members considered the inclusion of the log ship scenario to be significant because it would allow for the opportunity to test the viability of the KSCP in a scenario where the Responsible Party may be unresponsive or uncooperative. Currently, there are no federal or state requirements for cargo vessels to maintain oil spill contingency plans.
- ADEC has provided funding for the Kodiak Island Borough to purchase oil spill response equipment. This equipment shall be packaged into small, transportable units, and staged at various locations within the remote communities in the Kodiak Subarea. These packages will contain moderate quantities of boom and sorbent materials to supplement first response efforts in these communities. Larger response equipment (skimmers, additional boom, etc.) shall be staged in the City of Kodiak, and may be transported for use with the village equipment packages as needed. These equipment packages will ensure that a first line of defense exists, should an oil spill threaten one of the remote communities on Kodiak. While these equipment packages have not been designed to replace the state and federally required response equipment at municipal and village-owned fuel tank facilities, they may be used to respond to a major discharge from one of these facilities.
- In evaluating the oil and hazardous substance spill risks facing Kodiak, Subarea Committee Work Group members discussed at length the fact that “worst case” scenarios may be aggravated by a number of factors, including weather, season, location, nationality/language of captain and crew, flag state, type of product, and Responsible Party attitude and resources. In fact, these factors may often do more to complicate a spill response than the actual quantity or type of substance spilled. Therefore, the scenarios developed for this plan attempt to address as many of these potentially complicating factors as possible, instead of simply focusing on the quantity of product spilled as the determining factor in a spill response.

## **BACKGROUND: PART FOUR - ABBREVIATIONS AND ACRONYMS**

ACP	Area Contingency Plan
ADEC	Alaska Department of Environmental Conservation
ADF&G	Alaska Department of Fish and Game, also as ADFG
ADMVA	Alaska Department of Military & Veteran Affairs
ADNR	Alaska Department of Natural Resources
ADCRA	Alaska Department of Community and Regional Affairs
ADHSS	Alaska Department of Health and Social Services
ADOTPF	Alaska Department of Transportation and Public Facilities
AIRSTA	Air Station (USCG)
ANCSA	Alaska Native Claims Settlement Act
ARRT	Alaska Regional Response Team
AST	Alaska State Troopers
BLM	Bureau of Land Management
BOA	Basic Ordering Agreement
CART	Central Alaska Response Team (ADEC)
CCGD 17	Commander, Coast Guard District 17
CI	Cook Inlet
CISPRI	Cook Inlet Spill Prevention and Response, Inc. (industry cooperative)
COMMSTA	Communications Station (USCG)
COTP	Captain of the Port (USCG)
DES	Division of Emergency Services (part of ADMVA), also as ADES
DOD	Department of Defense
DOI	Department of the Interior
EOC	Emergency Operations Center
EOP	Emergency Operations Plan (Kodiak)
EPA	Environmental Protection Agency, also as USEPA
ESC	Emergency Services Council (Kodiak)
ESI	Environmental Sensitivity Index (Alaska)
ESO	Emergency Services Organization (Kodiak)
ESD	Emergency Services Director (Kodiak)
FAA	Federal Aviation Administration
F/V	Fishing Vessel
FOSC	Federal On-Scene Coordinator
GIS	Geographical Information System
GRD	Geographical Resources Database (Alyeska)
GRP	Geographic Response Plan
GSA	General Services Administration
HAZMAT	Hazardous Materials, also as hazmat
HAZWOPER	Hazardous Waste Operations and Emergency Response
ICS	Incident Command System
IC	Incident Commander
INMARSAT	International Maritime Satellite Organization
ISC Kodiak	Integrated Support Command Kodiak (USCG)
JIC	Joint Information Center
KANA	Kodiak Area Native Association
KIB	Kodiak Island Borough
KNWR	Kodiak National Wildlife Refuge
KSCP	Kodiak Subarea Contingency Plan

LEPC	Local Emergency Planning Committee
LNG	Liquefied Natural Gas
LOSC	Local On-Scene Coordinator
MAC	Multiagency Coordination Committee
M/V	Motor Vessel
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MSD	Marine Safety Detachment (USCG)
MSO	Marine Safety Office (USCG)
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPFC	National Pollution Funds Center
NPS	National Park Service
NWR	National Wildlife Refuge (USFWS)
NRC	National Response Center (USCG)
NRDA	Natural Resource Damage Assessment
NSF	National Strike Force
NSFCC	National Strike Force Coordination Center
NWR	NOAA Weather Radio
NWS	National Weather Service
OPA 90	Oil Pollution Act of 1990
OPCEN	Operations Center
OSC	On-Scene Coordinator
OSRO	Oil Spill Response Organization
PIO	Public Information Officer
POLREP	Pollution Report (USCG)
PWS	Prince William Sound
RAC	Response Action Contractor
RCAC	Regional Citizens' Advisory Council
RP	Responsible Party
RPOSC	Responsible Party On-Scene Coordinator
RRT	Regional Response Team
SCP	Subarea Contingency Plan
SERVS	Ship Escort Response Vessel Service (Alyeska)
SHPO	State Historic Preservation Officer (ADNR)
SITREP	Situation Report (ADEC)
SONS	Spill of National Significance
SOSC	State On-Scene Coordinator
SSC	Scientific Support Coordinator (NOAA)
SUPSALV	U.S. Navy Supervisor of Salvage, also as NAVSUPSALV
TAPS	Trans-Alaska Pipeline System
T/V	Tank Vessel
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
USN	United States Navy
VOSS	Vessel of Opportunity Skimming System
VTs	Vessel Traffic Separation Scheme/System