Preassessment Data Report #11

Summary of Aerial, On-Water, and Beach Surveys of Marine Mammals in the Vicinity of the Grounded *Selendang Ayu* on the Northwest Coast of Unalaska Island, Alaska, December 2004 - January 2005

Based on Reports from U. S. Fish and Wildlife Service and
National Oceanic and Atmospheric Administration Trustee Representatives
and International Wildlife Research Personnel

February 2008

Abstract

The freighter Selendang Ayu grounded on Unalaska Island, AK on 8 December 2004 and released an estimated 339,538 gallons of Intermediate Fuel Oil (IFO) 380 and 14,680 gallons of marine diesel and miscellaneous oils. The natural resource trustees initiated a Natural Resource Damage Assessment (NRDA) to investigate impacts. This report summarizes observations on marine mammals made by NOAA and USFWS representatives as part of the Preassessment Phase of a NRDA. Observations made by International Wildlife Research personnel are also discussed. The observations confirm that a number of marine mammals were in the vicinity of the spill-affected area around the time of the spill. Oil was observed on some marine mammals, and six sea otters carcasses and skeletons were collected.

Introduction

While traveling the Great Circle Route through the Aleutian Islands the 738-foot freighter *Selendang Ayu* reported on 7 Dec 2004 that it had lost power. Attempts to tow the vessel were unsuccessful and it ran aground on Unalaska Island 8 Dec 2004 and split in half shortly thereafter. The wreck's position was 53º 38´ 04´´ N, 167º 07´ 30´´ W on Spray Cape, approximately 25 nautical miles Southwest of Dutch Harbor (a 50 nautical mile transit by vessel). The initial volume of fuel onboard was 446,280 gallons of intermediate fuel (IFO 380) and 31,573 gallons of marine diesel oil. It is estimated that the total release to the environment was 339,538 gallons of IFO 380 and 14,680 gallons of diesel (Alaska Department of Environmental Conservation 2006).

In response to the incident natural resource Trustees initiated NRDA Preassessment activities to investigate potential impacts of oil on natural resources and services. The marine mammal NRDA Preassessment Phase efforts were largely conducted in conjunction with response efforts or with preassessment surveys for birds. Adverse weather conditions made observations of marine mammals difficult and restricted the surveys both temporally and spatially. Despite these limitations, Trustees collected six sea otter carcasses of which two were determined to have contacted oil, documented the exposure of some marine mammals to *Selendang Ayu* oil, and documented the presence of other marine mammals in the vicinity of oil and therefore at risk for potential exposure to oil. Other observations of marine mammals were made by International Wildlife Research personnel, who were in the field to identify sea otters at risk and coordinate follow up actions.

Methods

Marine mammal observations were made on overflights, on the water, and on shoreline surveys. Most of the overflights were undertaken primarily for response or bird surveys, and were conducted in a manner best suited for those purposes, rather than for observing marine mammals. Therefore these observations were able to provide a minimum estimate of the abundance of some marine mammal species in the area affected by the spill, but

likely missed other species that have been observed previously in this area during the winter season. Other Trustee observations were made from support vessels or skiffs, and on beaches accessible from skiffs. These observations are reported in Table 1.

International Wildlife Research personnel conducted aerial and skiff-based surveys, primarily focused on sea otters with the intent of identifying otters at risk and coordinating appropriate response actions. No sea otters were captured for cleaning, but observations on Sea Otters and other marine mammals made during their survey reports are included in Table 1.

Results and Discussion

Numerous sea otters, Steller sea lions, and harbor seals were seen within the area affected by oil from the Selendang Ayu in December 2004 and January 2005 (Table 1). One whale spout was also seen, which was thought to be from a minke whale, but the species could not be determined. Some oiling was observed on harbor seals and sea otters. A total of six dead sea otters were collected following the spill; two carcasses and four skeletons. Necropsies were performed on the two otter carcasses, and the results were consistent with death from exposure to oil. The other four sea otters may or may not have been killed as a result of exposure to *Selendang Ayu* oil and scavenged. Many individuals of the three identified marine mammal species were seen in the vicinity of oil, including swimming in sheen. Therefore, there is a potential for an unknown number of individuals of these species to have been injured by *Selendang Ayu* oil.

Other marine mammals that are known to occur in the Unalaska area in the winter, but which were not observed during this survey include the Northern fur seal (*Callorhinus ursinus*), Dalls porpoise (*Phocoenoides dalli*) harbor porpoise (*Phocoena phocoena)*, killer whale (*Orcinus orca*), Sperm whale *(Physeter macrocephalus)*, Cuvier's beaked whale *(Ziphius cavirostris)*, Baird's beaked whale *(Berardius bairdii)*, Stejneger's beaked whale (*Mesoplodon stejnegeri)*, gray whale (*Eschrichtius robustus)*, humpback whale (*Megaptera novaengliae*), right whale (*Balaena glacialis)*, minke whale *(Balaenoptera acutorostrata)*, sei whale (*Balaenoptera borealis)*, fin whale (*Balaenoptera physalus)*, and Blue whale (*Balaenoptera musculus)* (US Department of Commerce, 1988). Adverse weather conditions, the large area oiled, the high priority given to response activities over surveys for marine mammals, and other factors (such as different flight speeds and elevations being more effective for one marine mammal species over other marine mammal species), however, so the lack of observations of these species does not indicate that they were not present in the vicinity at the time of the incident.

Table 1. Summary of marine mammal observations made following the *Selendang Ayu* oil spill by Trustees and International Wildlife Research personnel.

DATE	Organization	SURVEY TYPE	LOCATION	PRIMARY PURPOSE	OBSERVATIONS
12/9/2004	USFWS	Fixed wing aircraft	Makushin, Skan, Pumicestone Bays	Response	Sea Otter, Steller Sea Lion, Harbor Seal
12/13/04	USFWS	Boat	Western Skan Bay	Birds and Marine Mammals	5 Sea Otters, one of which was dead
12/14/04	USFWS	Boat	Southern Skan Bay	Birds and Marine Mammals	2 Sea Otters, Unidentified Whale (spout seen), and a Harbor Seal
12/15/04	USFWS	Beach/Shoreline	Northern Skan Bay	Birds and Marine Mammals	25 Harbor Seals, some appeared to be oiled
12/16/04	USFWS	Boat	Northern Skan Bay	Birds and Marine Mammals	12 Harbor Seals, some appeared to be oiled, 2 Sea Otters
1/5/05	NOAA	Fixed wing aircraft	Eider Point to Cape Tanak and Sea Transects	Birds	19 Sea Otters, 112 Steller Sea Lions, 27 Harbor Seals
1/7/05	NOAA	Fixed wing aircraft	Eider Point to Cape Tanak and Sea Transects	Birds	24 Sea Otters, 265 Steller Sea Lions, 20 Harbor Seals
1/7/05	International	Helicopter	Cus Point to Spray	Sea Otters	12 Sea Otters

DATE	Organization	SURVEY TYPE	LOCATION	PRIMARY PURPOSE	OBSERVATIONS
	Wildlife Research		Cape		
1/8/05	NOAA	Fixed wing aircraft	Eider Point to Cape Tanak and Sea Transects	Birds	1 Sea Otter, 256 Steller Sea Lions, 82 Harbor Seals
1/10/05	NOAA	Fixed wing aircraft	Unalask South and West Umnak	Birds	25 Sea Otters, 381 Steller Sea Lions, 8 Harbor Seals
1/11/05	International Wildlife Research	Boat	AndersonBay, Naginak Cove, and Udamak Cove	Sea Otters	48 Sea Otters
1/12/05	International Wildlife Research	Boat	Cannery Bay	Sea Otters	No marine mammals observed
1/13/05*	International Wildlife Research	Boat	Humpback Bay and Peter Island	Sea Otters	1 Harbor Seal, 21 Sea Otters
1/14/05	International Wildlife Research	Boat	Peter Island	Sea Otters	10 Sea Otters
1/15/05	International Wildlife Research	Boat	Cof Point to Spray Cape	Sea Otters	7 Sea Otters, “many” Harbor Seals, one oiled, “several” Steller Sea Lions
1/16/05	International Wildlife Research	Boat	Pumicestone Bay	Sea Otters	11 Sea Otters, “many” Harbor Seals, “many”

DATE	Organization	SURVEY TYPE	LOCATION	PRIMARY PURPOSE	OBSERVATIONS
					Steller Sea Lions
1/17/05	International Wildlife Research	Boat	Kashega Bay	Sea Otters	39 Sea Otters, Harbor Seals and Steller Sea Lions (not further described)
1/18/05	USFWS	Fixed wing aircraft	Eider Point to Cape Tanak and Sea Transects	Birds	86 Sea Otters, 132 Steller Sea Lions, 68 Harbor Seals
1/18/05	International Wildlife Research	Helicopter	Dutch Harbor to Anderson Bay	Sea Otters	5 Sea Otters
1/18/05	International Wildlife Research	Beach/Shoreline	Northern Anderson Bay	Sea Otters	1 Harbor Seal
1/19/05	USFWS	Fixed wing aircraft	Eider Point to Cape Tanak and Sea Transects	Birds	69 Sea Otters, 252 Steller Sea Lions, 68 Harbor Seals
1/20/05	USFWS	Fixed wing aircraft	Eider Point to Cape Tanak	Marine Mammals	176 Sea Otters, 295 Steller Sea Lions, 112 Harbor Seals
1/26/05	USFWS	Fixed wing aircraft	Eider Point to Spray Cape and Sea Transects	Marine Mammals	51 Sea Otters, 318 Steller Sea Lions, 12 Harbor Seals

*Not included are 3 Harbor Seals and 1 Sea Otter reported to International Wildlife Research by USFWS personnel in a cove on Peter Island, which were not seen by International Wildlife Research observers when they visited this cove later that day after receiving this report.

Materials relied upon to compile the report:

Data sheets from aerial surveys of marine mammals in the vicinity of the *Selendang Ayu* oil spill collected by John Haddix and Ian Zelo, January 2005

International Wildlife Research, Final Report: Survey of sea otters affected by the M/V Selendang Ayu fuel spill, January 2005.

Sowl/Doroff, Marine Mammal and Bird Response during the Selendang Ayu Oil Spill Unalaska Island, Aleutian Archipelago 8-18 December 2004.

Necropsy results (2 reports)

U. S. Department of Commerce, National Oceanic and Atmospheric Administration. 1988. West Coast of North America Coastal and Ocean Zones Strategic Assessment: Data Atlas, Marine Mammal Volume, pre-publication edition.