M/V Selendang Ayu Oil Spill Fisheries Water Quality Sampling Program

Summary of Results

May 2005

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Executive Summary

On December 20, 2004 the Alaska Department of Environmental Conservation (ADEC) established a work group to address the risk to commercial fisheries posed by the December 8, 2004 grounding of the shipping vessel *M/V Selendang Ayu* near Unalaska Island, Alaska, and the resulting spill of intermediate fuel oil (IFO) and marine diesel oil (MDO). The Fisheries Work Group consisted of state and federal fisheries management agencies; experts in environmental health, fisheries biology, and oceanography; and representatives of local government, seafood processing plants, and fish marketing organizations. At the direction of the work group and ADEC, a fisheries water quality sampling program was implemented to monitor water and seafood quality in areas where commercial fishing, processing, and fishing vessel transits occur and to facilitate decision making by fishery managers.

The fisheries water quality sampling program ran from December 25, 2004 to March 24, 2005. Sampling was conducted in Unalaska Bay and in state and federal waters surrounding Unalaska Island and Akutan Island. The program was implemented as part of the State of Alaska's "zero tolerance" policy, which aims to prevent contaminated fin fish and shellfish species from reaching the consumer when an oil spill occurs. Nationally accepted standards for sampling protocols and seafood safety inspections were followed throughout the program. At-risk fisheries underway during the sampling program period included two crab fisheries and several economically significant ground fisheries, including Pollock, Pacific cod, and halibut.

Water quality sampling was conducted using a variety of sampling methods and materials. The program was established and implemented under tight time constraints in order to provide real time data regarding potential oil contamination in areas where commercial fishing, fish processing, and fishing vessel transits occur. Tasking was recommended by the Fisheries Work Group, approved by the Unified Command, and specifically linked to the imminent fishery risks posed by the spill incident. Results were presented daily to the Unified Command, reported periodically at public meetings, and posted on the Unified Command website.

The information collected through the program and presented in this report was done so for the purpose of facilitating real time decision making. The sampling methods and equipment used to support this program were developed or adapted to address the changing information needs of fishery managers and the Unified Command. Because this process was so dynamic, there was little opportunity during the program to synthesize data.

This report consolidates and synthesizes the data collected during the *M/V Selendang Ayu* fisheries water quality sampling program. Raw data from the fisheries water quality sampling program is presented in map and table form, with interpretive text to illuminate the results maps. The report does not attempt to draw any conclusions about the extent of oiling from the *M/V Selendang Ayu* incident or its impacts to the Aleutian Islands or Bering Sea fisheries.

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M/V Selendang Ayu Oil Spill Fisheries Water Quality Sampling Program

Summary of Results

May 2005

Introduction

Overview of Water Quality Sampling Program

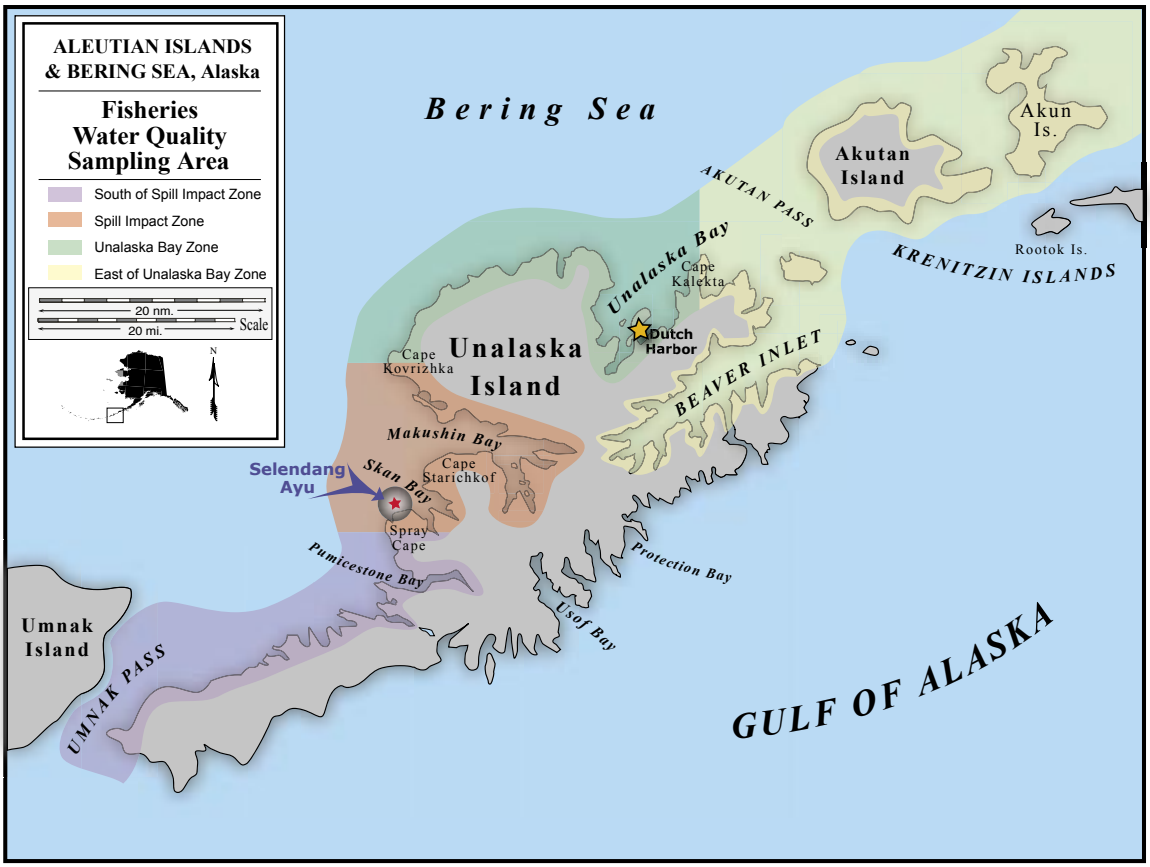
On December 8, 2004 the shipping vessel *M/V Selendang Ayu* ran aground and broke apart between Skan Bay and Spray Cape on Unalaska Island, in Alaska's Aleutian Islands. The vessel was carrying approximately 446,280 gallons of Intermediate Fuel Oil 380 (IFO) and 21,058 gallons of Marine Diesel Oil (MDO).

On December 20, 2004 the Alaska Department of Environmental Conservation (ADEC) established a work group to consider issues associated with the fisheries at risk of contamination by the spill. The primary risk of contamination was through whole oil in the form of tar balls in the water column or on benthic sediments. The Fisheries Work Group consisted of state and federal fisheries management agencies; experts in environmental health, fisheries biology, and oceanography; and representatives of local government and seafood processing and marketing organizations. At the time, Tanner crab (*Chionoecetes bairdi*) and snow crab (*Chionoecetes opilio)* fisheries were commencing, and the ground fisheries of Alaska pollock (*Theragra chalcogramma)*, Pacific cod (*Gadus macrocephalus)*, and halibut (*Hippoglossus stenolepis*) were gearing up (Nuka Research, 2005). At the direction of the Work Group and ADEC, a fisheries water quality sampling program was implemented to monitor water and seafood quality in areas where commercial fishing, processing, and fishing vessel transits occur and to facilitate decision making by fishery managers.

The fisheries water quality sampling program ran from December 25, 2004 to March 24, 2005. Sampling was conducted within Unalaska Bay, in the spill impact zone southwest of Unalaska Bay, and to the east of Unalaska Bay in Akutan Pass and Beaver Inlet (Figure 1).

This sampling was conducted using a variety of sampling methods and materials. Tasking was recommended by the Fisheries Work Group, approved by the Unified Command (UC), and specifically linked to the imminent fishery risks posed by the spill incident. Results were presented daily to the Unified Command, reported periodically at public meetings, and posted on the Unified Command website.

Figure 1: Fisheries Water Quality Sampling Area



Seafood Safety Considerations

The *Selendang Ayu* Fisheries Water Quality Sampling Program was implemented as part of the State of Alaska's "zero tolerance" policy, which aims to ensure that, when an oil spill occurs, contaminated fin fish and shellfish species do not reach the consumer (18 AAC 34 Article 6). Published references on oil spill water quality sampling and seafood safety were consulted and made available to members of the Fisheries Work Group and the Unified Command to support the sampling program. A National Oceanic and Atmospheric Administration (NOAA) publication regarding seafood safety after an oil spill provided a foundation for the sampling plans and protocols developed during this program (Yender, Michel and Lord, 2002). Established guidelines were followed for organoleptic (sensory) testing of fish species for oil contamination (Reilly and York, 2001).

Purpose and Scope of Report

This report has been prepared for the Alaska Department of Environmental Conservation by Nuka Research and Planning Group, LLC, to satisfy the contractual requirements under NTP #18-8003-28-08. This report consolidates the data collected during the *M/V Selendang Ayu* fisheries water quality sampling program. Although maps and data tables were presented throughout the duration

of the sampling program, it was done *ad hoc* and with little vision of future reference or memorandum. This report compiles the data gathered to provide a more coherent and comprehensive record of the project.

Raw data from the fisheries water quality sampling program is presented in map and table form, with interpretive text to illuminate the results maps. The report does not attempt to draw any conclusions about the *M/V Selendang Ayu* incident and its impacts to the Aleutian Islands or Bering Sea fisheries.

Methodology

This section describes the methods and materials used in the *M/V Selendang Ayu* fisheries water quality sampling program. This information is presented as a general overview to help the reader to interpret the results presented in subsequent sections of this report.

Sampling Program Organization

The water quality sampling program was run by the Sampling Group Supervisor, who operated within the Environmental Unit of the Incident Command System (ICS) (Figure 2). The Sampling Group consisted of Sampling Technicians, assigned either to a vessel, a beach team, or to the command post. The number of technicians varied during the course of the program. For each ICS operational period, the Sampling Group Supervisor developed a Sampling Plan, which was then vetted through the Environmental Unit, Fisheries Work Group, and the Unified Command. Upon approval of the plan, the Sampling Group Supervisor would then task the technicians and vessels to execute the plan. Results were relayed to the Sampling Group Supervisor daily for compilation and analysis.

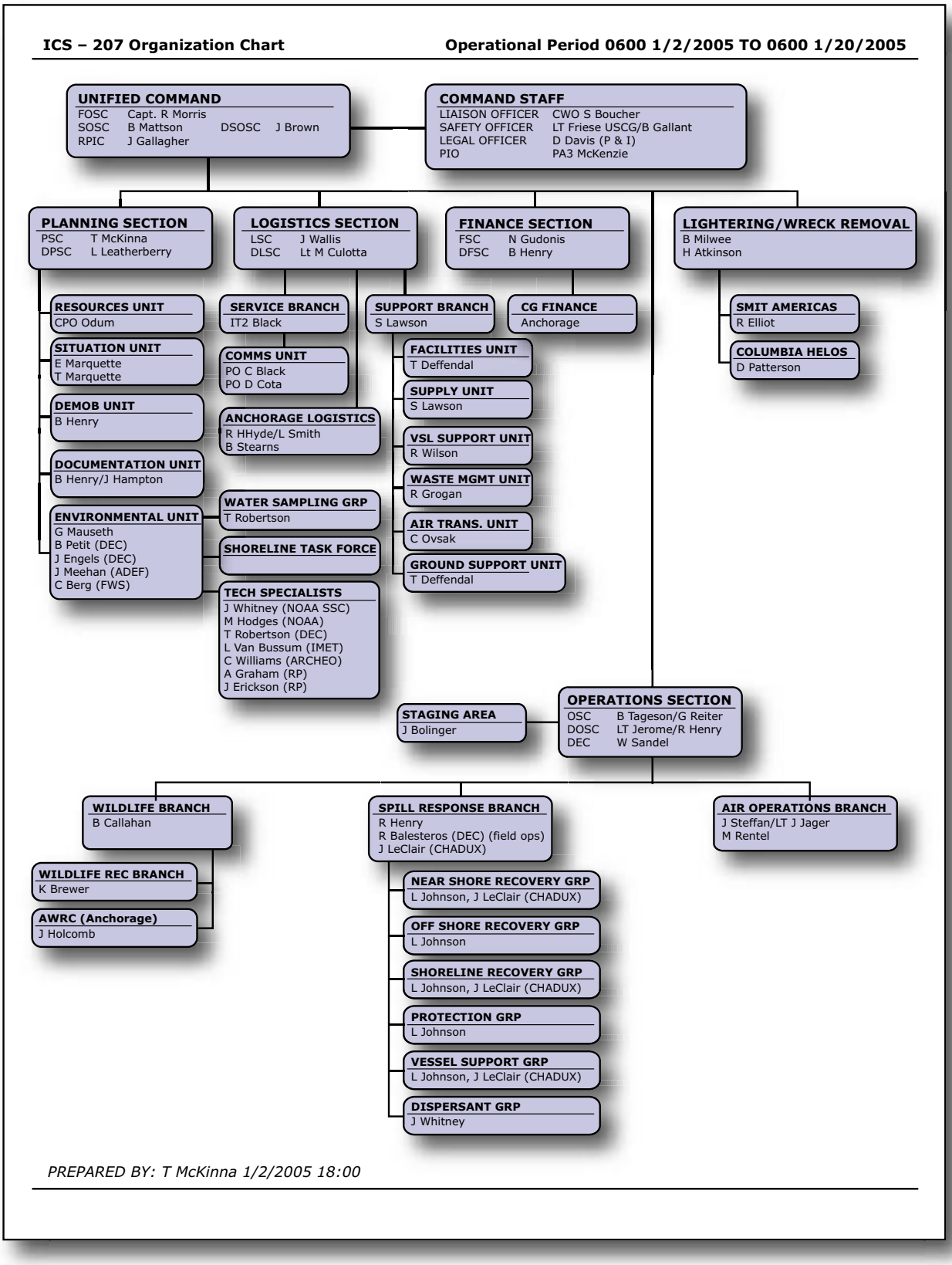
Sampling Methods and Equipment

TOW NETS

Tow net sampling was conducted initially using a single tow net, and later using two tow nets at varying water depths. The conical tow nets were 3 feet in diameter by 10 feet long and made with Phifertex®, which is a vinyl-coated polyester yarn woven into an 11x17 strands per inch mesh that is 34% open, weighs 11 ounces per yard, and is heat set to ensure that the strands do not shift. Each net was affixed to a steel ring and tow bridle (Figure 3). The nets were used to conduct near-surface trawls for whole oil in the study areas, towed at depths ranging from 0-12 feet below the water surface.

During the initial phases of the fisheries sampling program, tow nets were deployed at a single depth, usually between 9-12 feet below the surface, to approximate the keel depth of the water intake on most commercial fishing vessels. The tow depth was supported by calculations from the Scientific Support Coordinator (SSC), predicting that tar balls would be most likely encountered in the upper water column. As the sampling program

Figure 2. ICS Organization Chart from Selendang Ayu Incident Action Plan, January 2005.



progressed, a two-net sampling protocol was introduced, where one net was deployed near the water surface (average depth of approximately 3 feet) and a second net was deployed slightly deeper (between 9-12 feet below the water surface). The purpose of the second net was to approximate the depth of the seawater intake on most fishing vessels.

The Sampling Group Supervisor selected sampling transects or areas within each sampling zone after consulting with the Unified Command and the Environmental Unit. Date, tow depth, starting and ending time and location (lat/long coordinates), and presence or absence of oil was recorded for each tow. Average tow time varied from thirty minutes to one hour, at speeds ranging from 1.5 to 4 knots. Nets were examined by sight and smell, using nitrile gloves on sorbent pads, for the presence of whole oil contamination. Suspect nets were further examined under ultra-violet (UV) light to confirm presence of oil. When possible, oil observed on the tow net was collected for possible laboratory analysis.

It was imperative to thoroughly decontaminate any oiled net for sampling accuracy. The net was scrubbed in diluted degreasing solution with a nylon brush, rinsed with clean seawater, and the process was repeated if necessary. This decontamination procedure was performed immediately after the observed oil was recorded, photographed, and sampled (if applicable), and also at the end of each sampling day to ensure a clean net for the next sampling period.

FISHERIES POTS

Baited commercial 7 foot by 7 foot crab pots were fitted with oleophilic snare on the four corners of the bottom of the pot, and at every fathom (6 feet) along the buoy line (Figure 3). These pots were used to assess the potential for oiling commercial pot gear, and to collect crab and groundfish for seafood safety inspections.

The Sampling Group Supervisor selected stations in each sampling zone after consulting with the Unified Command and the Environmental Unit. Crab pots were dropped on the seabed at the sampling stations and left for a period of 1-7 days, after which they were pulled from the seabed and examined by technicians for the presence of oil contamination on the oleophilic snare. Each snare was examined by sight and smell and suspect snares were examined by UV light to confirm the presence of oil. Crab and ground fish captured in the pot were examined by ADEC seafood inspectors for signs of oil contamination using UV light and organoleptic techniques. Pot release and retrieval date, time, location, species caught, and presence or absence of oil was recorded for each pot set. Results were reported to the Environmental Unit Leader and the Sampling Group Supervisor. Any oil found was collected for possible laboratory analysis.

SNARE POTS

Unbaited commercial crab pots were fitted with oleophilic snare on the four corners of the bottom of the pot, and at every fathom along the buoy line (Figure 3). These pots were used strictly to assess the potential for oiling commercial pot gear; no seafood was collected.

The Sampling Group Supervisor selected stations in each sampling zone after consulting with the Unified Command and the Environmental Unit. Crab pots were dropped on the seabed at the sampling stations and left for a period of 1-7 days, and then examined for the presence of oil contamination on the oleophilic snare. Each snare was examined by sight and smell and suspect snares were examined by UV light to confirm the presence of oil. Pot release and retrieval date, time, location, and presence or absence of oil was recorded for each pot set. Results were reported to the Environmental Unit Leader and the Sampling Group Supervisor. Any oil found was collected for possible laboratory analysis.

DISSOLVED PHASE OIL

Grab samples of seawater were taken using a Go-Flo® bottle (Figure 3) at pre-selected stations at two depths: approximately 10 feet below the water surface and approximately 16 feet above the seafloor. Each sample was split into two parts to allow for independent laboratory analyses by the state and the Responsible Party (RP).

The Sampling Group Supervisor selected stations after consulting with the Unified Command and the Environmental Unit. For each grab sample, the Sampling Technician recorded the location, date, time, depth, and sample identification number. Samples were split and the state's portion was sent to a laboratory for analysis of total petroleum hydrocarbons (TPH) to determine whether the water within the study area met the state's criteria for dissolved phase hydrocarbons. Results were reported to the Environmental Unit Leader and the Sampling Group Supervisor.

POLLOCK AND PACIFIC COD VESSEL POM-POM PACKS

Pillows constructed of fine mesh net (see specifications for tow nets) and filled with oleophilic snare, designed to be secured within circulating refrigerated sea water (RSW) tanks aboard vessels, were distributed to the pollock and Pacific cod fisheries fleets in order to assess oil contamination in fish holding tanks (Figure 3). Vessel captains were instructed to secure pom-pom packs near the top of the tanks prior to tanking down (filling tank with seawater), and remove them before loading catch into the tank. Participants were asked to examine snare by sight and smell for oil contamination, and report any suspect presence of oil to the Alaska Department of Fish and Game (ADFG), ADEC seafood inspectors, and the Unified Command.

SEAWATER STRAINERS

An oil trap in the seawater intake of the sampling vessels and one vessel of opportunity was used to monitor the water pumped through the sea chest (Figure 3). The trap was examined at regular intervals for the presence of oil. Field observations were reported to the Sampling Group Supervisor. Any oil found was collected for possible laboratory analysis.

SEAFOOD PROCESSORS SEAWATER INTAKES

Seawater straining baskets constructed of fine mesh material (see specifications for tow nets) and filled with oleophilic snare were placed under a continuous stream of seawater from the fish processing plants' intake systems in Unalaska Bay and on mobile fish processors operating in and near Unalaska (Figure 3). These baskets and snare were monitored daily for oil contamination. Field observations were reported to the Sampling Group Supervisor.

PASSIVE SNARE DEVICES

Twenty passive snare devices were constructed, consisting of an anchor, anchor line, and buoy, each fitted with oleophilic oil snare on the anchor and every 30 feet along the line to the buoy (Figure 3). The Sampling Group Supervisor selected sampling stations in Unalaska Bay after consulting with the Unified Command and the Environmental Unit. Sampling stations were placed in known convergence areas and areas where oil had been reported through previous sampling surveys. The passive snare devices were dropped on the seabed at the sampling stations, left for a period of ten days, and then examined for the presence of oil contamination on the oleophilic snare. Each snare was examined by sight, smell and UV light for the presence of oil. Results were reported to the Sampling Group Supervisor and the Unified Command. Any oil found was collected for possible laboratory analysis.

BEACH SURVEYS

Shoreline segments in five designated locations within Unalaska Bay were surveyed regularly by a team of two technicians for the presence of tar balls. All tar ball observations were logged (time, date, location, and size) and tar balls were collected for disposal (Figure 3). Each beach segment was approximately one mile in length, and the same segments were surveyed repeatedly to develop a data set that could be compared over time and used as an indicator of changes in the abundance of tar balls in Unalaska Bay. Shoreline segments were located in Wide Bay, Airport Beach, the Dutch Harbor spit, Summer Bay, Iliuliuk (Front) Bay, and Little South America (Figure 4).

Results were reported to the Sampling Group Supervisor and the Unified Command. Samples from tar balls found were collected for possible laboratory analysis.

LONG LINES

Oleophilic oil snares were attached to a long line that was held on the sea-bed using anchors (Figure 3). Twenty skates of long line gear, each about 1,800 feet in length, were utilized to assess the potential for oiling of commercial long line gear. The long lines were retrieved after sitting on the bottom for one day. Each snare was examined by sight and smell and suspect snares were examined by UV light to confirm the presence of oil. Results were reported to the Sampling Group Supervisor and the Unified Command. Any oil found was collected for possible laboratory analysis.

Figure 3: Equipment used in Fisheries Water Quality Sampling Program.

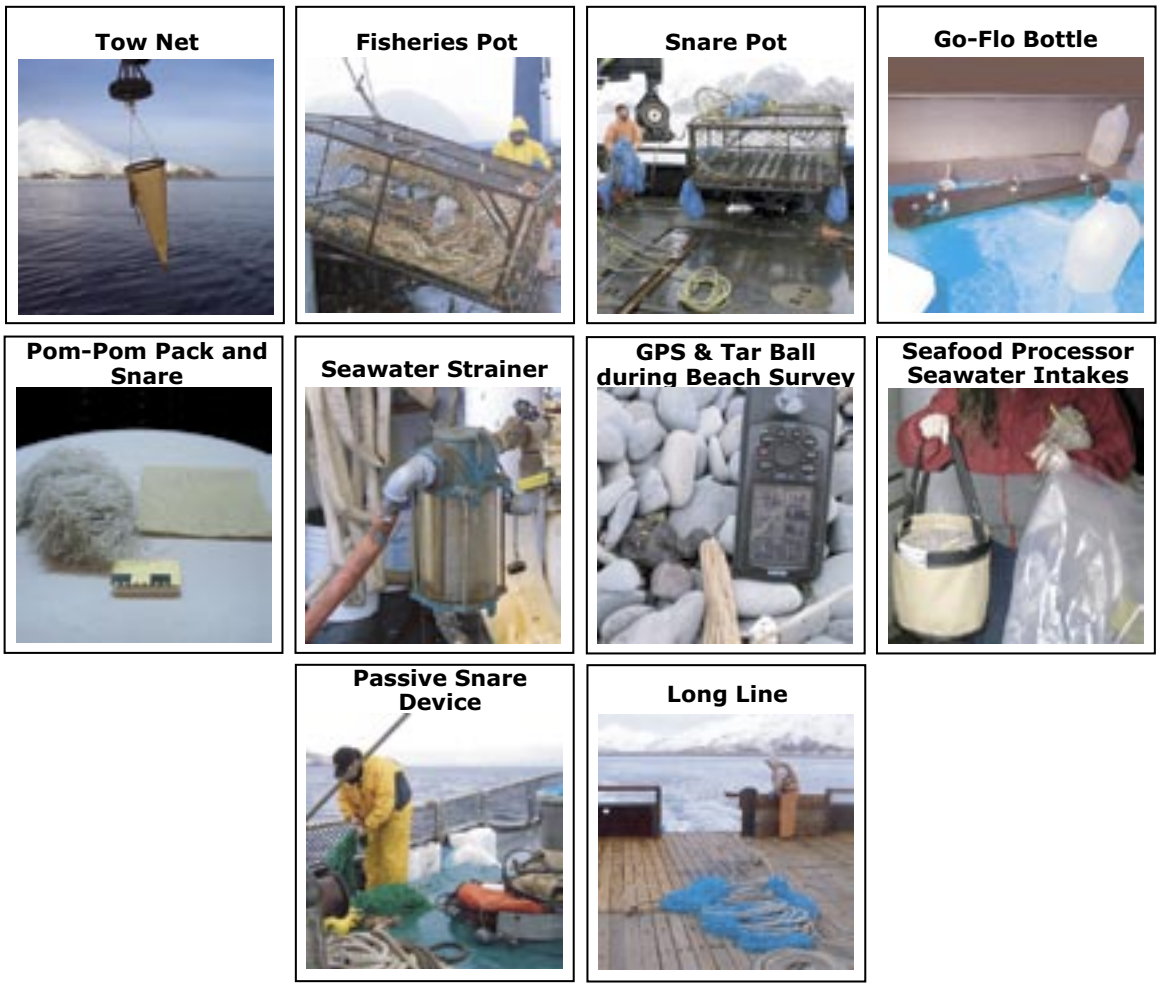
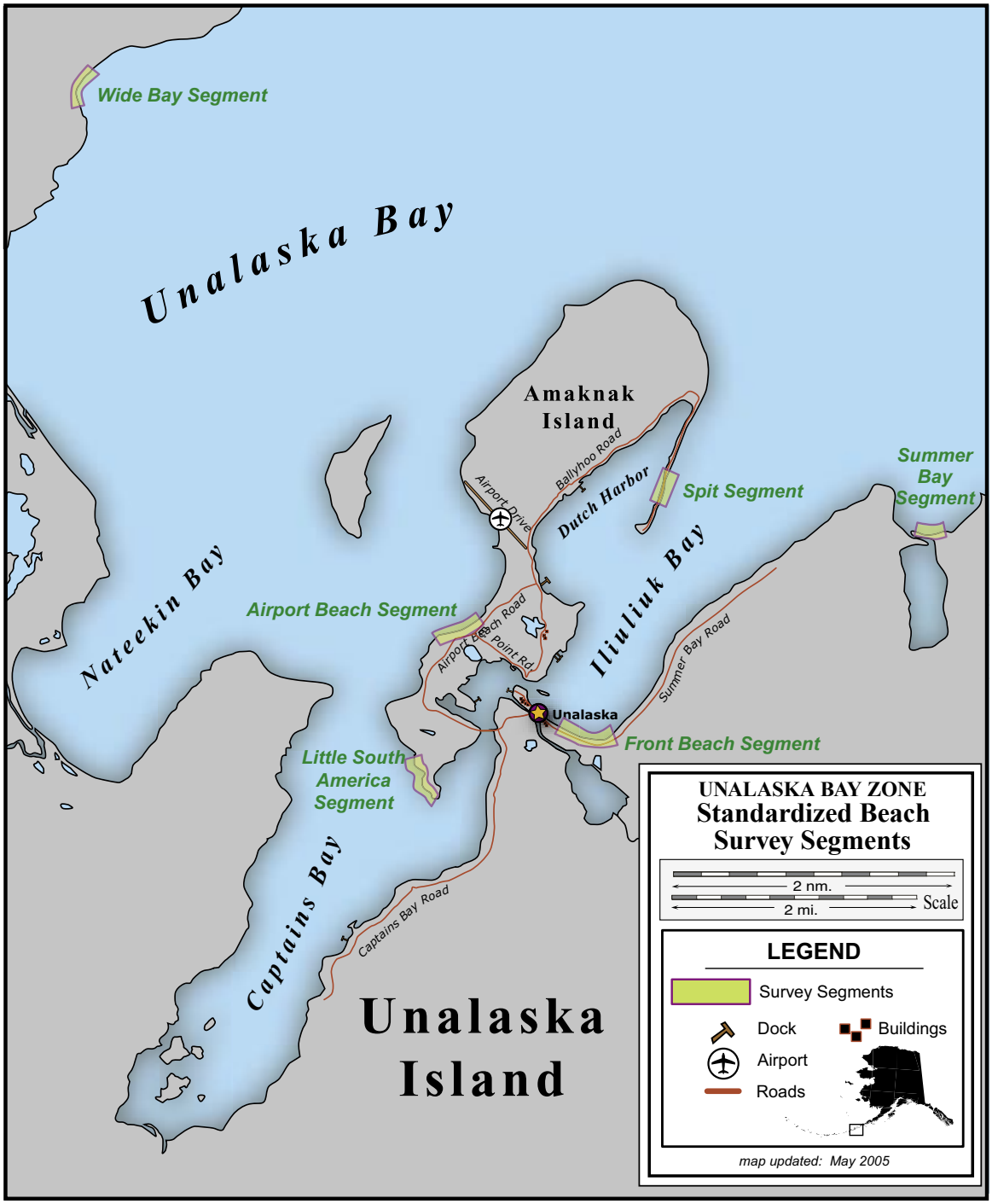


Figure 4: Unalaska Bay Zone Beach Survey Segments.



Sampling Resources

Over the course of this sampling program, four contracted vessels were used as sampling platforms: the *F/V Alaskan Lady*, the *F/V Exito*, the *F/V Northern Fury*, and the *F/V Commitment*. One vessel of opportunity, the *F/V Sirene*, was also used for gathering seawater strainer observations. One or two sampling technicians were assigned to each vessel to record data and collect samples of any oil encountered. Sampling gear included 30 commercial crab pots, approximately 20 skates of long line, 6 tow nets, approximately 12 sea straining baskets, 200 pom-pom packs, and associated snare, sorbent, UV lights, nitrile gloves, and collection equipment.

Sample Handling

Observed oil was collected in a glass vial if the amount was sufficient, sealed, labeled, and stored in a secure area. Standard chain of custody protocol was observed for all samples. In addition to the chain of custody documentation, a log was kept of all samples obtained, and at the end of the program all samples were sent to SGS Laboratories in Anchorage, Alaska, for analysis.

Sampling Zones and Program Phases

For the purpose of data compilation and analysis, the spatial scope of the study area has been divided into four zones: Unalaska Bay Zone; Spill Impact Zone; South of Spill Impact Zone; and East of Unalaska Bay Zone (Figure 1).

The sampling program was also divided into phases to reflect changes in the information needs of the Unified Command and the Fisheries Work Group. Prior to the implementation of each program phase, a sampling plan was developed, outlining the duration, objectives, methodologies, and spatial scope (Figure 5). All sampling plans were vetted through the Fisheries Work Group and approved by the Unified Command.

For the purpose of this report, data has been presented by zone rather than by program phase; the following discussion addresses the chronology of sampling within each zone.

UNALASKA BAY ZONE

The sampling program focused heavily on the Unalaska Bay zone, because the majority of seafood processing plants are located within Unalaska Bay, and vessel traffic is concentrated in this area. The Unalaska Bay Sampling Zone includes both state and federal waters (out to 12 miles from shore) from Cape Kovrizhka to Cape Kalekta. Information collected in the Unalaska Bay zone was used to assess the risk to crab and ground fisheries that occurred in the bay and to monitor water quality for commercial seafood processing plants as well as transiting fishing vessels that use seawater in their fish holds. All five of the sampling vessels were involved in studies in Unalaska Bay, and with the exception of Phase 1, all phases of the program involved sampling in Unalaska Bay. Phase 2 water quality sampling focused

on potential impacts to the Unalaska Bay Tanner crab fishery. Phase 3 focused on the areas of Unalaska Bay that are the primary transit routes and anchorage areas for vessels in the Bering Sea snow crab fleet, as well as addressing the floating and shore-based processors in Unalaska Bay. Phase 4 began the transition into the winter sampling plan, which focused on monitoring the waters of Unalaska Bay. Phases 5 and 6 involved the continuation of winter monitoring in Unalaska Bay; during Phase 5, vessel-based sampling methods were concluded and in Phase 6, beach surveys became the primary methodology for Unalaska Bay sampling.

EAST OF UNALASKA BAY ZONE

The East of Unalaska Bay zone, which ranges east of Cape Kalekta and includes Akutan Bay and Beaver Inlet, was sampled concurrently with the Unalaska Bay zone during Phases 2 and 3 of the sampling program. The focus in the East zone, as in Unalaska Bay, was on assessing water quality for crab vessel transits and seafood processing. Because snow crab vessels use circulating seawater tanks to hold live crab onboard, water quality concerns existed along transit routes to and from Bering Sea fishing grounds, and in holding areas where vessels wait to deliver their catch to processing plants in Unalaska Bay, Dutch Harbor, and Akutan. Monitoring this zone was also crucial for the seafood processing plant on Akutan Island. During Phases 2 and 3, the *F/V Alaskan Lady* and the *F/V Exito* conducted tow net, fisheries pot, and sea strainer sampling studies in the East of Unalaska Bay zone.

SPILL IMPACT ZONE

The Spill Impact Zone, defined as state waters from Cape Kovrizhka to Spray Cape, was surveyed during Phases 1 and 5 of the sampling program. At the onset of the water quality sampling program, several fisheries were active or gearing up, which created a sense of urgency to determine whether areas adjacent to the grounding site should still be open for commercial fishing. Phase 1 sampling in the Spill Impact Zone initially used baited crab pots to assess seafood contamination as well as tow nets and sea strainer methods to monitor water quality near the wreck. Further sampling in this zone was conducted by the *F/V Alaskan Lady* during Phase 5 of the program using fisheries pots, tow nets, sea strainers and long line. The data collected was used to support the Unified Command's spill response decision making, ADEC designation of a threatened waterbody, and Fisheries Managers' opening/closure decision making for the Tanner crab, pollock, Pacific cod, and Pacific halibut commercial fisheries.

SOUTH OF SPILL IMPACT ZONE

The South of Spill Impact Zone was surveyed during Phase 4 of the fisheries water quality sampling program to address concerns regarding the extent of oiling in the areas south and west of the spill impact area, in particular the established fishing grounds in that area. During Phase 4, the *F/V Alaskan Lady* conducted tow net, fisheries pot, long line, and sea strainer sampling in state waters between Spray Cape and Umnak Pass.

Figure 5: Fisheries Water Quality Sampling Phases

Phase	Dates	Objectives	Methods	Zones	Fisheries Considerations
Phase 1	12/25/04 through 12/28/04	1. Determine if there is surface, sub-surface, or benthic oil contamination near the wreck and in the areas where sheens and shoreline impacts have occurred. 2. Determine if Tanner crab in the *Makushin Bay* fishery area show any sign of oil contamination. 3.Determine if tar balls are present in the water column.	• Fisheries pots • Sea strainers	Spill Impact Zone	• Makushin Tanner *(bairdi)* crab fishery scheduled to open 1/15/05; closed by ADFG 12/27/04. *Potential ingestion, direct contact, or absorption of dissolved phase oil by species. Gear vulnerable to contamination.* • Inshore areas in Skan and Makushin Bays closed to state and federal ground fisheries (12/27/05) *Inshore fishery adjacent to oiled beaches and in area with known floating oil. Potential ingestion, direct contact, or absorption of dissolved phase oil by species. Gear vulnerable to contamination.* • Additional upcoming season openings with vessel traffic, processing, and fishing in Unalaska area.

Phase	Dates	Objectives	Methods	Zones	Fisheries Considerations
Phase 2	12/29/04 through 1/10/05	1. Determine if there is detectable dissolved phase oil contamination in Unalaska Bay. 2. Determine if there is benthic oil contamination in Unalaska Bay and in the vicinity of Akutan Island. 3. Determine if Tanner crab in the Unalaska Bay fishery area show any sign of oil contamination. 4. Determine if tar balls are present in the Unalaska Bay water column and if so, determine the spatial extent and concentration of the contamination. 5.Determine if tar balls are present in the water column in the vicinity of Akutan Island and Unimak Pass. 6. Determine if tar balls are present in the salt water systems of processors in the Dutch Harbor/Unalaska area.	• Tow nets • Fisheries pots • Dissolved phase oil • Seawater strainers • Seafood processors' seawater intakes	Unalaska Bay Zone East of Unalaska Bay Zone	• Pacific cod pot/line fishery opens 1/1/05, but with little activity until later in January. *Potential ingestion, direct contact, or absorption of dissolved phase oil by species. Gear vulnerable to contamination. Potential for floating oil in Unalaska Bay to enter seawater intakes at processors and on vessels using re-circulating tanks.* • Unalaska Tanner crab and Bering Sea snow crab fisheries to open 1/15/05 with fishing, transit, and processing in Unalaska Bay.

Phase	Dates	Objectives	Methods	Zones	Fisheries Considerations
Phase 3	1/11/05 through 1/17/05	1. Determine the extent of tar ball contamination in the areas of Unalaska Bay, Akutan Pass, or other known transit areas utilized by the Bering Sea *opilio* fleet and in the Unalaska Bay Tanner crab fishery area. 2. Determine if tar balls, tar patties, fresh oil, mousse, or other forms of whole oil are present in the salt water systems of processors in the Dutch Harbor/Unalaska area. 3. Determine maximum distance from shore that spilled oil is present.	• Tow nets • Fisheries pots • Seawater strainers • Seafood processors' seawater intakes • Pollock pom-pom packs	Unalaska Bay Zone East of Unalaska Bay Zone	• Unalaska Tanner crab and Bering Sea *opilio* crab fisheries open 1/15/05. Oil identification advisory and protocol disseminated by UC to fishers and processors. *Potential ingestion, direct contact, or absorption of dissolved phase oil by species. Gear vulnerable to contamination. Potential for floating oil in Unalaska Bay to enter seawater intakes at processors and on vessels using re-circulating tanks.* • State inspections finding no contamination of product are publicized to market.

Phase	Dates	Objectives	Methods	Zones	Fisheries Considerations
Phase 4	1/18/05 through 2/14/05	1. Determine the extent of spilled oil in the areas of Unalaska Bay, Akutan Pass, or other known transit areas utilized by the Bering Sea snow fleet. 2. Determine if tar balls, tar patties, fresh oil, mousse, or other forms of whole oil are present in the salt water systems of processors in the Dutch Harbor/Unalaska area. 3. Determine maximum distance from shore that spilled oil is present. 4. Determine if spilled oil is present in areas of Unalaska Bay where the Bering sea snow crab fleet is anchored holding live crab and where the Pollock catcher boats take on water for their Refrigerated Sea Water (RSW) tanks. 5. Determine if spilled oil is present in the State waters between Spray Cape and Umnak Pass (south of spill zone).	• Tow nets • Fisheries pots • Snare pots • Seawater strainers • Seafood processors' seawater intakes • Pollock and P. cod pom-pom packs • Passive snare devices • Long lines	Unalaska Bay East of Unalaska Bay South of Spill Impact Zone	• Unalaska Tanner crab fishery closes 1/18/05, Bering Sea snow crab fishery closes 1/20/05. Potential for floating oil in Unalaska Bay to enter seawater intakes at processors and on vessels using re-circulating tanks as they await processing. • Pollock "A" season and Gulf of Alaska Pollock seasons open 1/20/05. *Potential for floating oil in Unalaska Bay to enter seawater intakes at processors and on vessels that tank down in Bay.* • Pacific cod trawl "A" season opened 1/20/05 (pot/line gear fishery picks up after *opilio* season and begins to close 2/12/05). *Potential ingestion, direct contact, or absorption of dissolved phase oil by species. Gear vulnerable to contamination. Potential for floating oil in Unalaska Bay to enter seawater intakes at processors and on vessels that tank down in Bay.* • Notice to Pollock and cod catcher boats issued by UC on 1/22/05, including oil identification techniques, devices, and protocols.

Phase	Dates	Objectives	Methods	Zones	Fisheries Considerations
Phase 5	2/15/05 through 2/23/05	1. Monitor seawater intakes at Unalaska seafood processing plants for the presence of whole oil. 2. Monitor RSW tanks on pollock catcher boats for the presence of whole oil. 3. Monitor Unalaska Bay for presence of tar balls. 4. Determine if there is benthic oil contamination near the wreck and in the areas where sheens and shoreline impacts have occurred. 5. Determine if whole oil is present in the water column near the wreck and in the areas where sheens and shoreline impacts have occurred.	• Tow nets • Fisheries pots • Seawater strainers • Seafood processors' seawater intakes • Passive snare devices • Long lines	Unalaska Bay Spill Impact Zone	• Ongoing consideration for contamination at processors' saltwater intakes as Pollock, Pacific cod, crab, and other species are processed.

Phase	Dates	Objectives	Methods	Zones	Fisheries Considerations
Phase 6	2/24/05 through 3/24/05	1. Monitor seawater intakes at Unalaska seafood processing plants for the presence of whole oil. 2. Monitor RSW tanks on Pollock catcher boats for the presence of whole oil. 3. Monitor Unalaska Bay for presence of tarballs. 4. Monitor beaches in Unalaska Bay for tarballs.	• Tow nets • Seafood processors' seawater intakes • Passive snare devices • Beach surveys	Unalaska Bay	• Pacific halibut IFQ and sablefish IFQ fisheries opened 2/27/05. • Inshore fishery is adjacent to oiled beaches and with known floating oil. Potential ingestion, direct contact, or absorption of dissolved phase oil by species. Gear vulnerable to contamination. Potential for floating oil in Unalaska Bay to enter seawater intakes at processors. • Notice to halibut boats issued 3/3/05 by IPHC. • Pacific cod (pot/line fishery) season closed 3/10/05. Pollock "A" season closed 3/25. *Potential for floating oil in Unalaska Bay to enter seawater intakes at processors.*

Data Compilation and Analysis

DATA KEEPING AND RESULTS MAPS

Data observed by sampling technicians aboard vessels and on shore were recorded in Rite-in-the-Rain field notebooks using standardized log formats, terminology, and units of measure. Separate logs were kept for each method of sampling. At the conclusion of each sampling trip, the data were transferred to electronic spreadsheets organized by vessel and further broken down by sampling method, and were backed up with a photocopy of the original logbook entries. The waypoints and tracks recorded by the technician on handheld global positioning system (GPS) units were downloaded to a chart plotting computer program, and from this program, a map was produced for each sampling method in a given sampling period and zone. The maps presented the results in terms of oil observations, using color-coded symbols for either evidence of oil or no evidence of oil.

During the spill response, maps were compiled and presented to the Unified Command at the conclusion of each sampling day or vessel trip. Results were also presented periodically at public meetings. All results maps generated and presented during the spill response were considered preliminary due to the quick turnaround from raw data to compiled map.

For this report, the vessel spreadsheets were combined and reorganized by zone so that each zone had a separate table for each sampling method. Each individual table was further broken down into sampling periods, according to fisheries water quality sampling program phase dates, fisheries opening and closing dates, and/or zonal activity. From the data collected during each sampling period, a map and a table were created for the purpose of this report. The maps and tables presented in this report are considered final and reflect a more deliberate compilation and expression of the program results.

TAR BALL TERMINOLOGY

During the course of the sampling program, three terms were used to describe the evidence of oil encounters on the tow net: tar ball, smear, and stain. Stain describes a spot of oil that fluoresces when observed under ultraviolet light on the net, but is too small to wipe off with a glove or to extract a sample. Smear describes oil that adheres to the tow net in sufficient quantity to wipe off with a glove but not enough oil to sample for lab analysis. Tar ball describes anything larger than a smear, of sufficient size to sample for lab analysis (Appendix S).

It is important to note that the difference between these three types of oil evidence does not necessarily relate to the total amount of oil encountered in the net, but may in fact have more to do with the length of retention in the tow net. For example, if a tar ball is encountered early in a 30-minute tow, by the time the net is pulled, all that remains as evidence of the encounter may be a smear or stain.

CATCH PER UNIT EFFORT ANALYSIS

The data tables generated during the spill response are included as Appendices to this report. The tow net data tables include a column labeled Catch per Unit Effort (CPUE), which expresses the oil encounter rate in terms of the number of oil encounters per total volume of water sampled each day. CPUE is most commonly used to estimate population sizes by fisheries and wildlife biologists, based on the assumption that the rate of removal per effort expended from a population will be proportional to the density or size of the population. Therefore the proportionate "yield" of oil encounters in the tow net may be seen as an indicator of the general "population" of tar balls in a water body.

In calculating CPUE for tar ball encounters, a challenge arose in how to count each stain, smear, and tar ball observed on the tow nets. Rather than attempt to calculate the actual volume of oil in each tarball, which would be nearly impossible because the tarballs are extruded through the net during the course of a tow, each oil observation was assigned a value of one, regardless of the size (smear, stain, or tarball). If three oil stains were observed on a net over the course of a tow, then the CPUE would be calculated by dividing three by the number of gallons of seawater sampled. The total volume of seawater sampled was calculated based on the surface area of the net, the length of time towed, and the speed at which it was towed through the water. CPUE is reported as tarballs per million gallons of water sampled (TPM). This provided a means for comparison over time to determine overall trends in oil encounter rates within a given area over time.

RESULTS

Unalaska Bay Zone

SUMMARY OF ZONAL SAMPLING

Fisheries water quality sampling was conducted in the Unalaska Bay Zone from December 29, 2004 until March 24, 2005. A variety of sampling methods were used: tow nets, fisheries pots, snare pots, Pollock and Pacific cod vessel pom-pom packs, seawater strainers, seafood processors' seawater intake monitoring, passive snare devices, and beach surveys.

TOW NET RESULTS

During Phase 2 of the program, 25 tows were completed in the Unalaska Bay sampling zone over a period of six days between December 29, 2004 and January 10, 2005. During this period, the sampling vessel *F/V Alaskan Lady* was equipped with one tow net, which was deployed at depths ranging from 3-20 feet. Six oil observations were reported (Figure 6). The average CPUE for this phase of tow net sampling was 1.9 TPM (Appendix A).

During Phase 3 of the sampling program in the Unalaska Bay zone, focus was directed on the crab fisheries vessel transit routes and anchorage areas for snow crab fishing vessels as well as floating and shore-based processors. The *F/V Exito* and *F/V Alaskan Lady* conducted sampling tows in the transit lanes to snow crab fishing grounds. Within Unalaska Bay, the *F/V Northern Fury* conducted tow net trawls in areas where crab vessels anchored in wait for catch delivery. All tows in this sampling period were single-net tows of varying depth between 3-6 feet. Over a period of 5 days, 34 tows were completed, and 6 observations of oil were recorded (Figure 7). The average CPUE for this time period shown was calculated to be 0.7 TPM (Appendix A).

In the next two-day period, 20 tows were completed at depths of 3-6 feet. Six encounters with oil in the form of stains, smears, tar balls, and sheens were recorded (Figure 8). The average CPUE for this sampling period was calculated to be 0.8 TPM (Appendix A).

During Phase 4 of the Unalaska Bay sampling program, the *Alaskan Lady* continued to tow in transects perpendicular to the transit lanes beyond state waters, while the *Exito* towed in transects parallel to the crab fleet transit lanes into Unalaska Bay. The *Northern Fury* continued to monitor the waters within Unalaska Bay. In three days of sampling, 48 tows were completed, all single-net tows at depths between 3-8 feet (Figure 9). No oil was observed in any of the tows, resulting in an average CPUE of 0.0 TPM (Appendix A).

During Phase 4, the double tow method was introduced, which allowed the water column to be sampled at two depths. The *Alaskan Lady* towed parallel to crab fleet transit routes into Unalaska Bay with two nets: one at depths varying from 1-8 feet; another at depths between 6-12 feet. The *Exito* joined the *Northern Fury* within Unalaska Bay, both vessels sampling the

waters around crab vessels waiting to be offloaded. The *Exito* and *Northern Fury* used only one net per tow and sampled at 9-12 feet below surface. In a three-day sampling period, 74 tows were completed, resulting in eight oil observations (Figure 10). The average CPUE for this period was 0.9 TPM (Appendix A).[1]

Phase 4 also saw the introduction of standardized tow transects within Unalaska Bay, to facilitate comparison of CPUE data over time. There were eight designated towing stations, each approximately one mile in length, in the following general areas: Cape Cheerful, Eider Point, Wide Bay, Cascade Falls, Captains Bay, Ulakta Head, Summer Bay, and Princess Head.

Mid way through Phase 4, both the *Alaskan Lady* and the *Northern Fury* were fitted with equipment to conduct two-depth tows per vessel. One net was trawled at a near-surface depth of 0-6 feet, and another net varying between 6-12 feet deep. In effect, this doubled the volume of water sampled and the number of tows performed in a sampling period. During a four-day sampling period in Phase 4, 78 tows were completed, resulting in five oil observations (Figure 11). Most of these encounters involved multiple oil observations, resulting in an average CPUE of approximately 1.3 TPM (Appendix A).

From January 29-31,2005, the sampling activity remained steady in the Unalaska Bay zone, as returning crab vessels and floating processors continued to pump seawater while anchored in the bay. Both the *Alaskan Lady* and the *Northern Fury* continued to conduct double-net tows within Unalaska Bay and at the mouth of the bay. In this three-day sampling period, 86 tows were conducted, resulting in three oil observances (Figure 12), and an average CPUE calculation of 0.3 TPM (Appendix A).

Double-net towing continued within Unalaska Bay from February 1-4, 2005, with a few tows conducted toward the mouth of the bay and further west, toward Cape Kovrizhka, in an effort to monitor potential influxes of oil into the bay from the still-leaking wreck. There were 84 tows completed with only one oil encounter (Figure 13), resulting in an average CPUE calculation of 0.05 TPM (Appendix A).

By February 5, 2005, the number of crab vessels at anchor in Unalaska Bay had declined, and the *Alaskan Lady* was dispatched to Spray Cape, to conduct a sampling survey in the South of Spill Impact Zone. The *Northern Fury* was relieved by the *F/V Commitment,* continuing to conduct tow net surveys in Unalaska Bay. By this time, tow net sampling had slowed in frequency to allow for the addition of the passive snare device sampling method. From February 7-15, the *Commitment* conducted 54 tows in four days within the Unalaska Bay Zone at standardized sites. This period of sampling resulted in six oil observations (Figure 14). The average CPUE for this period was calculated to be 0.6 TPM (Appendix A).

[1] The CPUE for some tows was not calculated, because the two were not in a straight line preventing the calculation of water volume sampled.

Unalaska Bay tow net sampling concluded at the end of Phase 4. During the last period of tow net sampling, the *Commitment* and then the *Northern Fury* alternately conducted the remaining tows at the standard towing sites. They collectively completed 68 tows in five scheduled towing days. There were nine oil observations (Figure 15), resulting in an average CPUE calculation of 2.6 TPM (Appendix A).

Figure 6: Unalaska Bay Zone Tow Net Results Phase 2 (12/29/04- 1/10/05)
See Appendix A for data table.

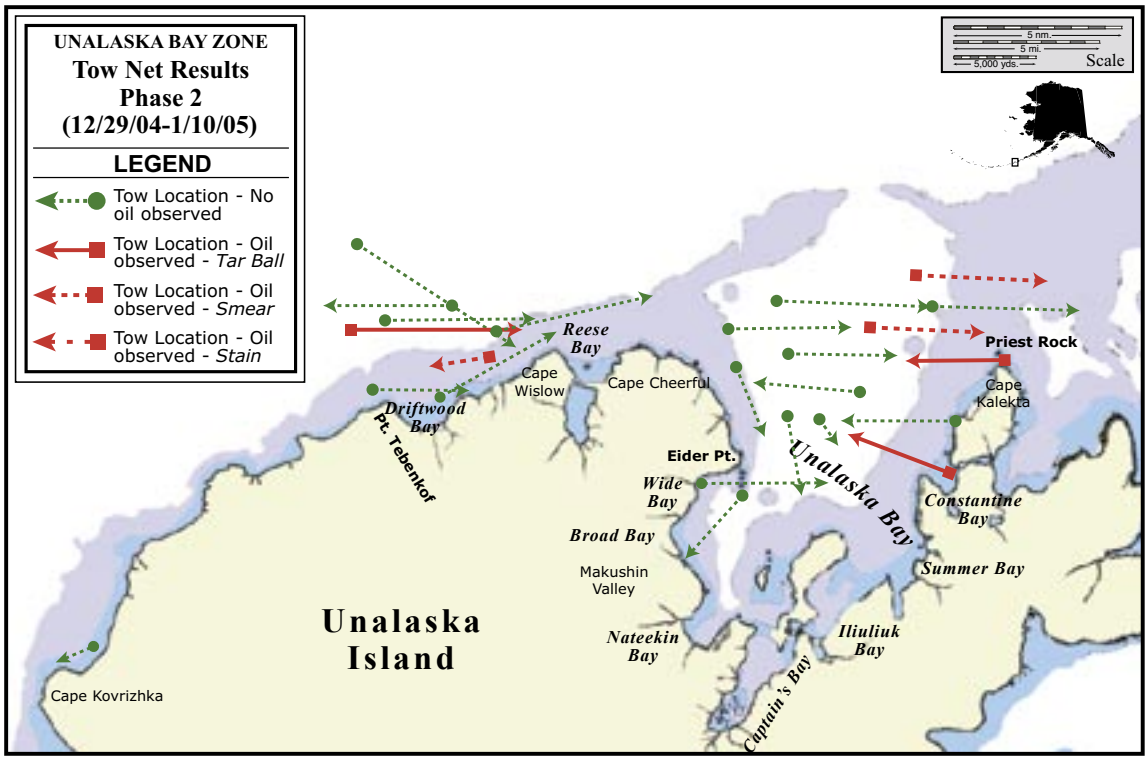


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Figure 7: Unalaska Bay Zone Tow Net Results Phase 3 (1/12/05- 1/16/05)
See Appendix A for data table.

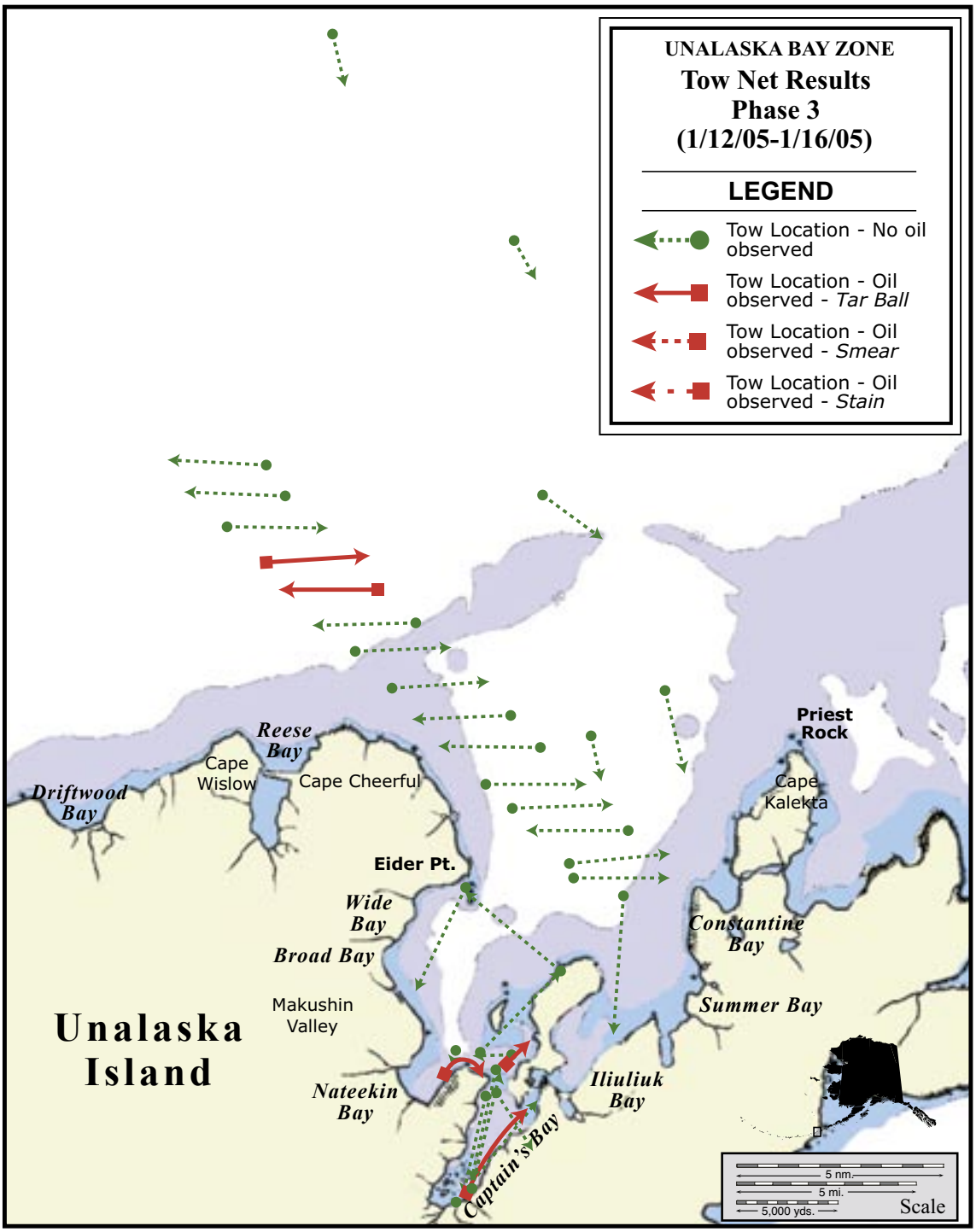

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Figure 8: Unalaska Bay Zone Tow Net Results Phase 3-4 (01/17/05- 01/18/05)
See Appendix A for data table.

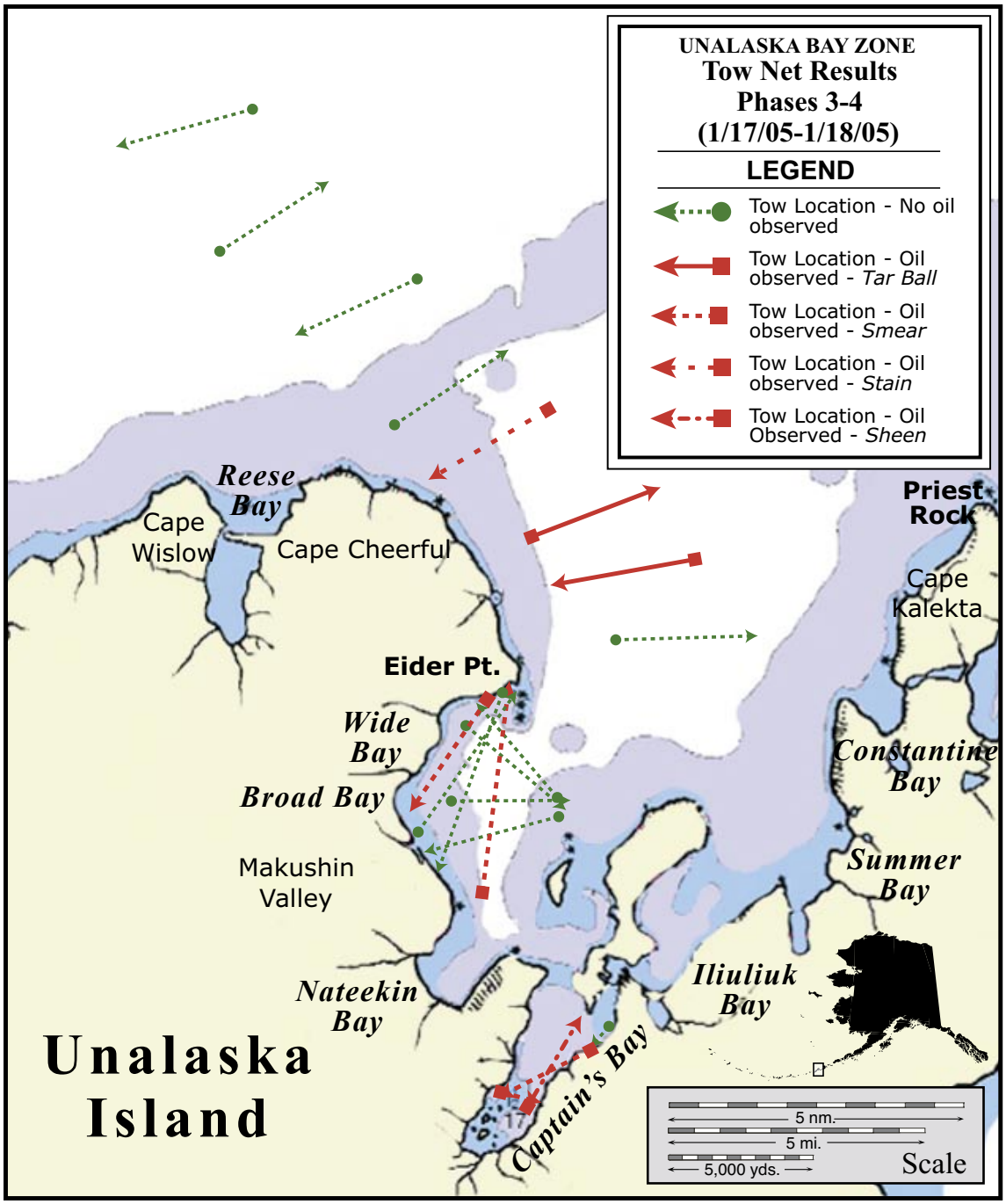

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Figure 9: Unalaska Bay Zone Tow Net Results Phase 4 (1/19/05- 1/21/05)
See Appendix A for data table.

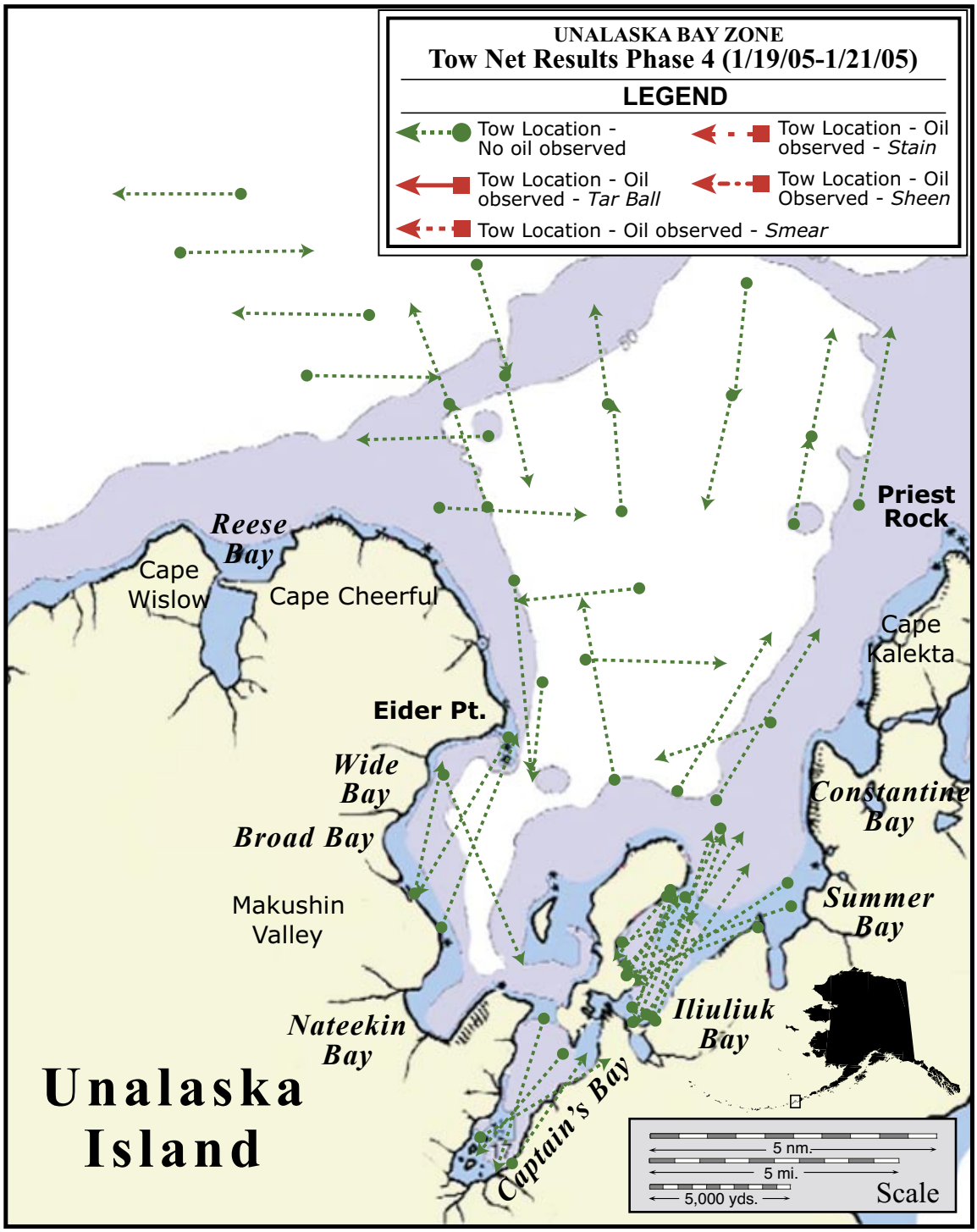

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Figure 10: Unalaska Bay Zone Tow Net Results Phase 4 (1/22/05- 1/24/05)
See Appendix A for data table.

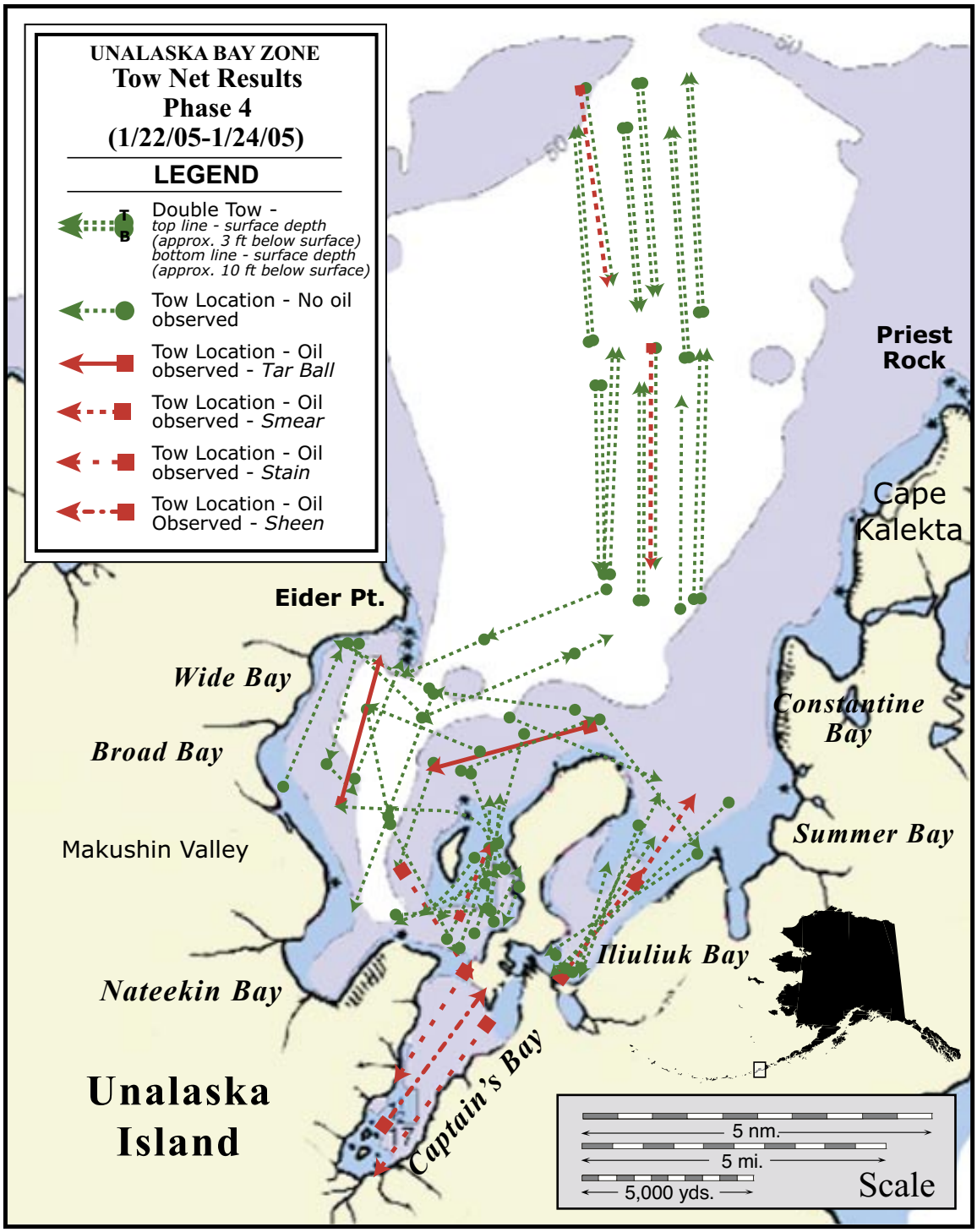

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Figure 11: Unalaska Bay Zone Tow Net Results Phase 4 (1/25/05- 1/28/05)
See Appendix A for data table.

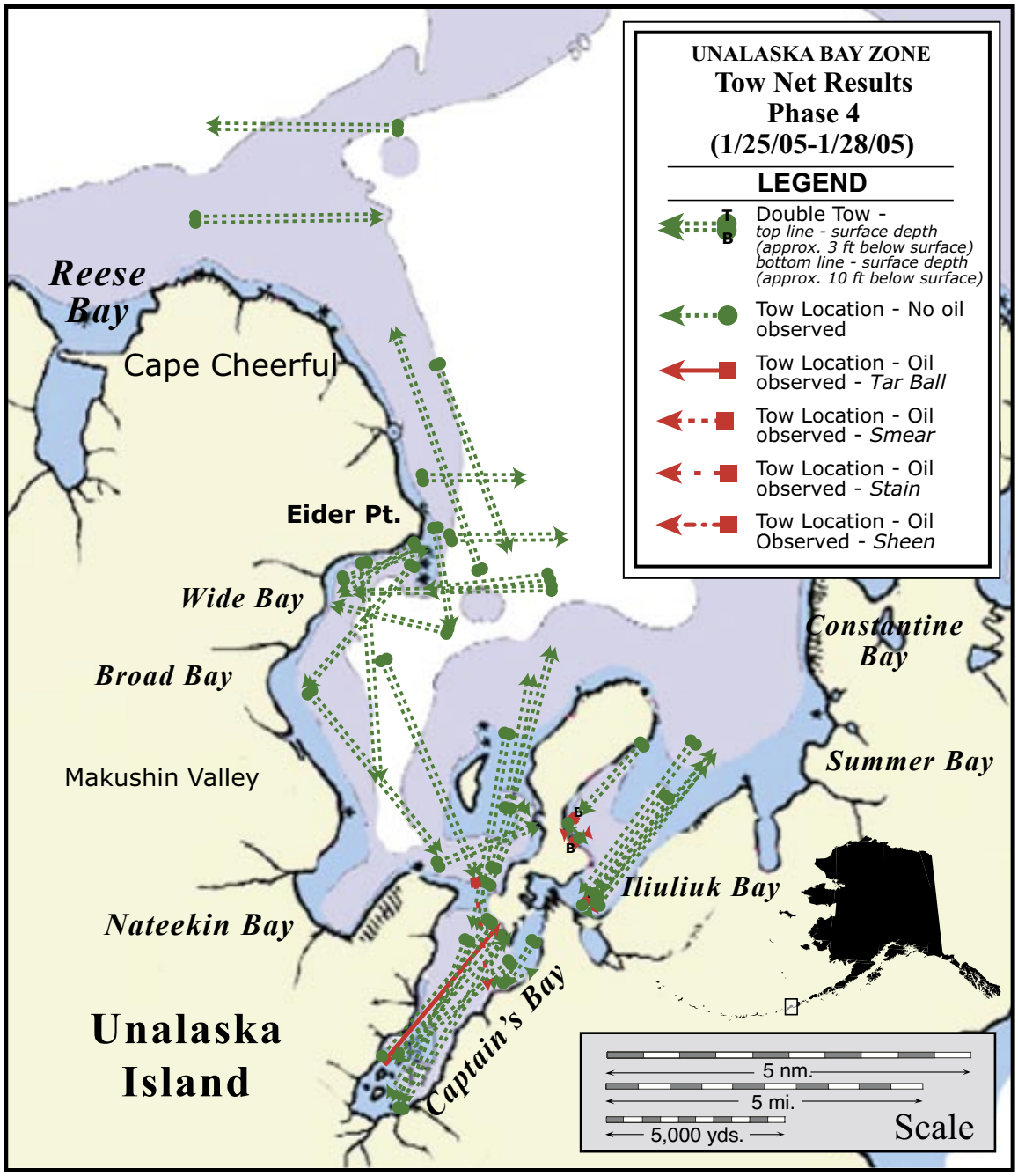

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Figure 12: Unalaska Bay Zone Tow Net Results Phase 4 (1/29/05- 1/31/05)
See Appendix A for data table.

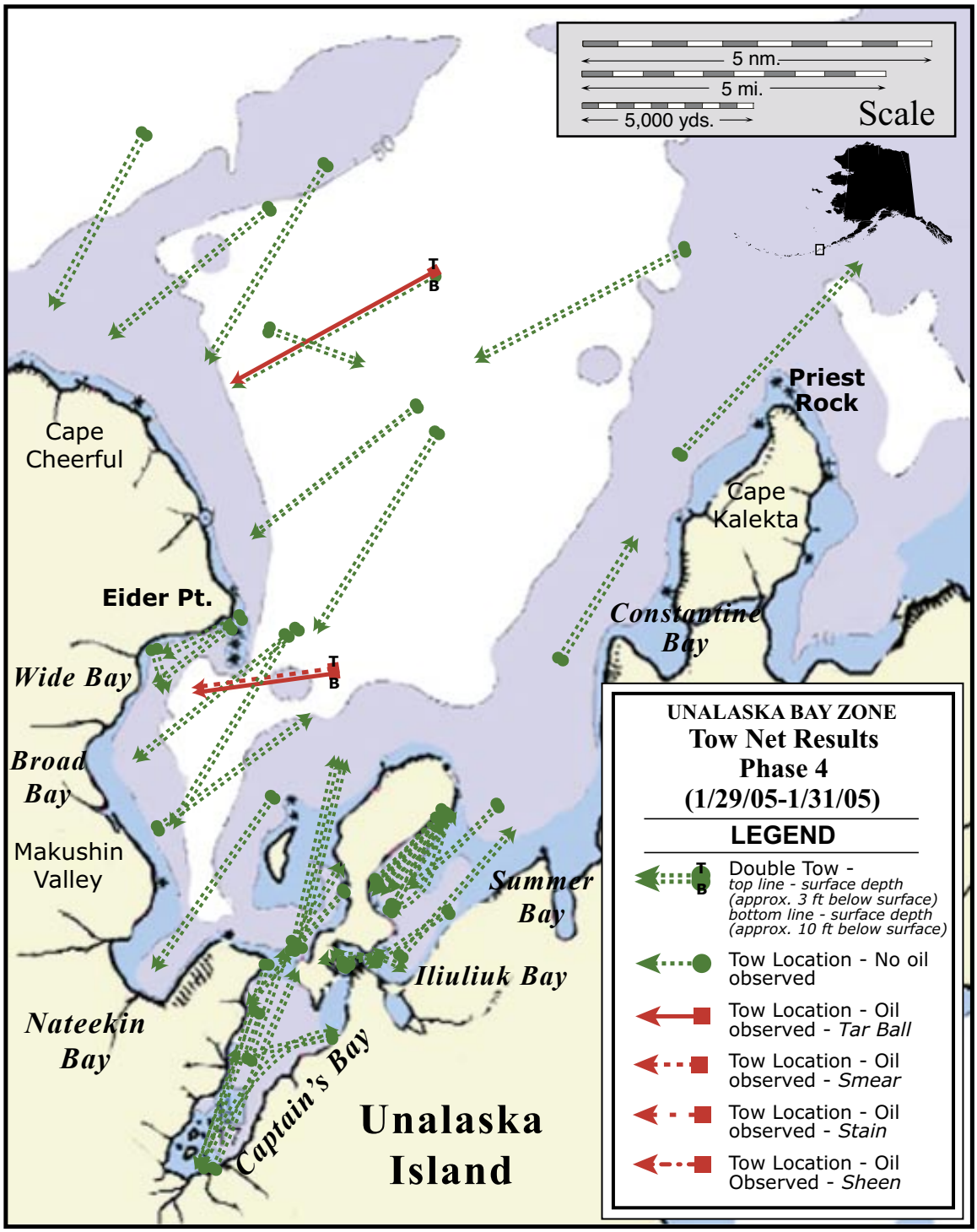

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Figure 13: Unalaska Bay Zone Tow Net Results Phase 4 (2/1/05- 2/4/05)
See Appendix A for data table.

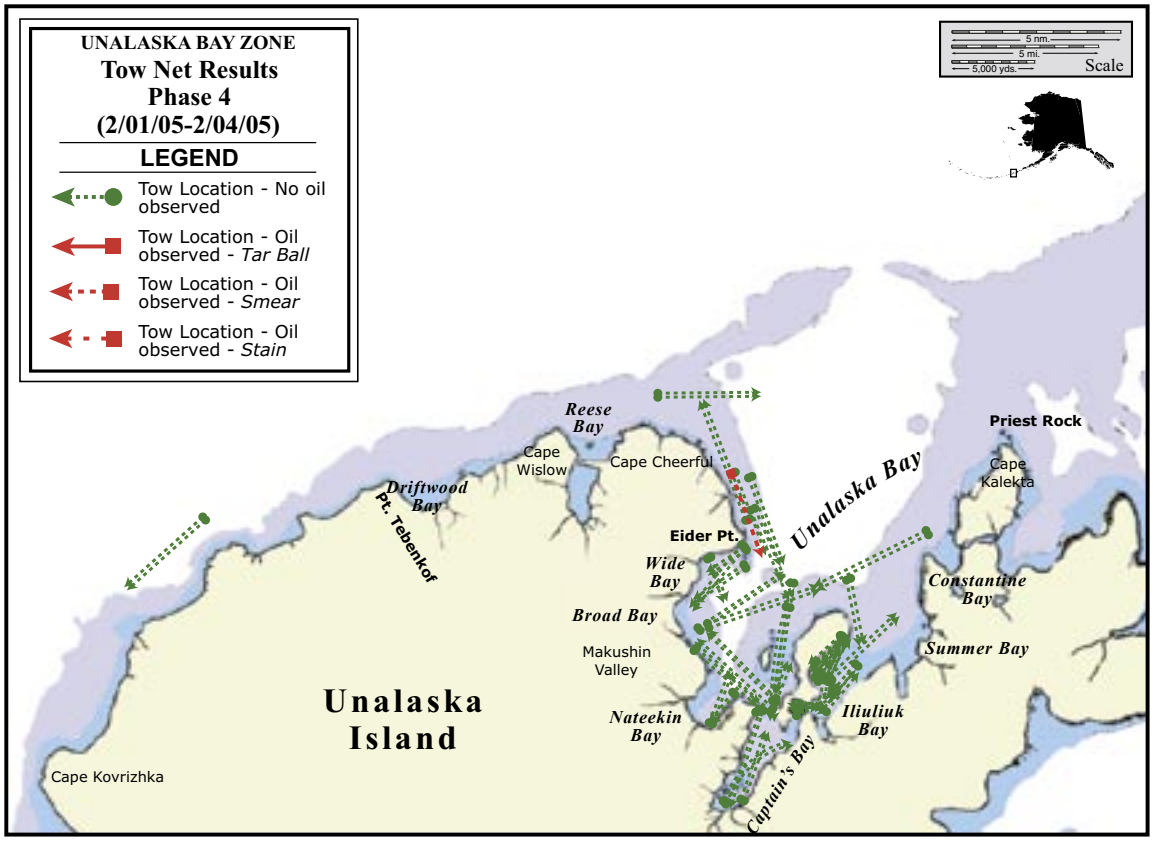

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Figure 14: Unalaska Bay Zone Tow Net Results Phase 4 (2/7/05- 2/15/05)
See Appendix A for data table.

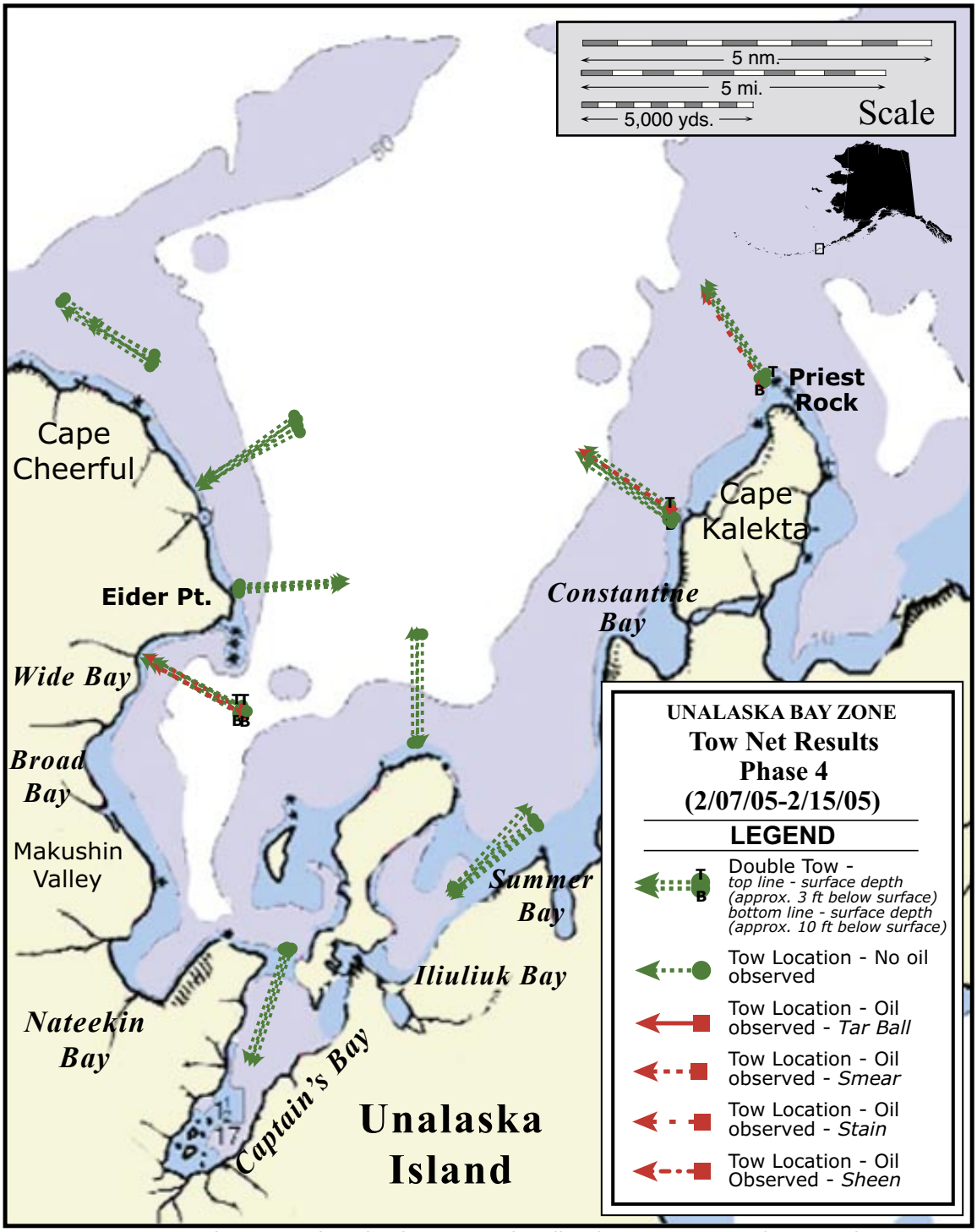

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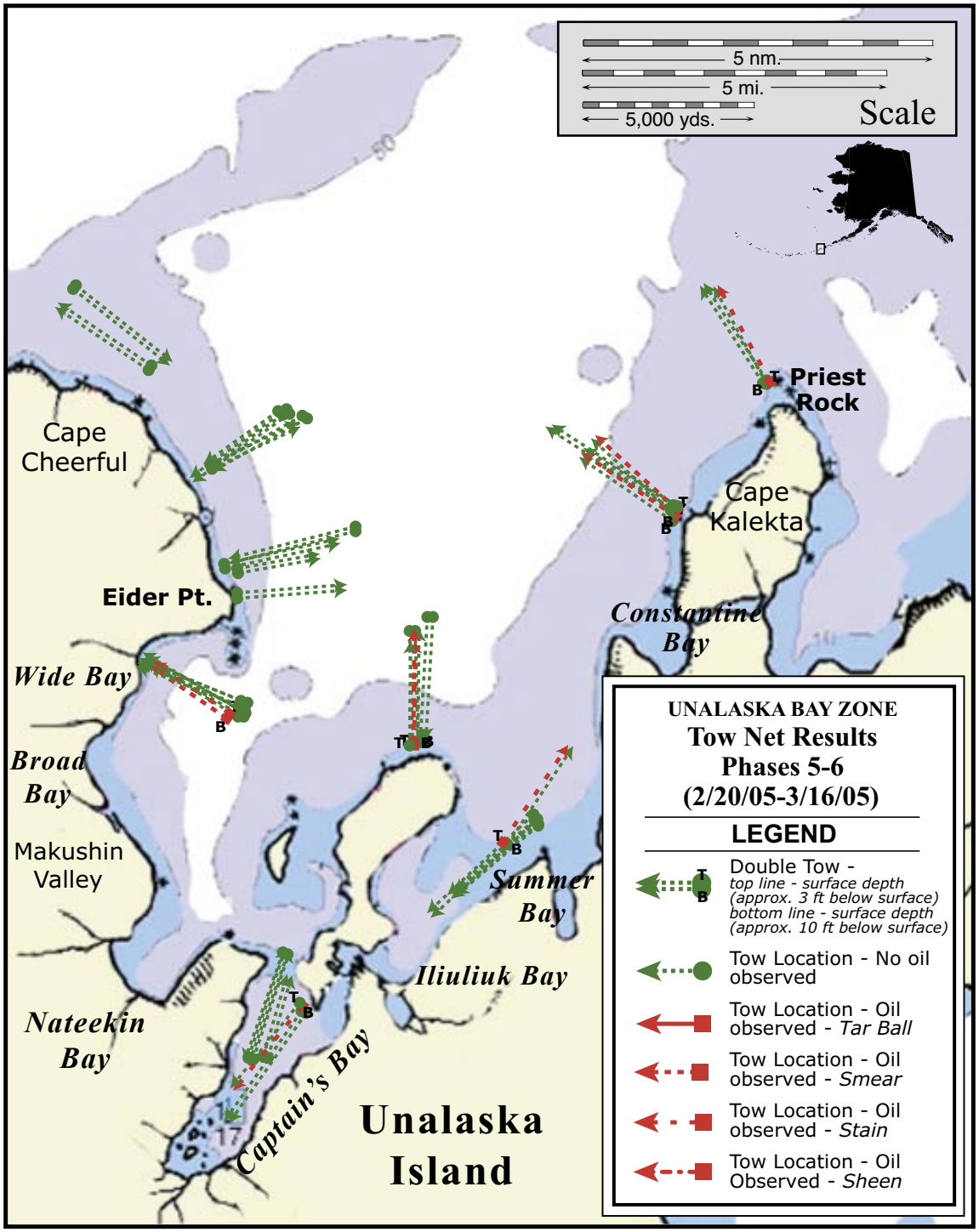
Figure 15: Unalaska Bay Zone Tow Net Results Phases 5&6 (2/20/05- 3/16/05)
See Appendix A for data table.



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FISHERIES POT RESULTS

Fisheries pot sampling in Unalaska Bay began during Phase 2 of the water quality sampling program, on December 28, 2004. During Phase 2, 14 pots were set in the Unalaska Bay Zone. None showed any evidence of oil, and the fish and crab collected all passed ADEC seafood safety inspections (Figure 16 and Appendix B).

During Phase 3, ten fisheries pots were set and pulled in the Unalaska Bay zone. None showed evidence of oil contamination, and all fish and crab collected passed ADEC seafood safety inspections (Figure 17 and Appendix B).

Figure 16: Unalaska Bay Zone Fisheries Pot Results Phase 2 (12/28/04- 1/6/05) *See Appendix B for data table.*

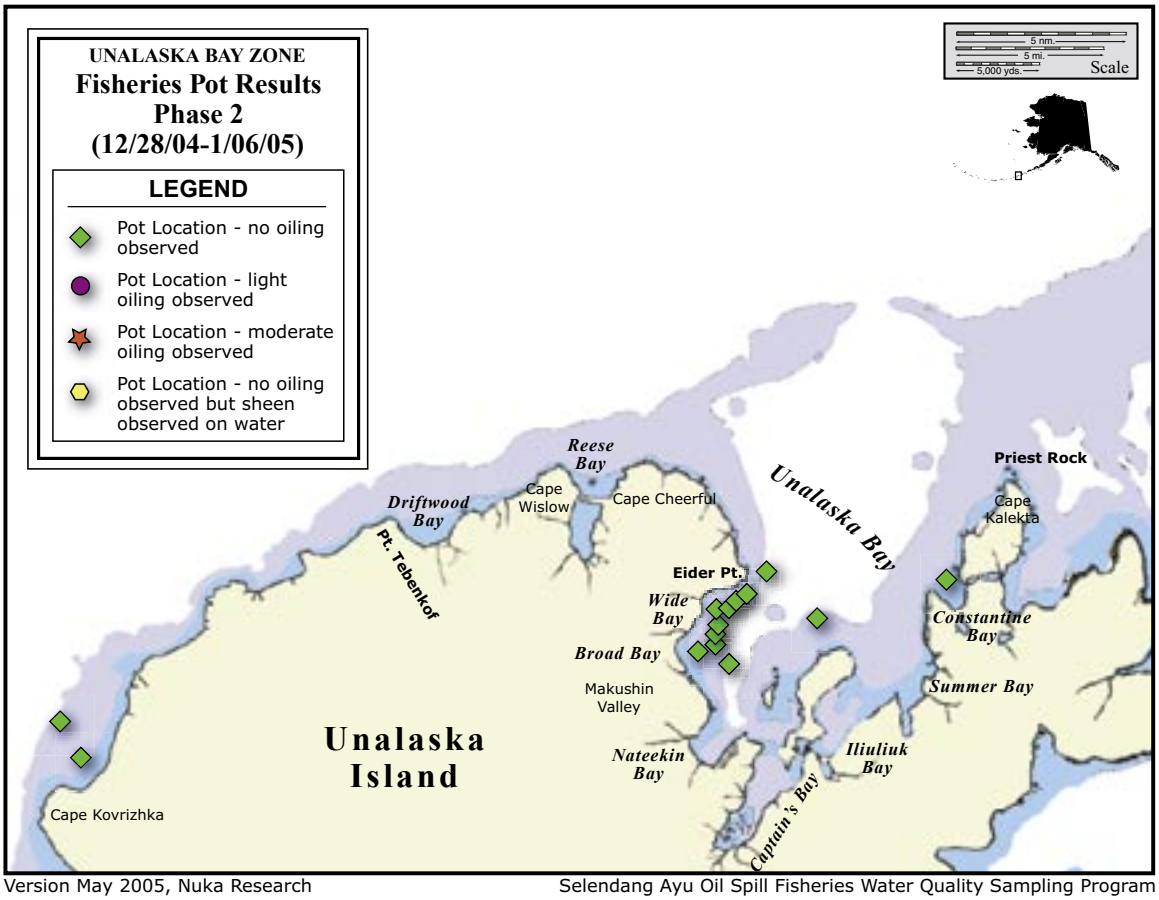

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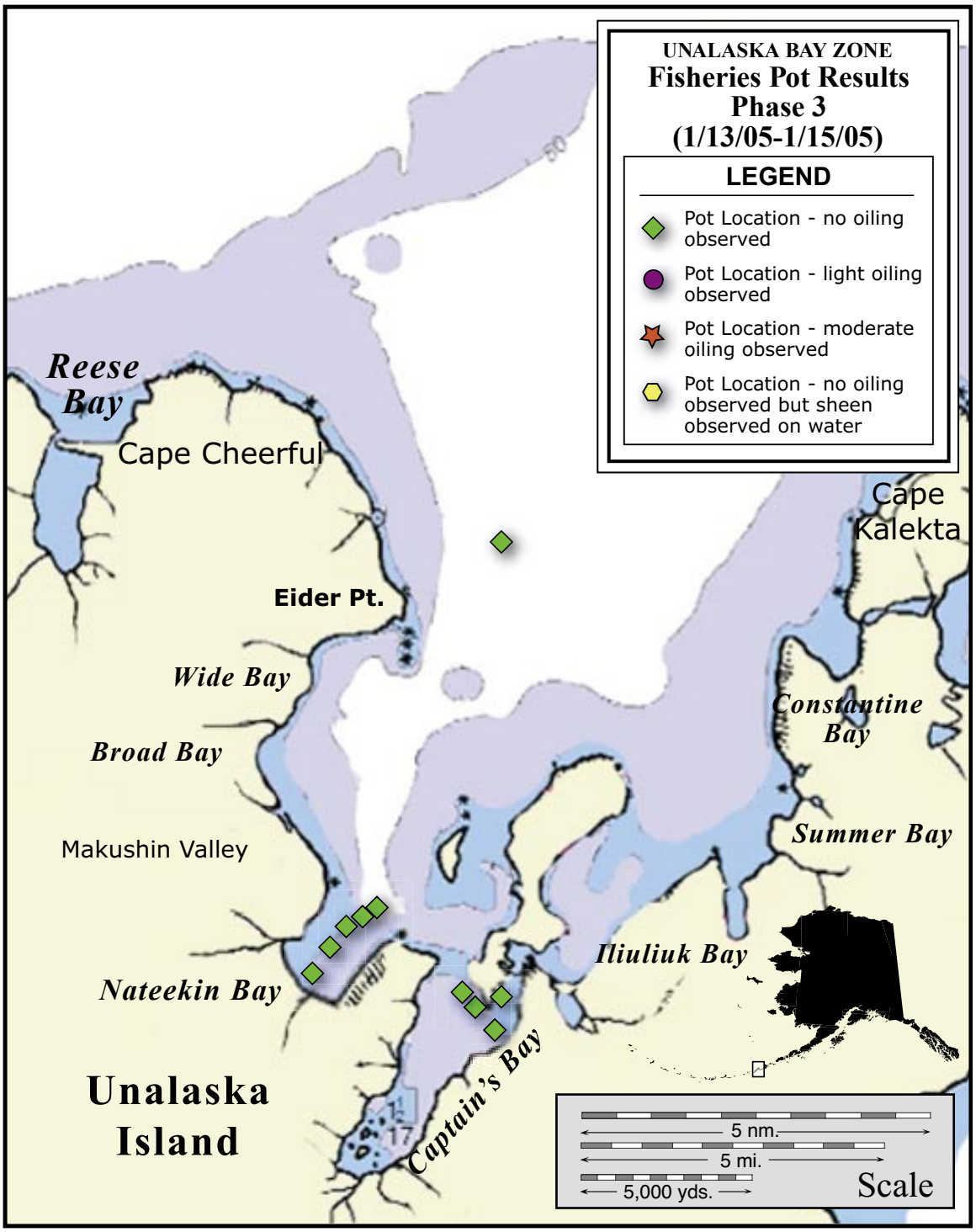
Figure 17: Unalaska Bay Zone Fisheries Pot Results Phase 3 (1/13/05- 1/15/05)
See Appendix B for data table.



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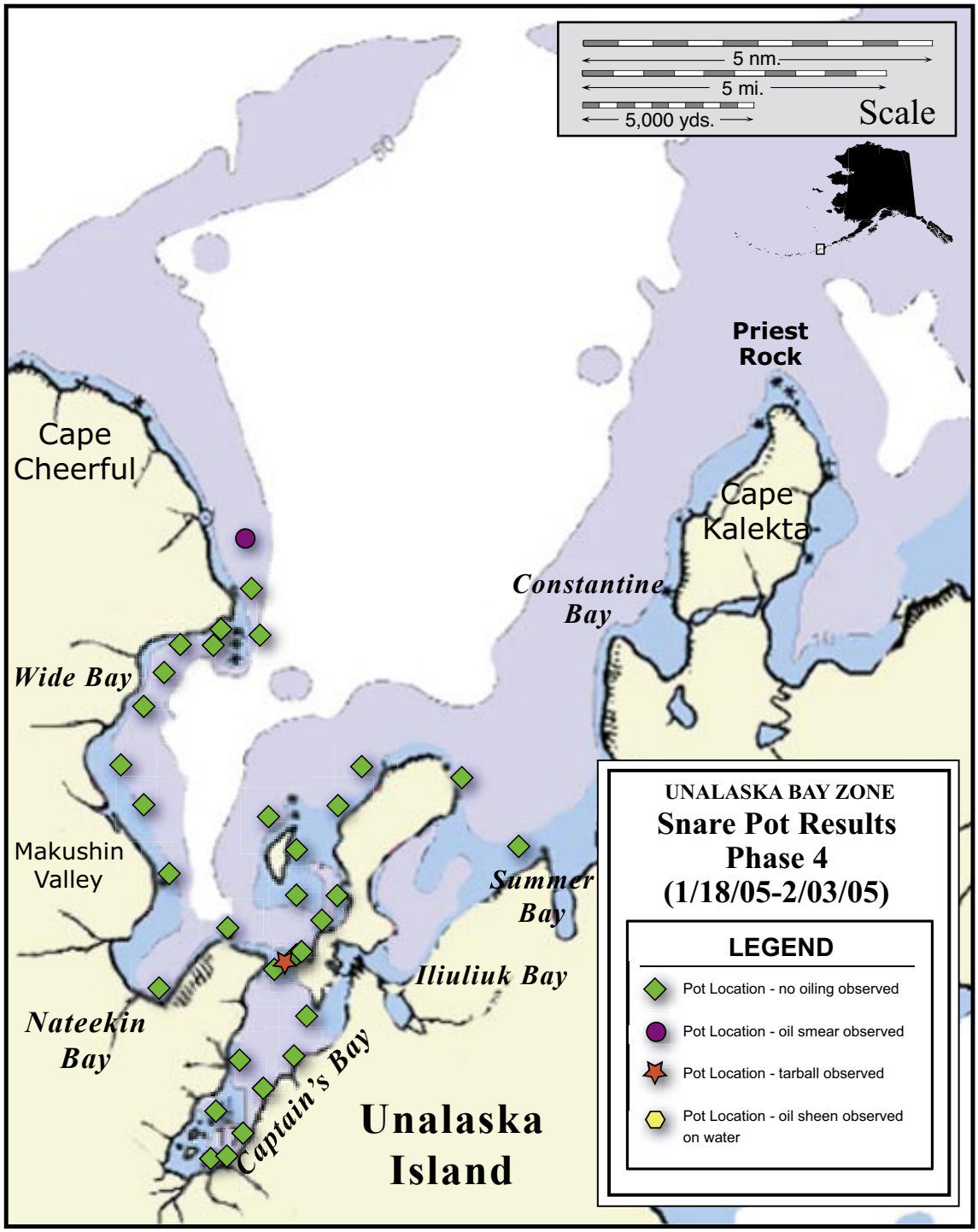
SNARE POT RESULTS

Snare pots were set in the Unalaska Bay Zone during Phase 4, to determine the extent of possible oiling of gear. Thirty-four pots were set and pulled from January 18 to February 3, 2005. Two observations of oil on crab pot gear were noted (Figure 18 and Appendix C).

Figure 18: Unalaska Bay Snare Pot Results Phase 4 (1/18/05- 2/3/05)
See Appendix C for data table.



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POM-POM PACK RESULTS

Nearly 200 pollock and Pacific cod pom-pom packs were distributed to personnel at seafood processors who dealt directly with vessel captains, with direction to distribute the packs to the fleet for deployment in their RSW tanks (Appendix T). No reports of oiled mesh pillows or snares were received.

SEAWATER STRAINER RESULTS

From January 1-28, 2005, seawater strainer (SS) results were recorded on three vessels operating within the Unalaska Bay Zone (Figures 19-22 and Appendix D). Trace amounts of oil were reported on two occasions (Figures 20 and 21).

Figure 19: Unalaska Bay Zone Seawater Strainer Results Phase 2 (1/1/05- 1/10/05)
See Appendix D for data table.

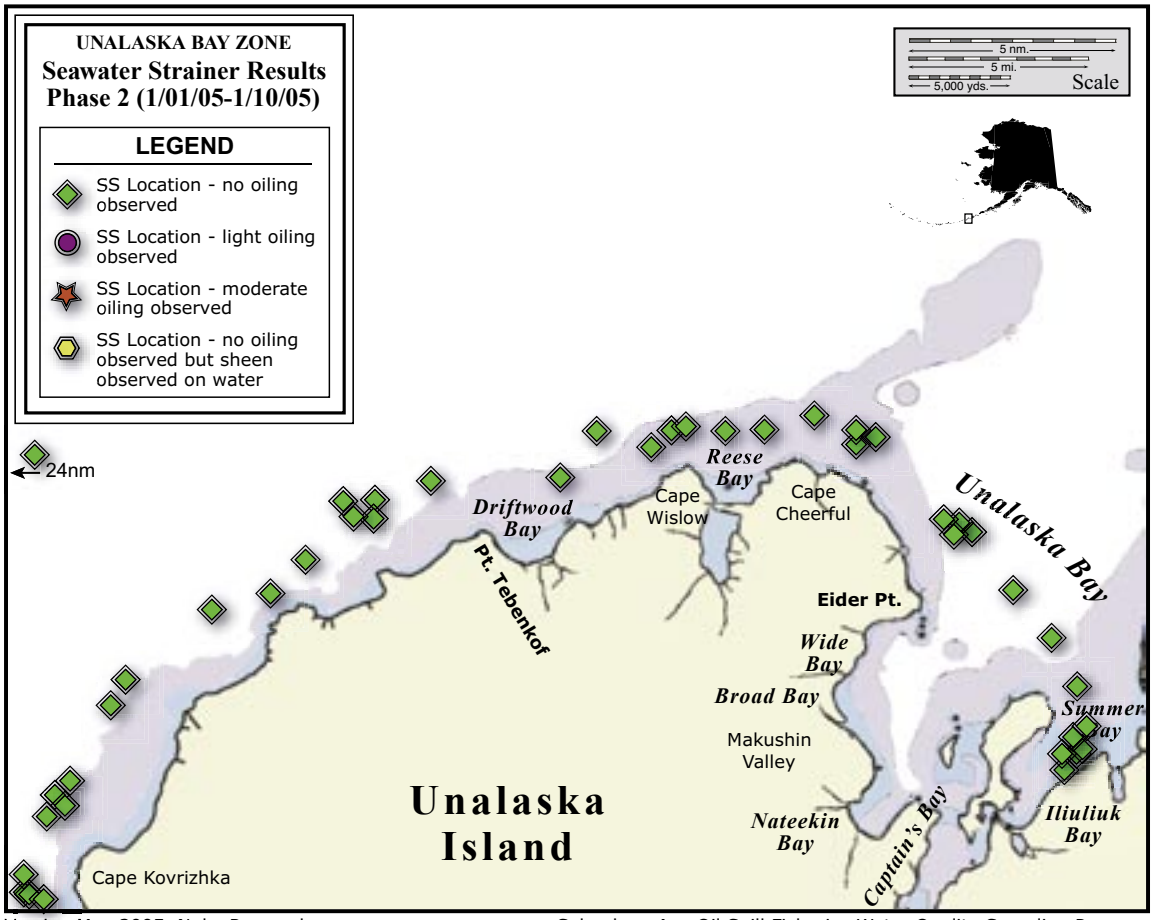

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Figure 20: Unalaska Bay Zone Seawater Strainer Results Phase 3 (1/11/05-1/17/05) *See Appendix D for data table.*

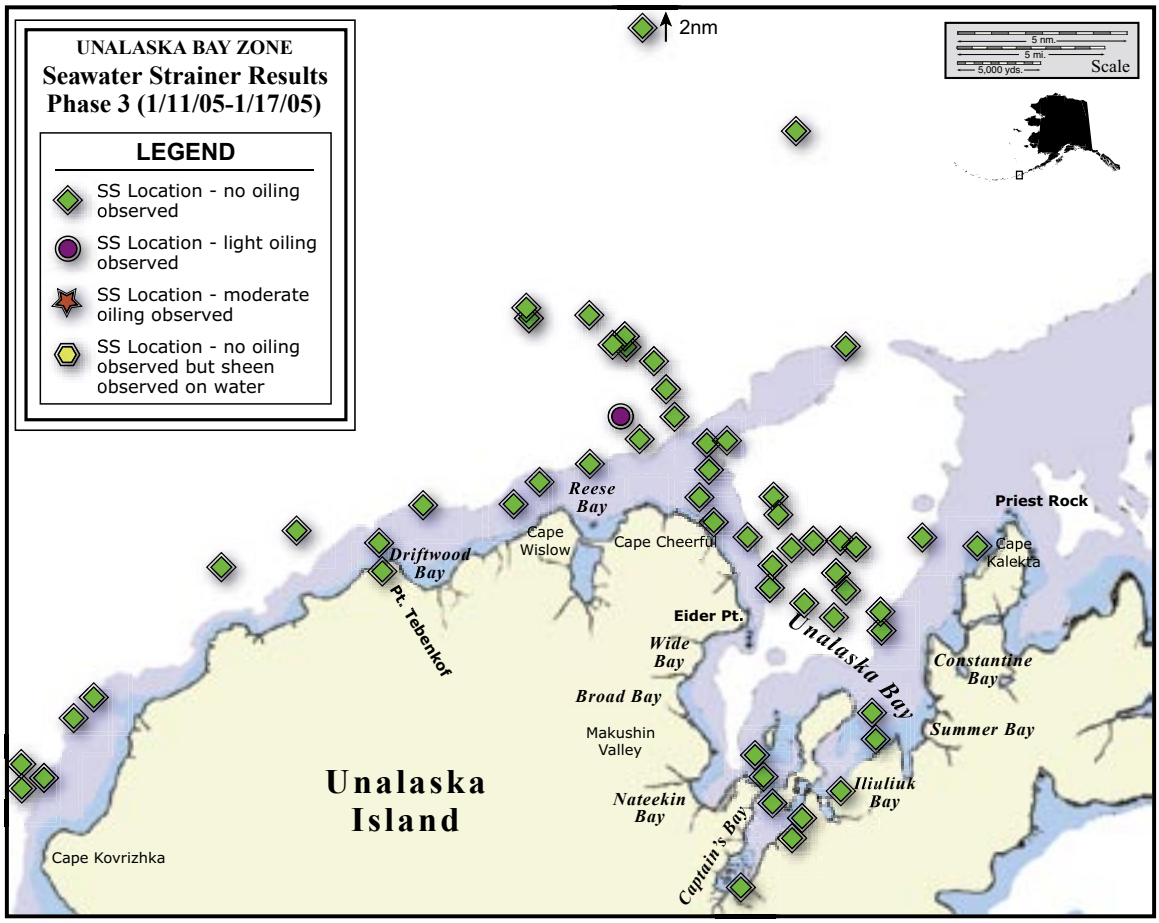

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Figure 21: Unalaska Bay Zone Seawater Strainer Results Phase 4 (1/18/05-1/21/05) *See Appendix D for data table.*

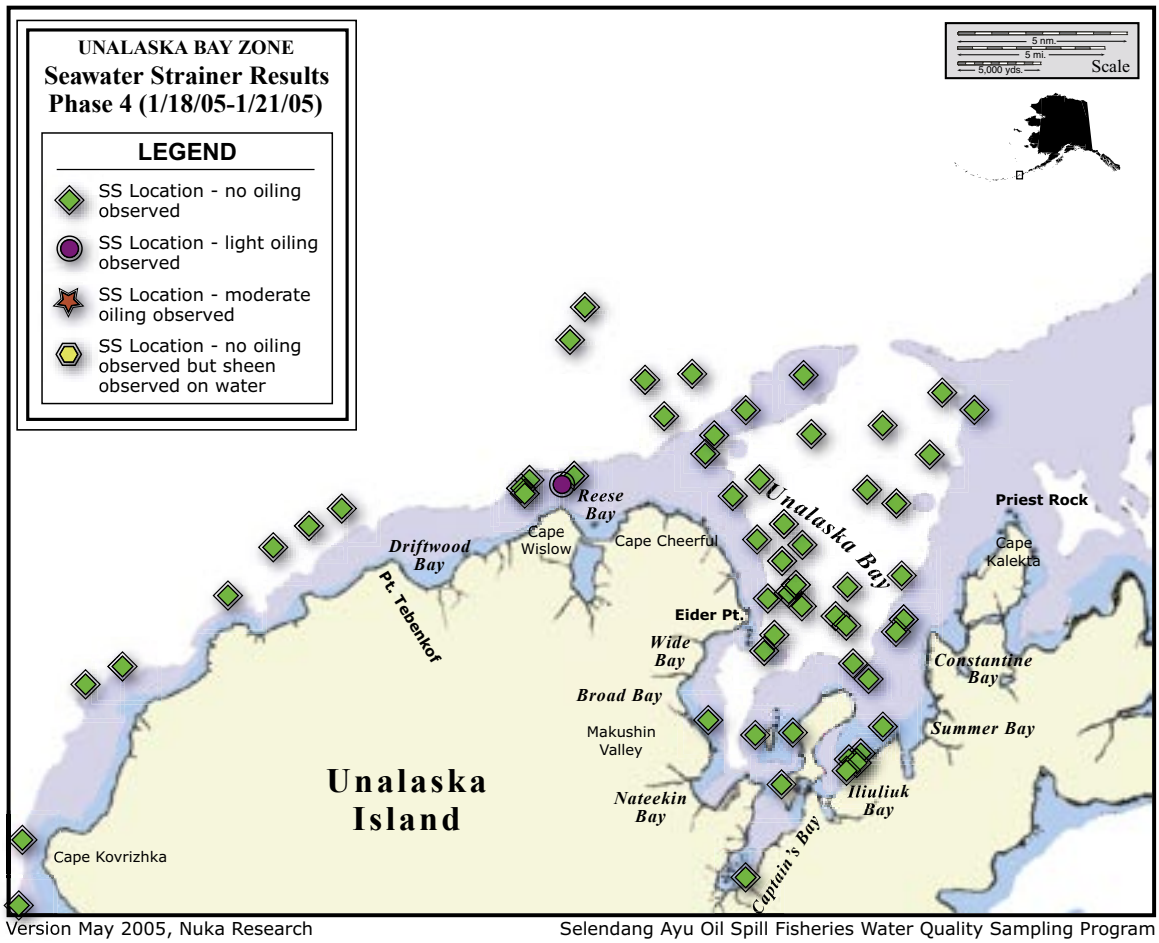

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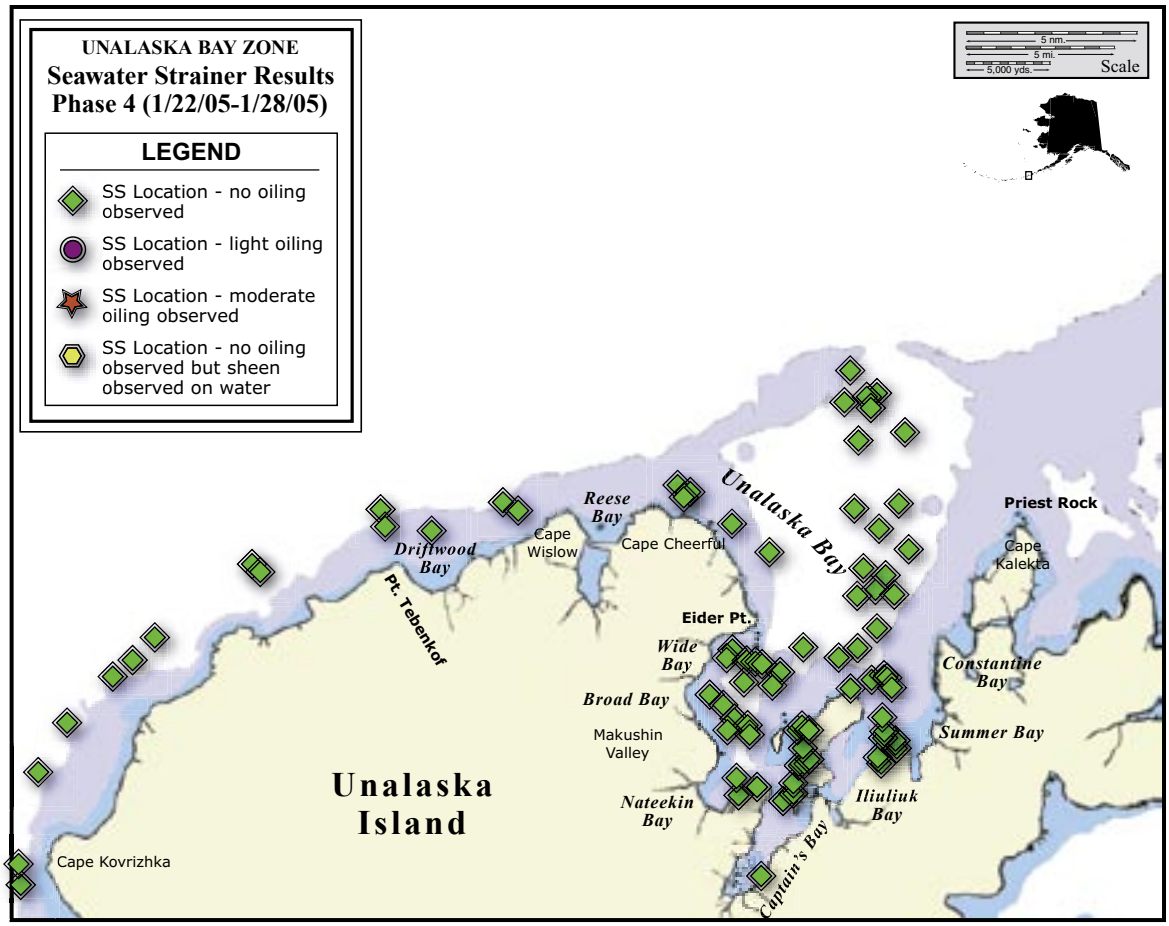
Figure 22: Unalaska Bay Zone Seawater Strainer Results Phase 4 (1/22/05-1/28/05) *See Appendix D for data table.*



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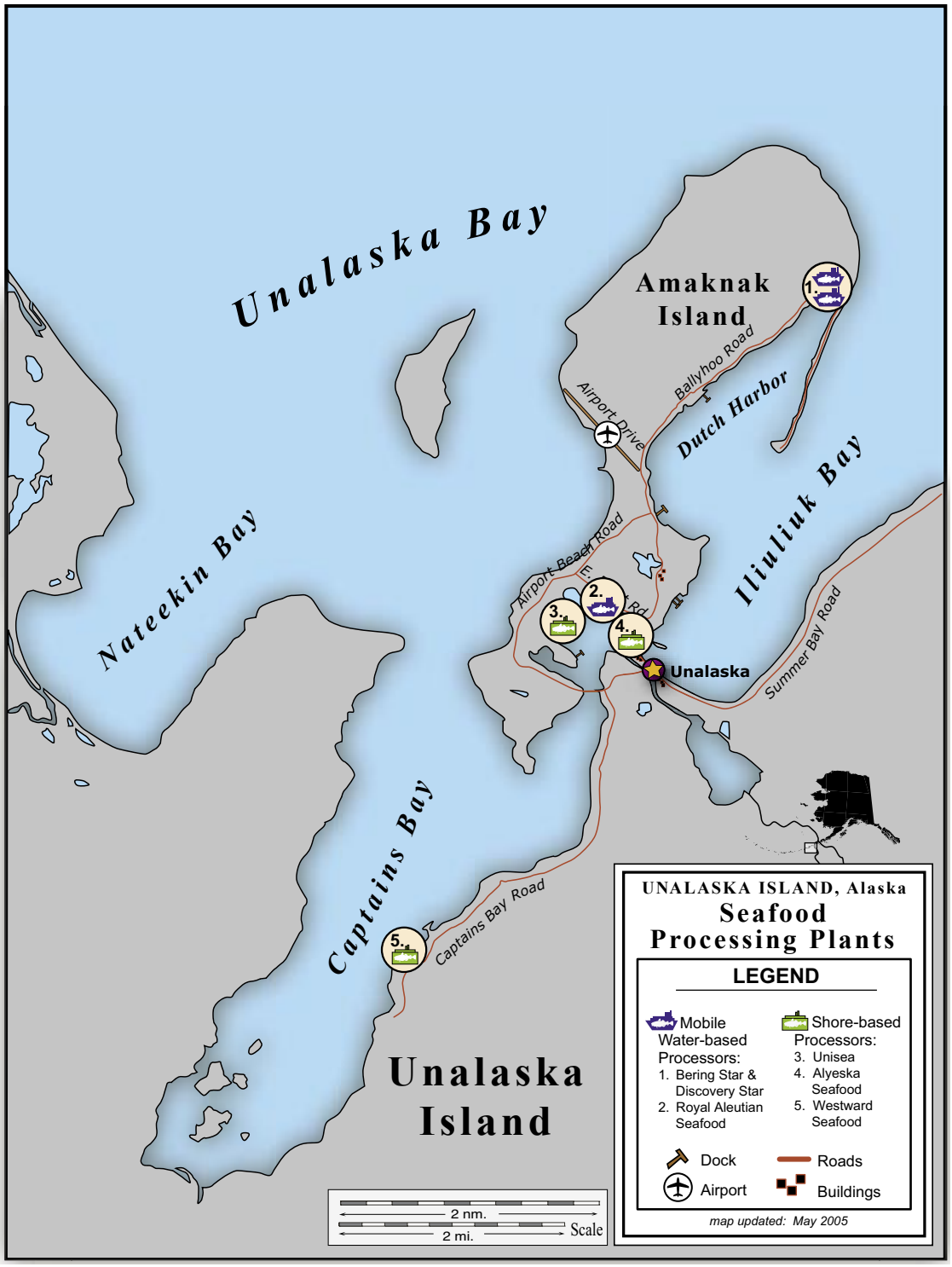
SEAFOOD PROCESSORS' SEAWATER INTAKE RESULTS

From Phase 2 through the end of Phase 6, the seawater intakes at six seafood processing plants were monitored during times when the plants were actively pumping seawater from Unalaska Bay. No oil contamination was reported over the course of this study (Figure 23 and Appendix E).

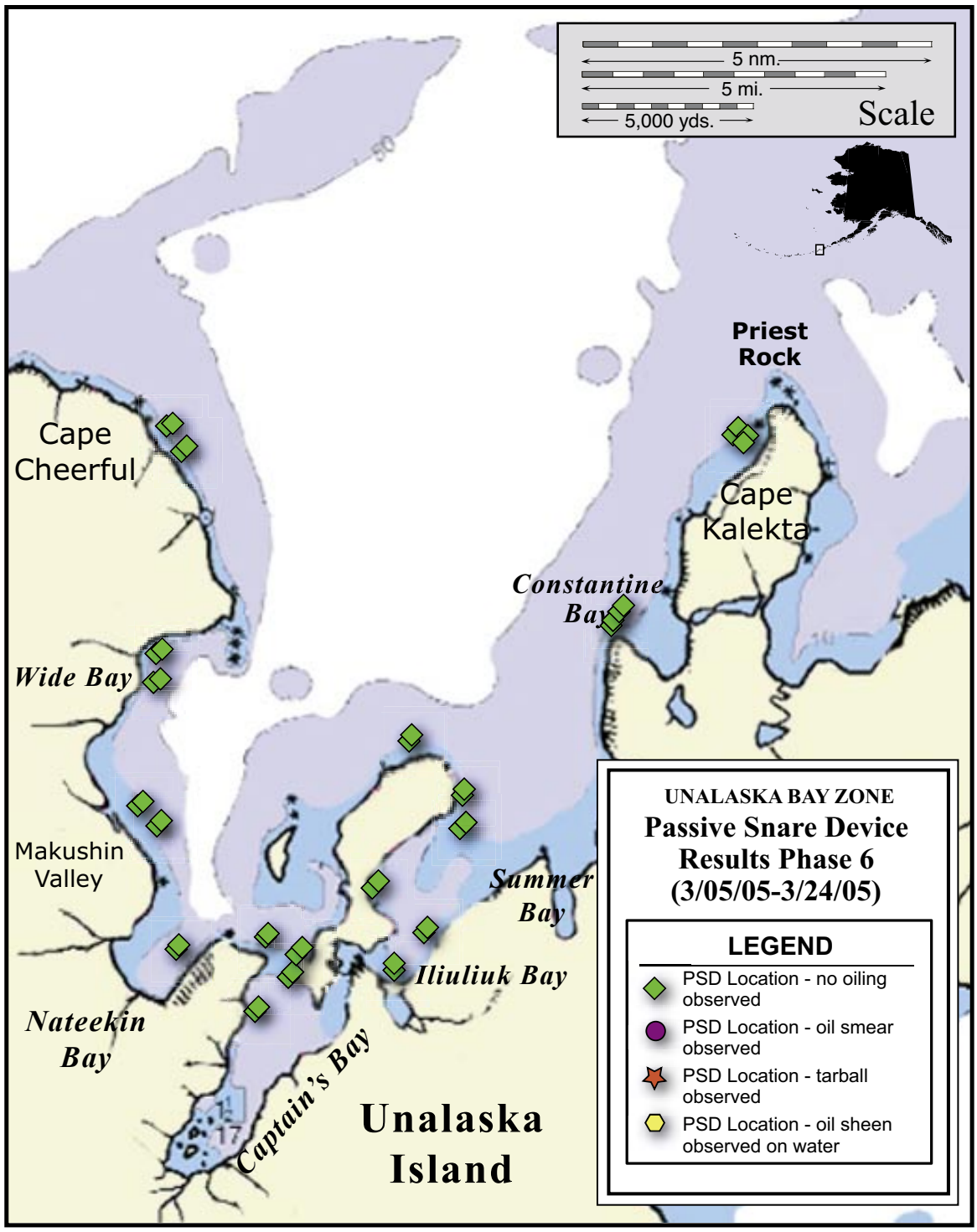
Figure 23: Aleutian Island map locator for seafood processing plants.



PASSIVE SNARE DEVICE RESULTS

On February 4, 2005, 20 passive snare devices (PSD) were deployed at various locations in the Unalaska Bay zone. They were pulled and checked for evidence of oil on five occasions, at roughly ten-day intervals. No evidence of oil was observed (Figure 24 and Appendix F).

Figure 24: Unalaska Bay Zone PSD Results Phase 6 (3/5/05- 3/24/05)
See Appendix F for data table.



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BEACH SURVEY RESULTS

The beach survey sampling method was introduced during Phase 6, and continued through the end of the program. Six beach segments (BS) were surveyed throughout the sampling period, usually at a frequency of two to three segments a day, depending on other sampling activities status and safety considerations (for example, the Wide Bay beach segment was only accessible by helicopter).

Beach survey sampling results are presented in a series of eight maps (Figures 25-32). The maps depict the quantity of tar ball encounters on each beach segment per survey. Each of the first seven maps contains survey results for all six beach segments. Data depicted on each map was gathered over a period of several days based on weather and other logistical constraints. The beach survey result maps are color-coded to represent the quantity of tar balls encountered on each beach. Appendix G contains raw data tables from the beach surveys.

Figure 25 shows the results of initial surveys conducted at each segment. Tar balls were encountered on all segments except Spit Beach. Figures 26-31 represent the second through seventh survey of each beach segment. With the exception of the March 11, 2005 survey of Wide Bay Beach, during which 325 tar balls were encountered (Figure 28), there was a generally decreasing trend in the number of tar balls encountered over the course of the sampling period. An eighth survey was conducted at four of the beach segments, three of which were observed to be free of tar balls (Figure 32). Data from the March 23, 2005 beach survey at Little South America, during which no tar balls were encountered, is not depicted in any of the figures, as this was the only beach segment where a ninth beach survey was performed.

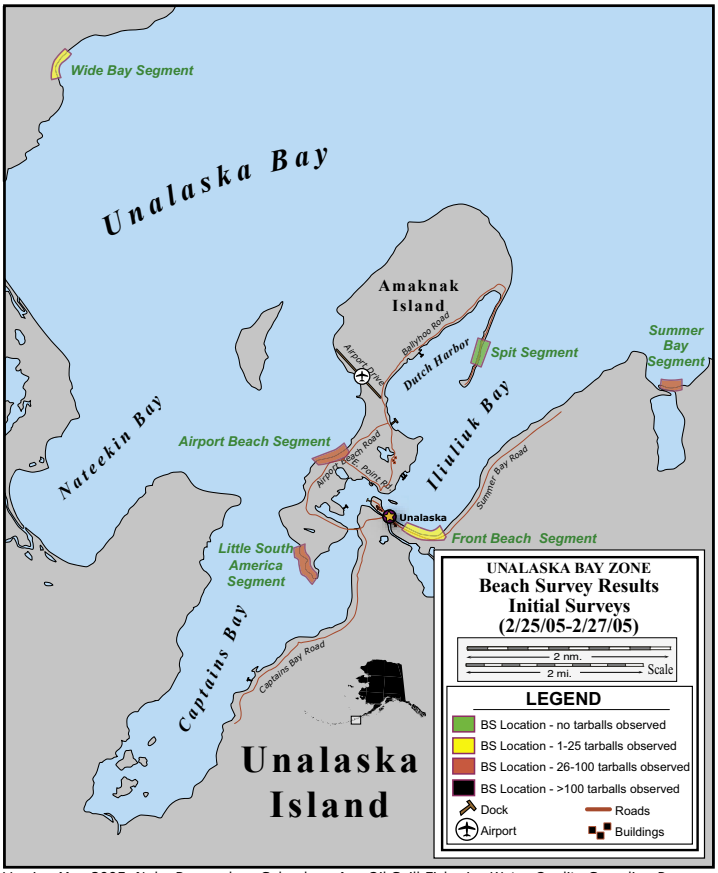

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Figure 25: Unalaska Bay Zone Beach Survey Results from Initial Surveys (2/25/05-3/01/05)
See Appendix G for data table.

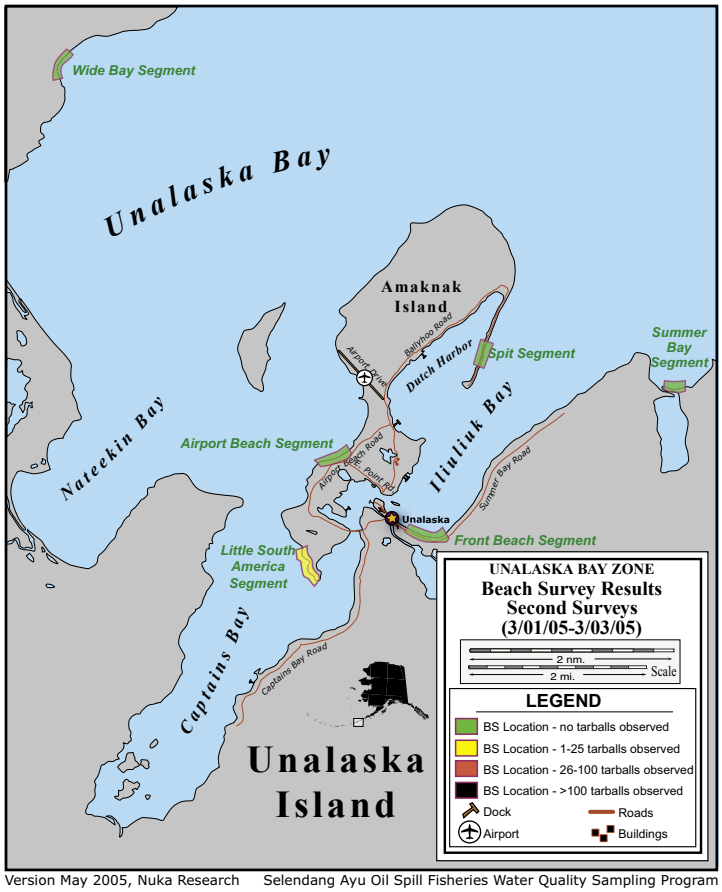

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Figure 26: Unalaska Bay Zone Beach Survey Results from Second Surveys (3/01/05-3/03/05)
See Appendix G for data table.

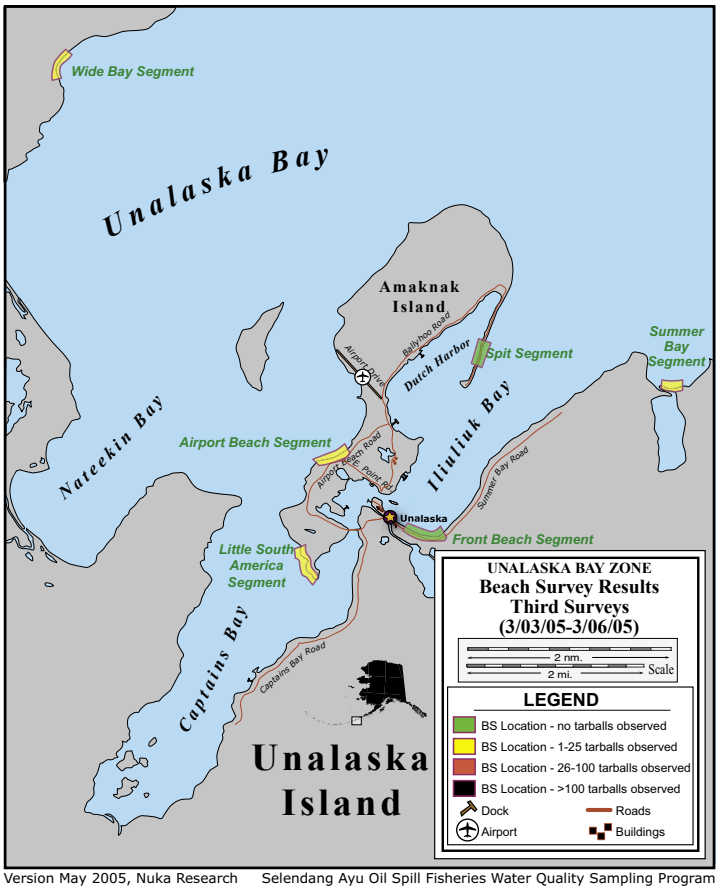

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Figure 27: Unalaska Bay Zone Beach Survey Results from Third Surveys (3/03/05-3/06/05)
See Appendix G for data table.

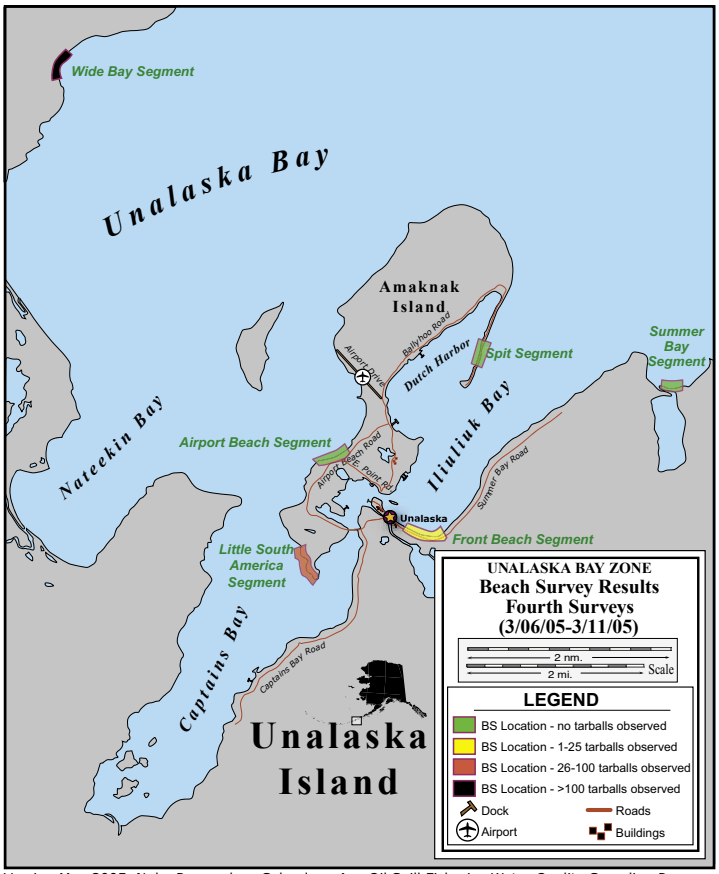

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Figure 28: Unalaska Bay Zone Beach Survey Results from Fourth Surveys (3/06/05-3/11/05)
See Appendix G for data table.

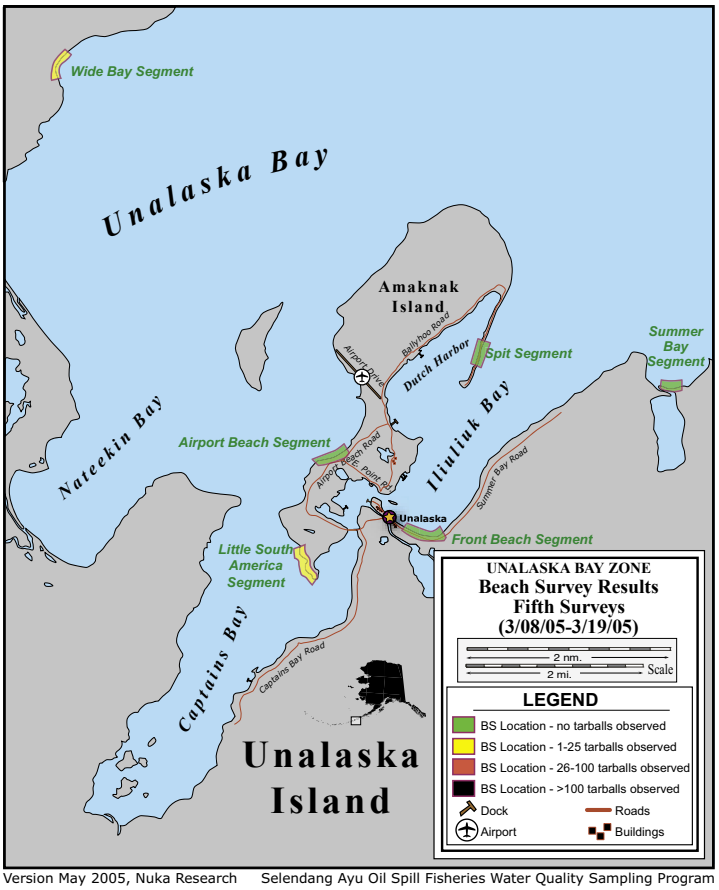

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Figure 29: Unalaska Bay Zone Beach Survey Results from Fifth Surveys (3/08/05-3/19/05)
See Appendix G for data table.

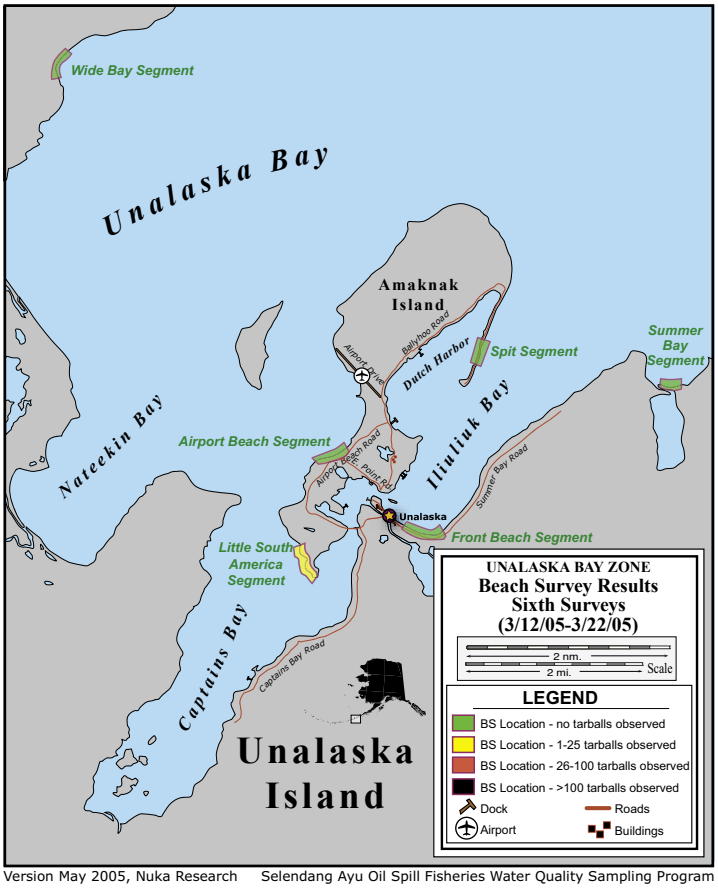

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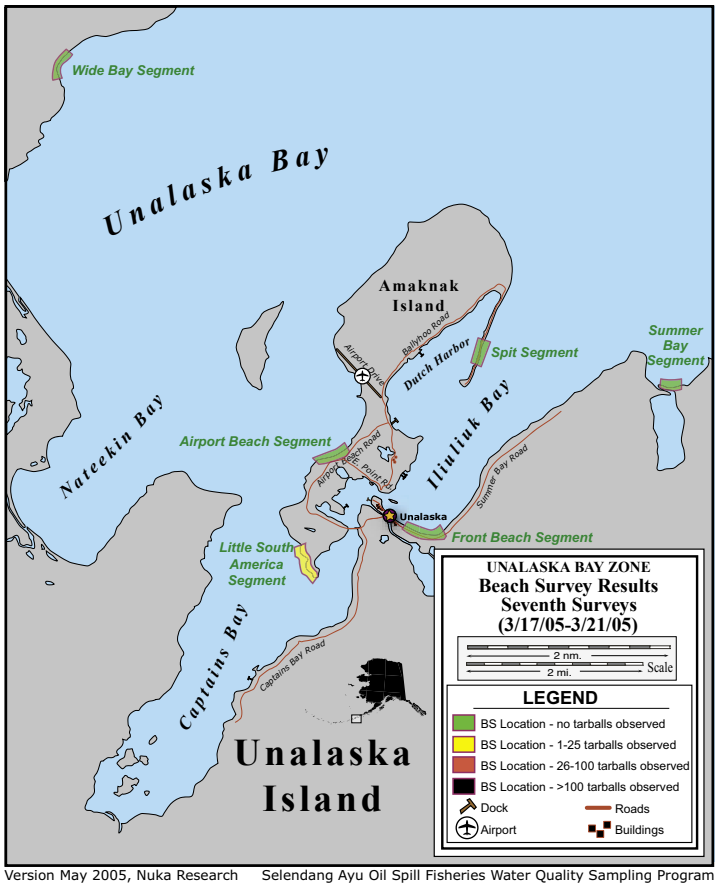
Figure 30: Unalaska Bay Zone Beach Survey Results from Sixth Surveys (3/12/05-3/22/05)
See Appendix G for data table.



Version May 2005, Nuka Research Selendang Ayu Oil Spill Fisheries Water Quality Sampling Program

Figure 31: Unalaska Bay Zone Beach Survey Results from Seventh Surveys (3/17/05-3/21/05)
See Appendix G for data table.

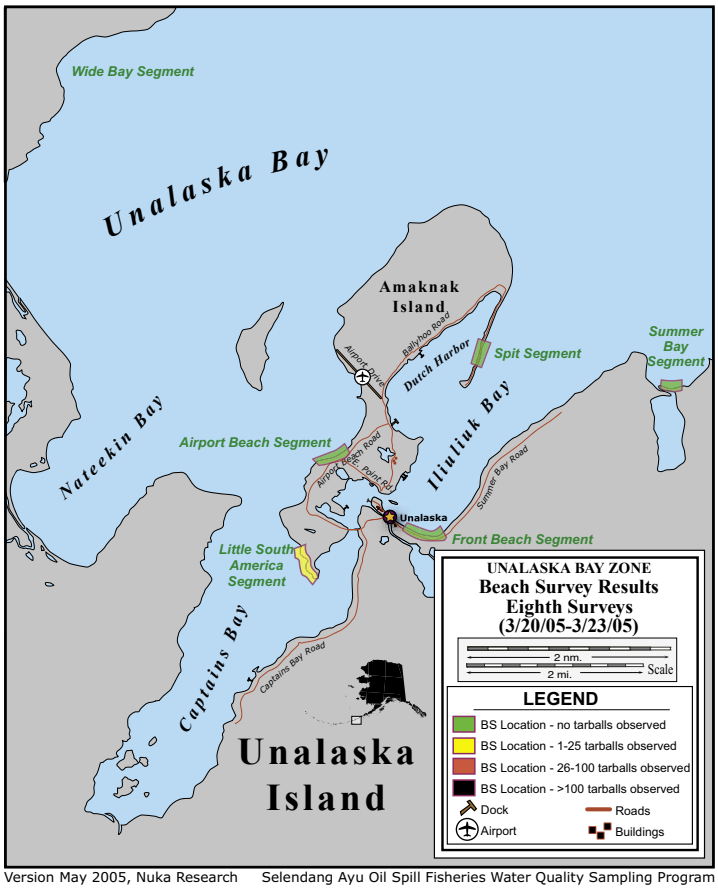


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Figure 32: Unalaska Bay Zone Beach Survey Results from Eighth Surveys (3/20/05-3/23/05)
See Appendix G for data table.

East of Unalaska Bay Zone

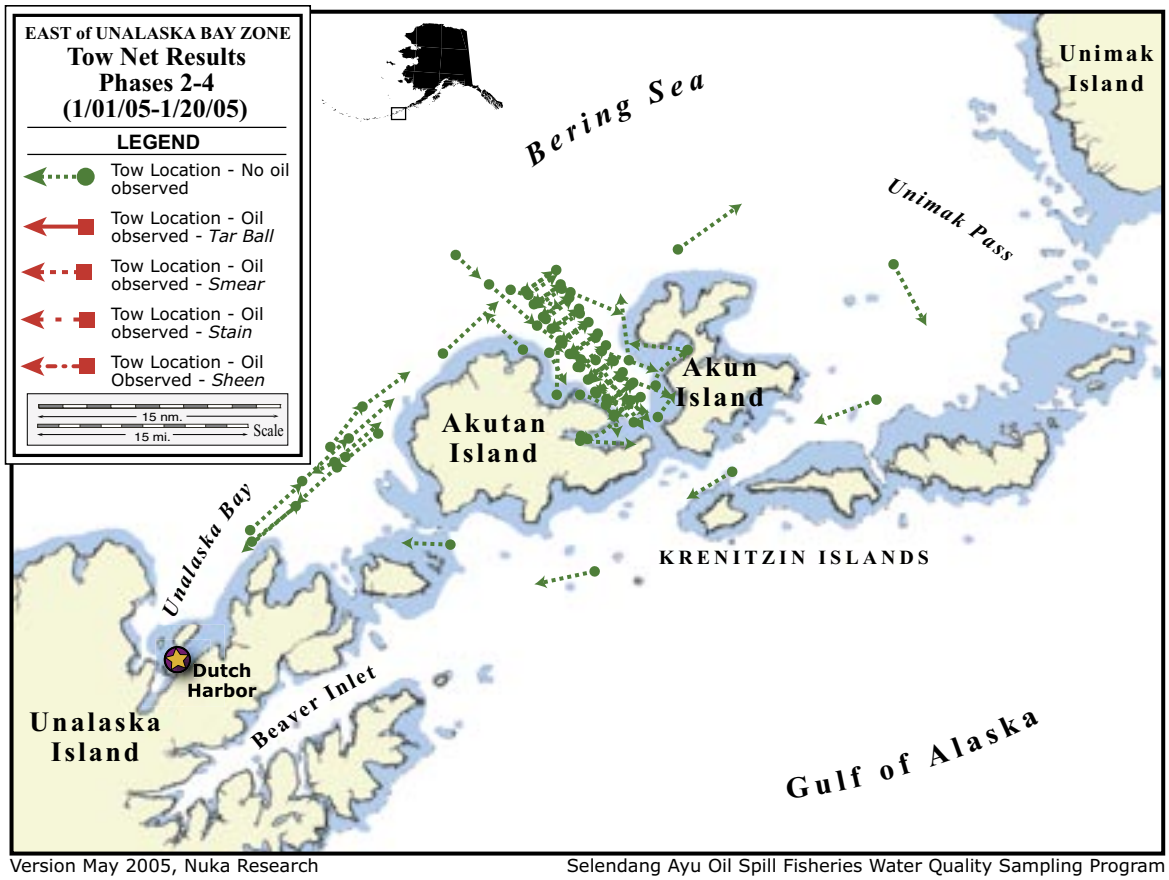
SUMMARY OF ZONAL SAMPLING

Fisheries Water Quality Sampling studies were conducted in the East of Unalaska Bay Zone January 1-20, 2005 using three sampling methods: tow nets, fisheries pots, and vessel seawater strainers. Both the *F/V Alaskan Lady* and the *F/V Exito* were used as sampling platforms.

TOW NET RESULTS

Tow net sampling in the East of Unalaska Bay zone occurred in Akutan Pass, Beaver Inlet, Akutan Bay, and Amak Pass. These studies were intended to assess the risk of oil contamination to crab in holding tanks while vessels waited to deliver catch, as well as presence of oil in transit routes to and from fishing grounds and the seafood processing plant on Akutan Island. No oil observations were reported during the study period (Figure 33).

Figure 33: East of Unalaska Bay Zone Tow Net Results Phases 2-4 (1/1/05-1/20/05) *See Appendix H for data table.*



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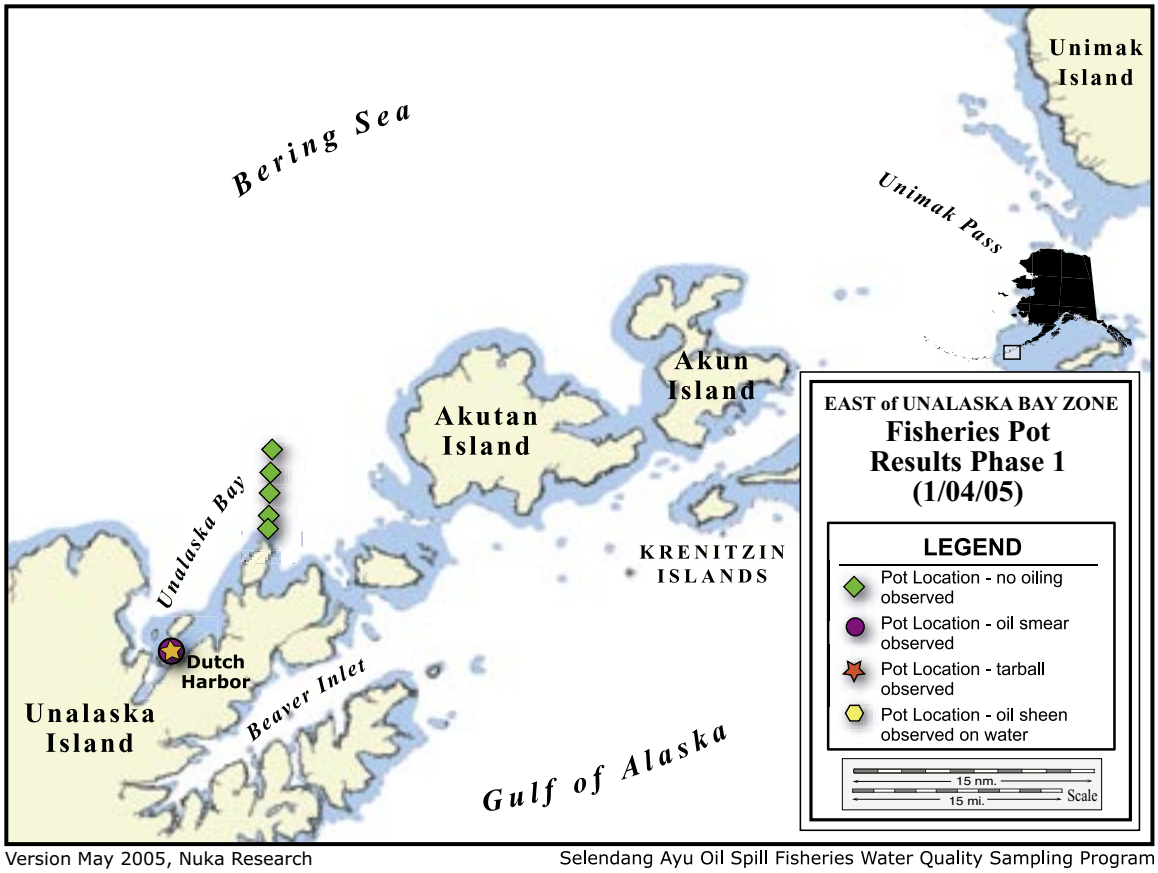
FISHERIES POT RESULTS

Five pots were set and pulled in the East of Unalaska Bay Zone to assess the extent of oil contamination to crab and groundfish species. Fish and crab were collected in four of the pots, and none showed any evidence of oil contamination. All seafood passed inspection by ADEC seafood inspectors (Figure 34 and Appendix I).

Figure 34: East of Unalaska Bay Zone Fisheries Pot Results Phase (1/4/05)
See Appendix I for data table.



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SEAWATER STRAINER RESULTS

Seawater strainers on the *Alaskan Lady* and the *Exito* were checked every hour during sampling operations, and the presence of oil was recorded in a log book. For the sampling period in this zone, no oil was observed (Figures 35-36 and Appendix J).

Figure 35: East of Unalaska Bay Seawater Strainer Results Phase 3-4 (1/15/05-1/18/05)
See Appendix J for data table.

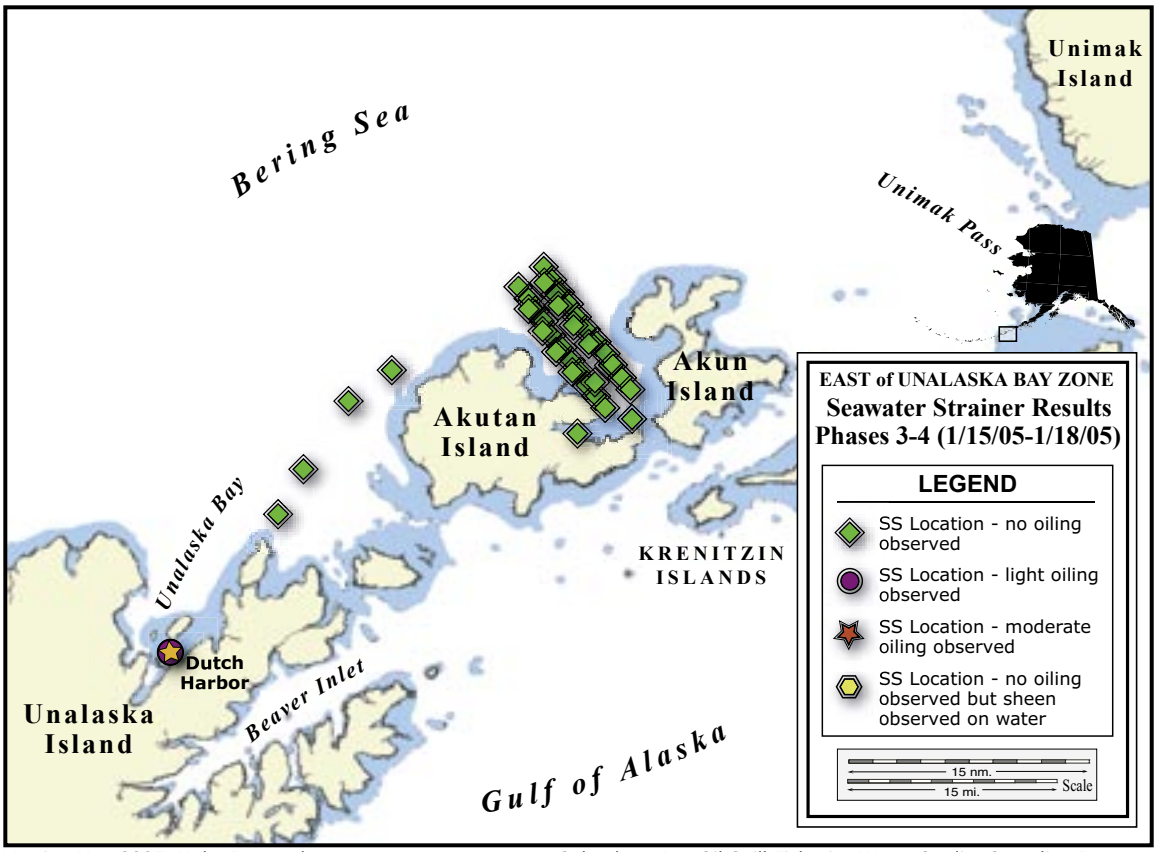

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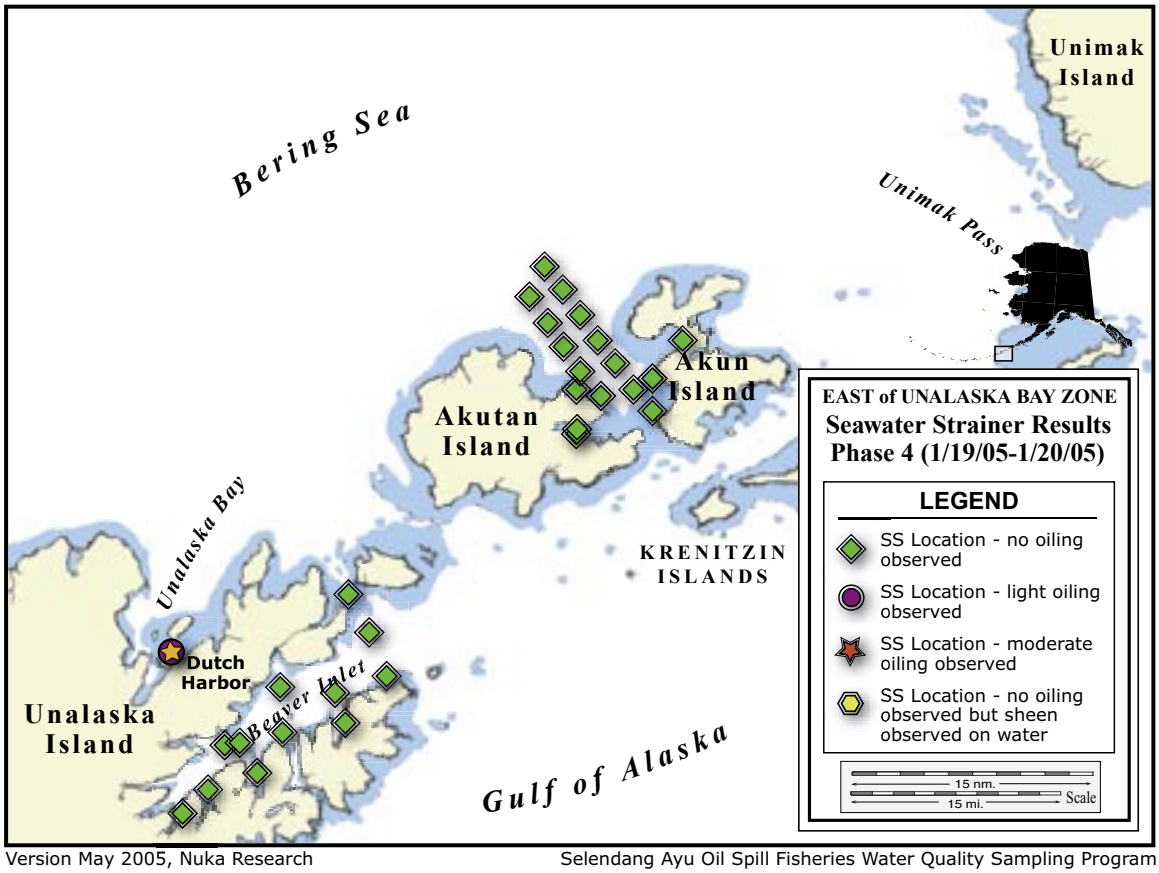
Figure 36: East of Unalaska Bay Seawater Strainer Results Phase 4 (1/19/05-1/20/05)

See Appendix J for data table.



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Spill Impact Zone

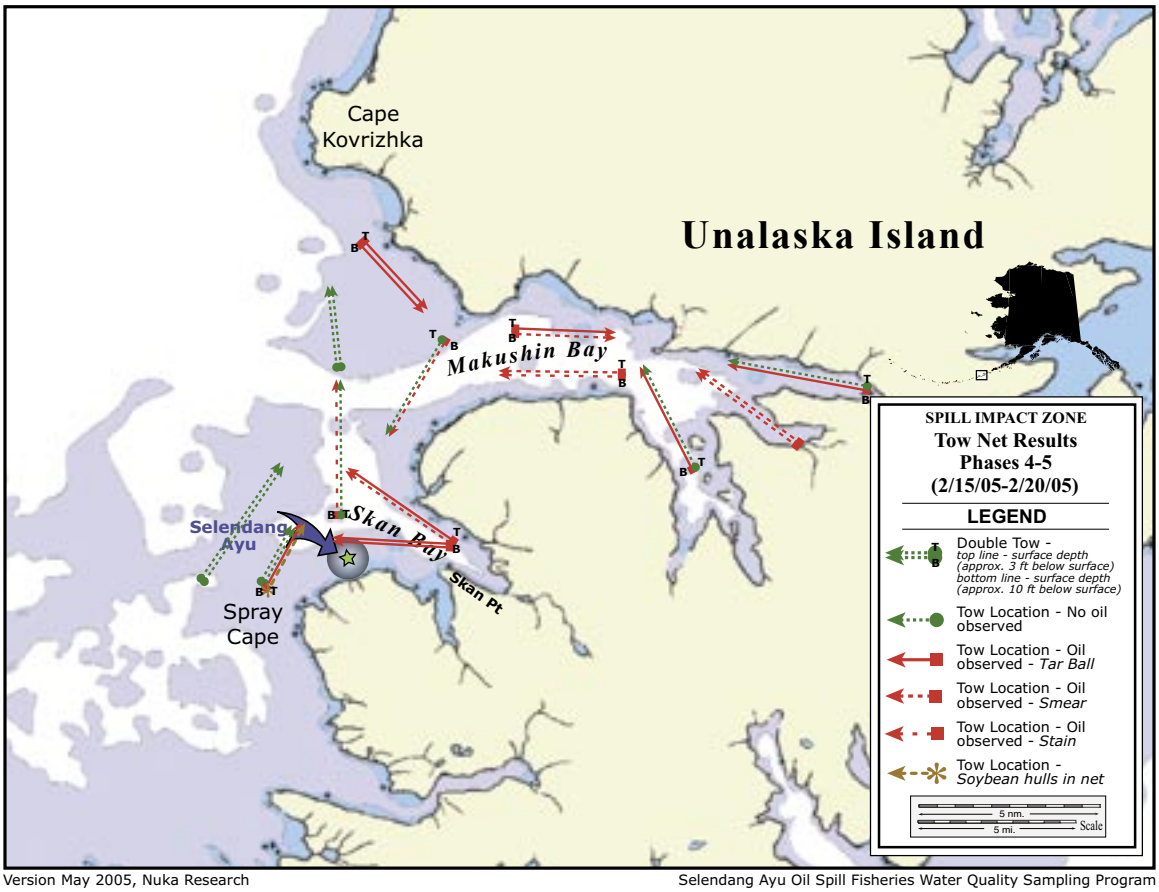
SUMMARY OF ZONAL SAMPLING

During Phase 1 of the sampling program, the *Alaskan Lady* made an initial field screening trip to the Makushin Bay and Skan Bay areas to determine the extent of oiling to groundfish and crab species and commercial crab fishing gear, using fisheries pot sampling. A second survey was conducted in the Spill Impact Zone during Phase 5, using tow net and long line methods. During various phases of the sampling program, seawater strainer results were recorded from the *F/V Sirene*, a vessel of opportunity operating in the Spill Impact Zone.

TOW NET RESULTS

During Phase 5, from February 15-20, 2005, the *Alaskan Lady* completed 28 double-net tows in the Spill Impact Zone. Numerous oil observations were recorded and soybean hulls were also reported in the net. In total, 18 oil observations were noted, most of those multiple-hit observations (Figure 37). The average CPUE for Phase 5 in the Spill Impact Zone was calculated at 16.0 TPM (Appendix K).

Figure 37: Spill Impact Zone Tow Net Results Phase 4-5 (2/15/05- 2/20/05)
See Appendix K for data table.



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FISHERIES POT RESULTS

During Phase 1, from December 25-28, 2004, the *Alaskan Lady* set and pulled 24 fisheries pots in the Spill Impact Zone, with 11 oiling observations. All species caught in the pots were examined with organoleptic techniques, and three Tanner crab were suspected to be oiled. One cod was retained; it passed an ADEC seafood safety inspection (Figures 38-40 and Appendix L).

Figure 38: Spill Impact Zone Fisheries Pot Results Phase 1 (12/25/04- 12/28/05)
See Appendix L for data table.

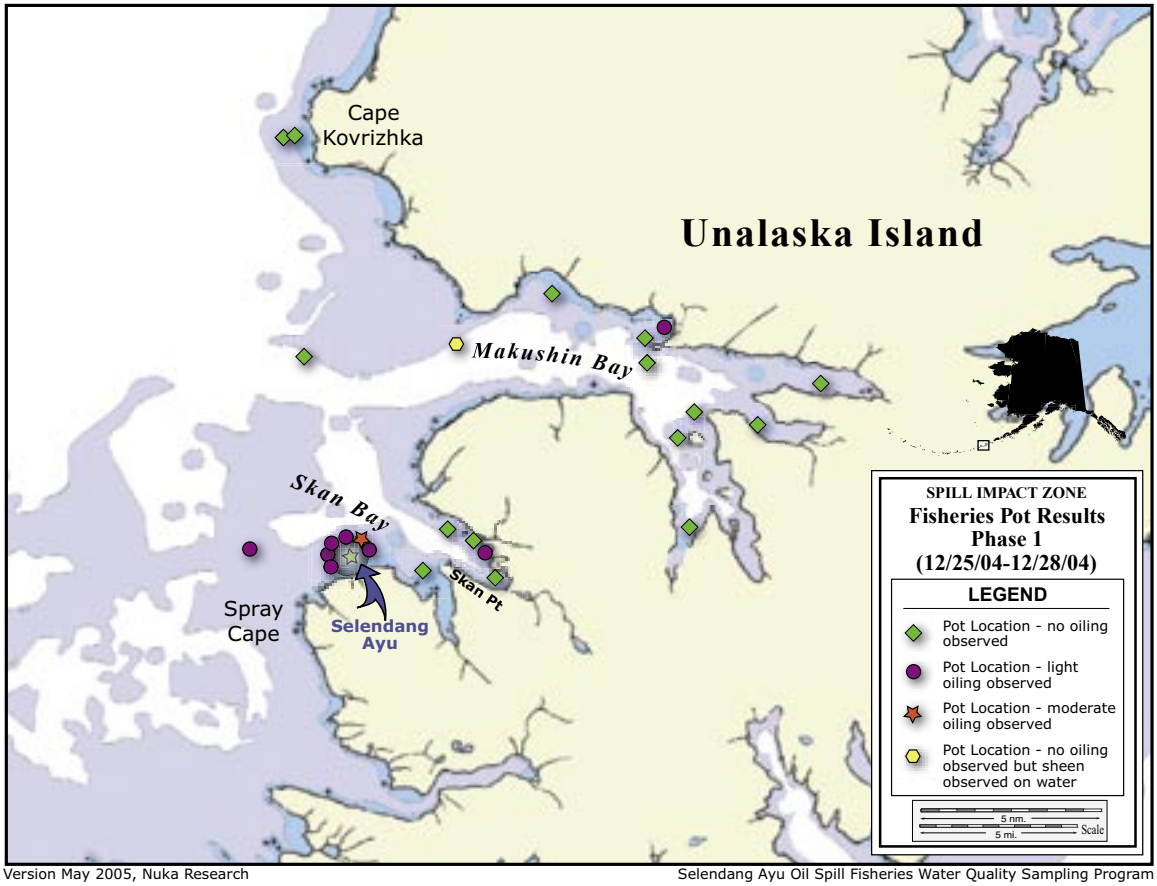

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Figure 39: Spill Impact Zone Fisheries Pot Phase 4-5 (2/12/05- 2/16/05)
See Appendix L for data table.

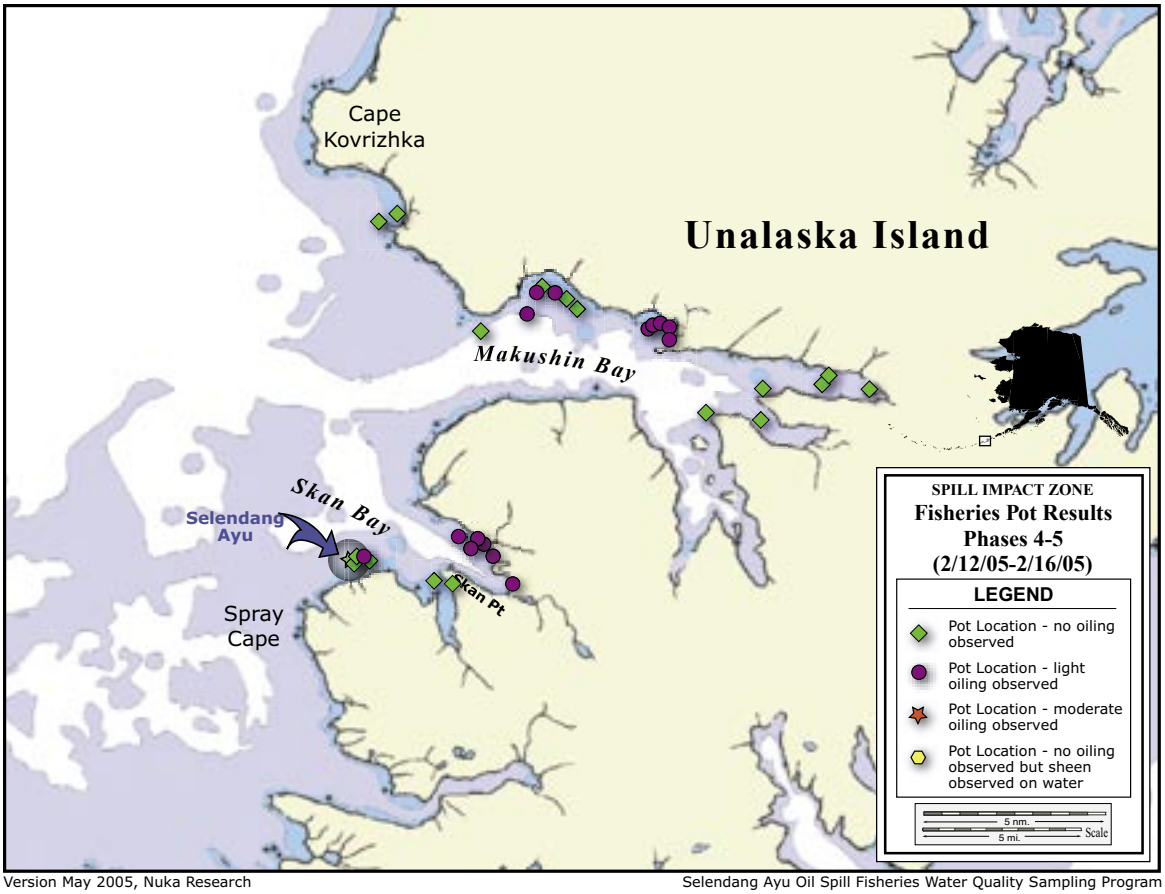

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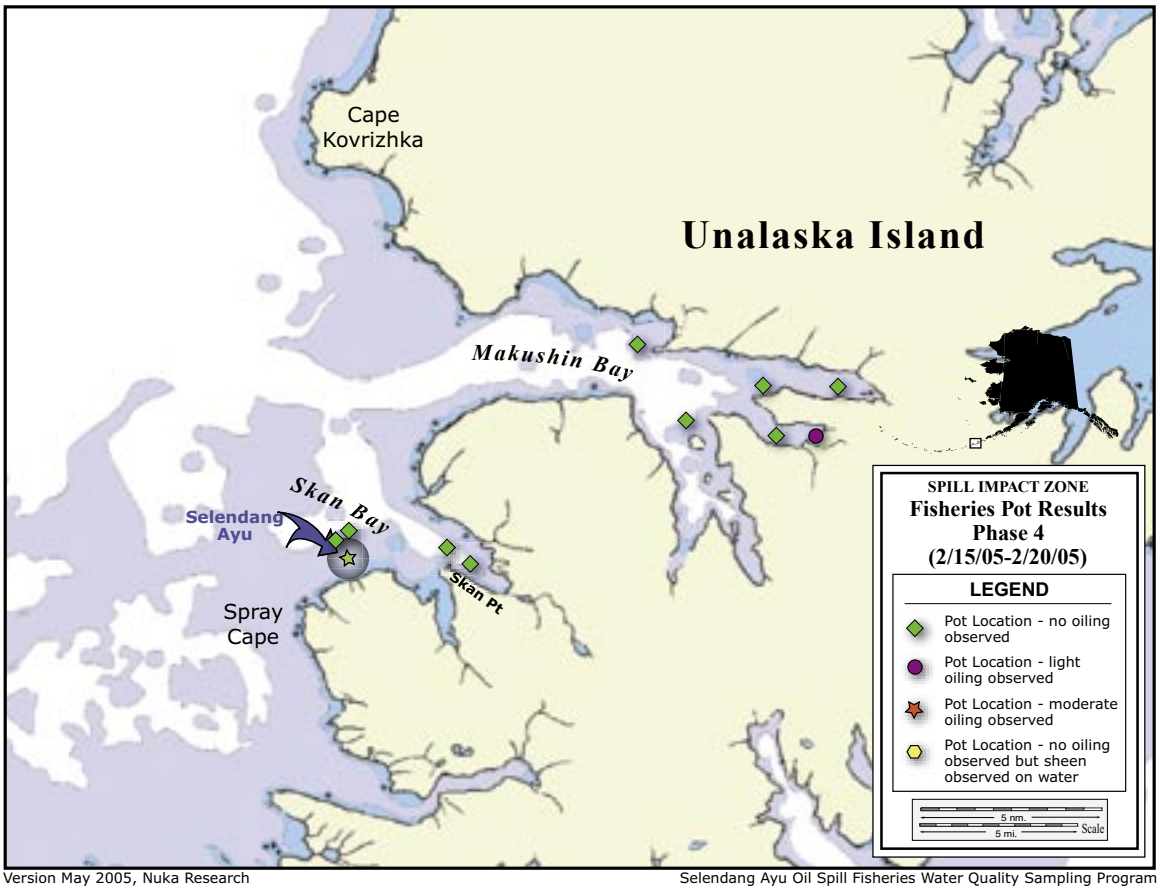
Figure 40: Spill Impact Zone Fisheries Pot Results Phase 4 (2/15/05- 2/20/05)
See Appendix L for data table.



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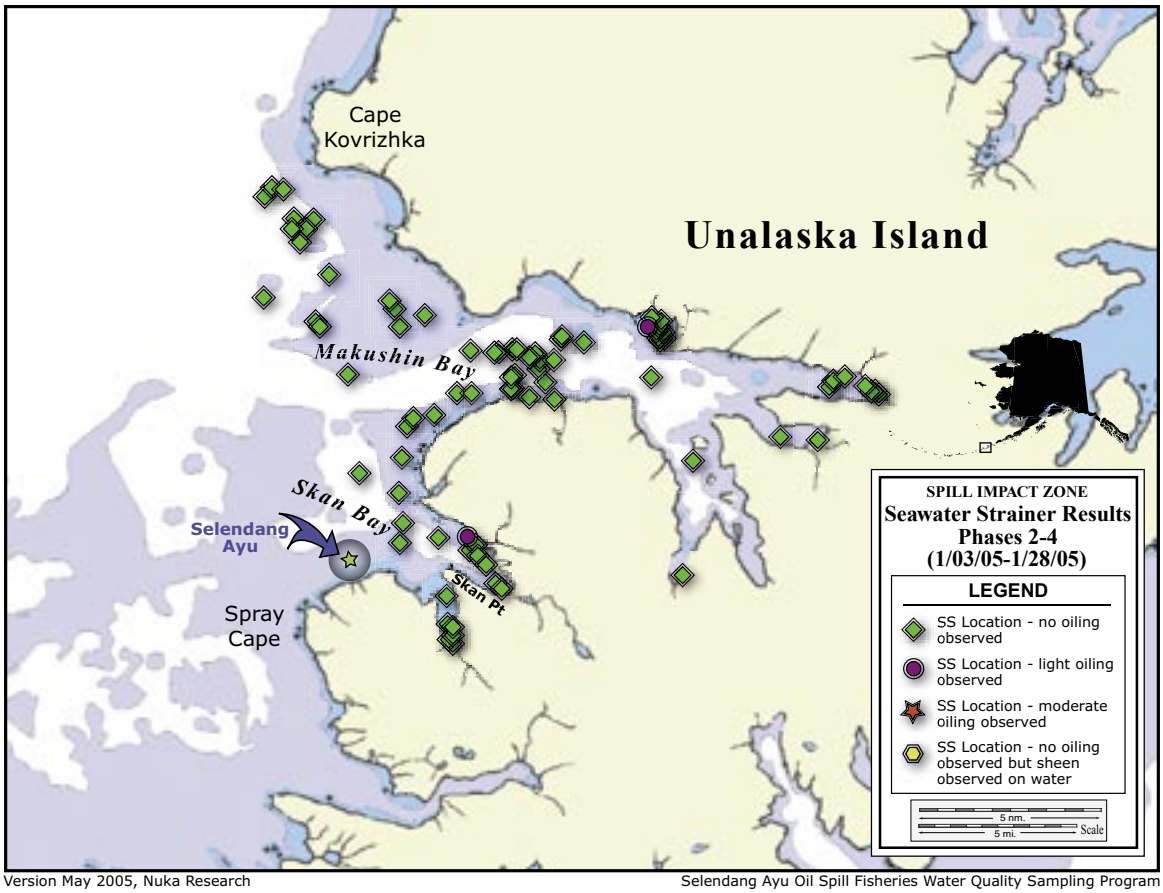
SEAWATER STRAINER RESULTS

The *Sirene* recorded results from a seawater strainer operating on board the vessel every hour during operation hours, and kept records every trip the vessel made to the Spill Impact Zone. From January 3-28, 2005, 89 observations were recorded, two with trace amounts of oil evident in the strainer (Figure 41 and Appendix M).

Figure 41: Spill Impact Zone Seawater Strainer Results Phases 2-4 (1/3/05-1/28/05) *See Appendix M for data table.*



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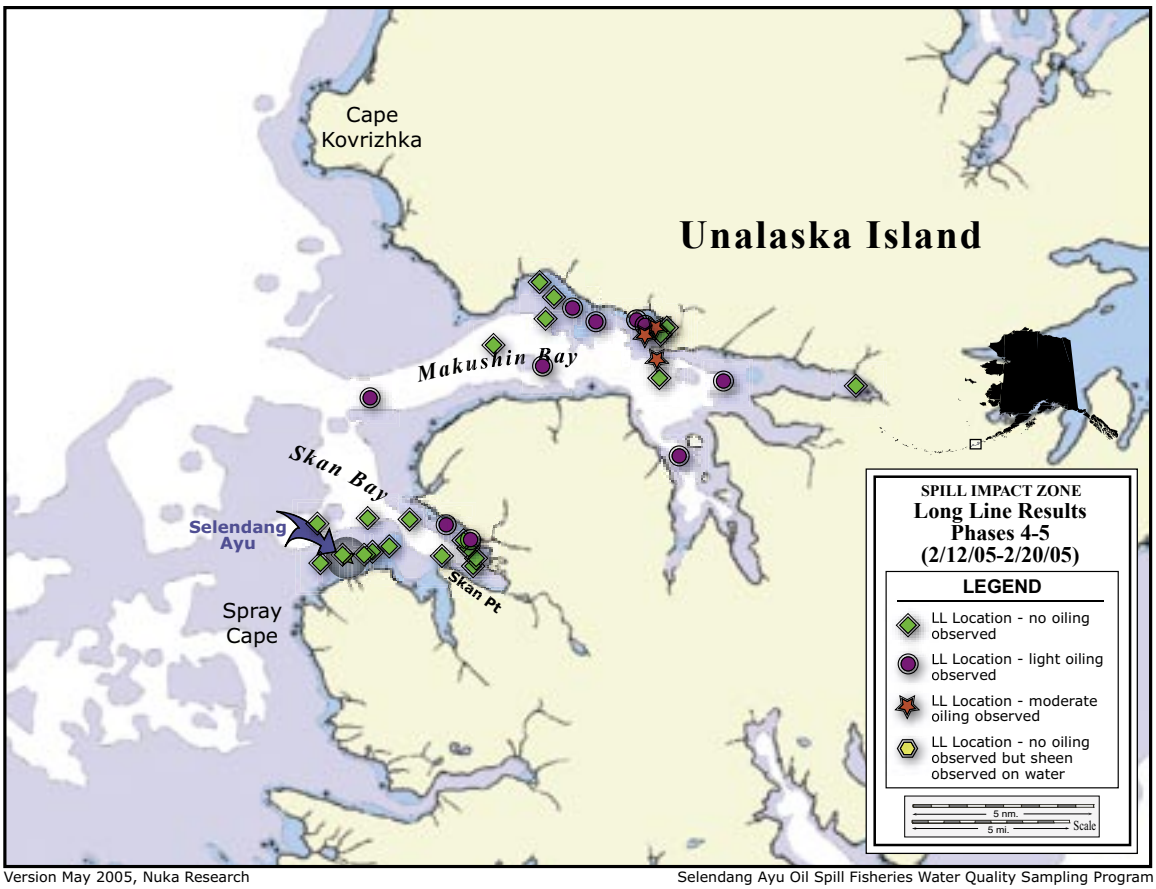
LONG LINE RESULTS

During Phase 4, two long line skates were set in the Spill Impact Zone, one in Makushin Bay and one in Skan Bay in close proximity to the wreck. The skates were set by the Alaskan Lady while in transit to complete a survey in the South of Spill Impact Zone. Oil was observed on several snares along the long line set in Skan Bay (Figure 45 and Appendix N).

During Phase 5, the Alaskan Lady conducted a more comprehensive series long line studies in the Spill Impact Zone. Of 32 long line sets, 12 oil observations were reported either on the snare or on the long line. In most cases of oil encounters, multiple observations were reported per set (Figure 42 and Appendix N).

Figure 42: Spill Impact Zone Long Line Results Phases 4-5 (2/12/05- 2/20/05)
See Appendix N for data table.



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South of Spill Impact Zone

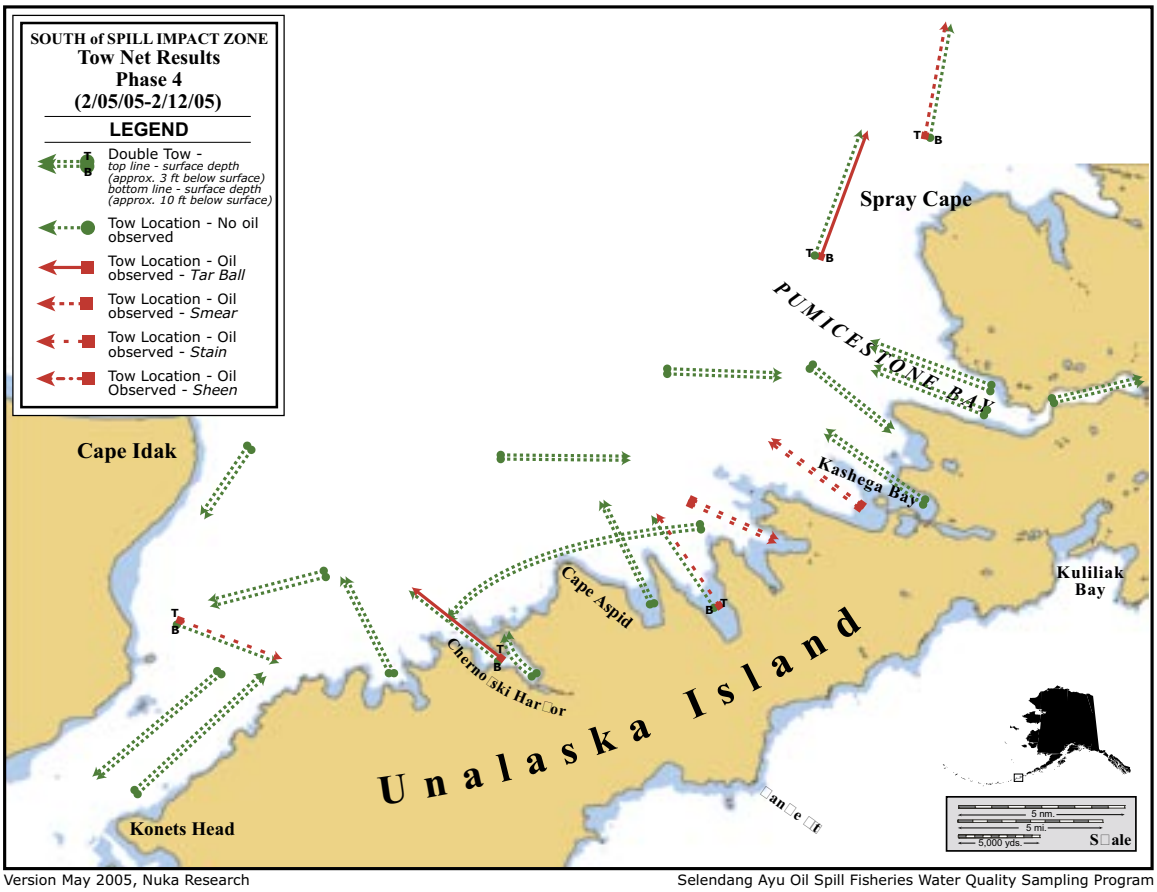
SUMMARY OF ZONAL SAMPLING

During Phase 4 of the program, the *Alaskan Lady* conducted one survey in the state waters between Spray Cape and Umnak Pass to assess the extent of oiling in the fishing grounds in the zone south of the spill impact area. From February 5-12, 2005, the sampling crew conducted tow net, fisheries pot, and long line studies.

TOW NET RESULTS

The *Alaskan Lady* conducted 44 double-depth tows in the South of Spill Impact Zone during Phase 4. Nine oil observations were noted, several with multiple hits in the net (Figure 43). The average CPUE for Phase 4 in the South of Spill Impact Zone was calculated at 2.5 TPM (Appendix O).

Figure 43: South of Spill Impact Zone Tow Net Results Phase 4 (2/5/05- 2/12/05)
See Appendix O for data table.



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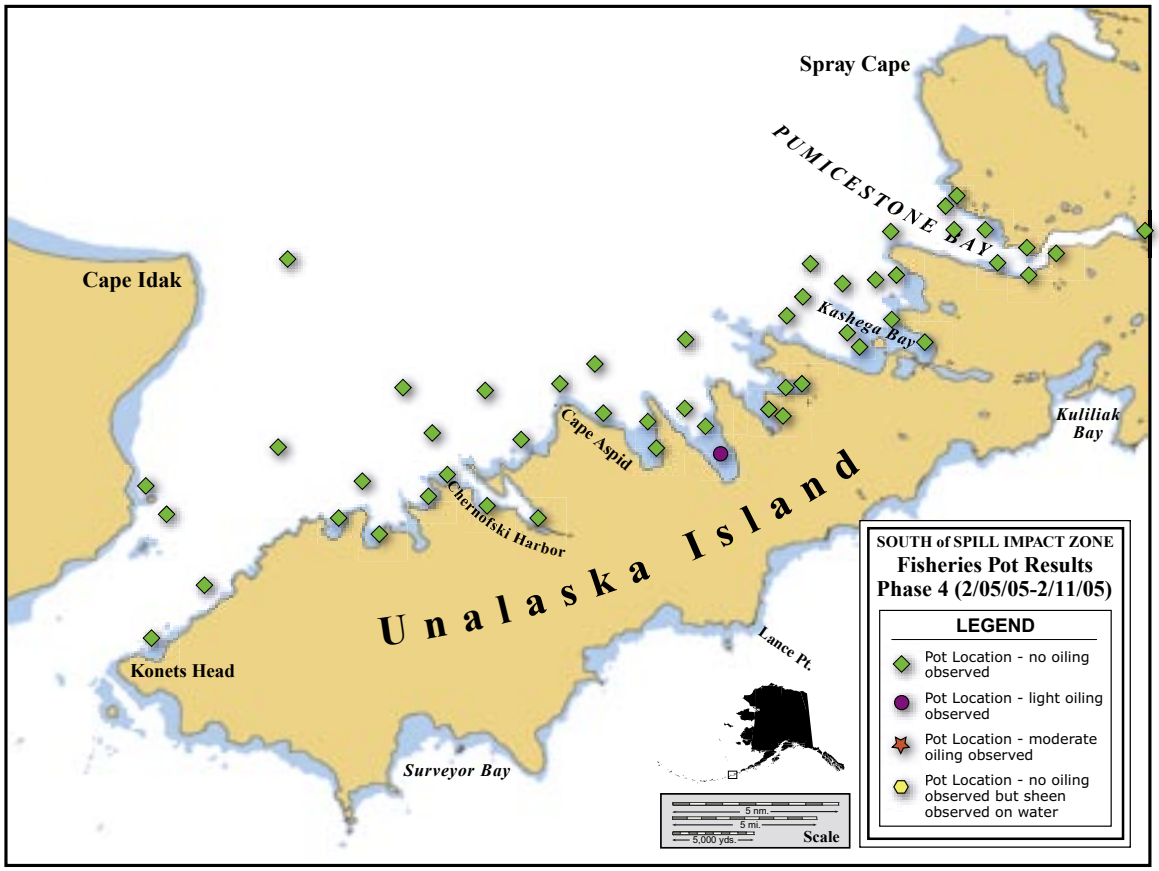
FISHERIES POT RESULTS

From February 5-11, 2005, 50 fisheries pots were set and pulled, with one oiling observation reported (Figure 44 and Appendix P).

Figure 44: South of Spill Impact Zone Fisheries Pot Results Phase 4 (2/5/05-2/11/05)
See Appendix P for data table.



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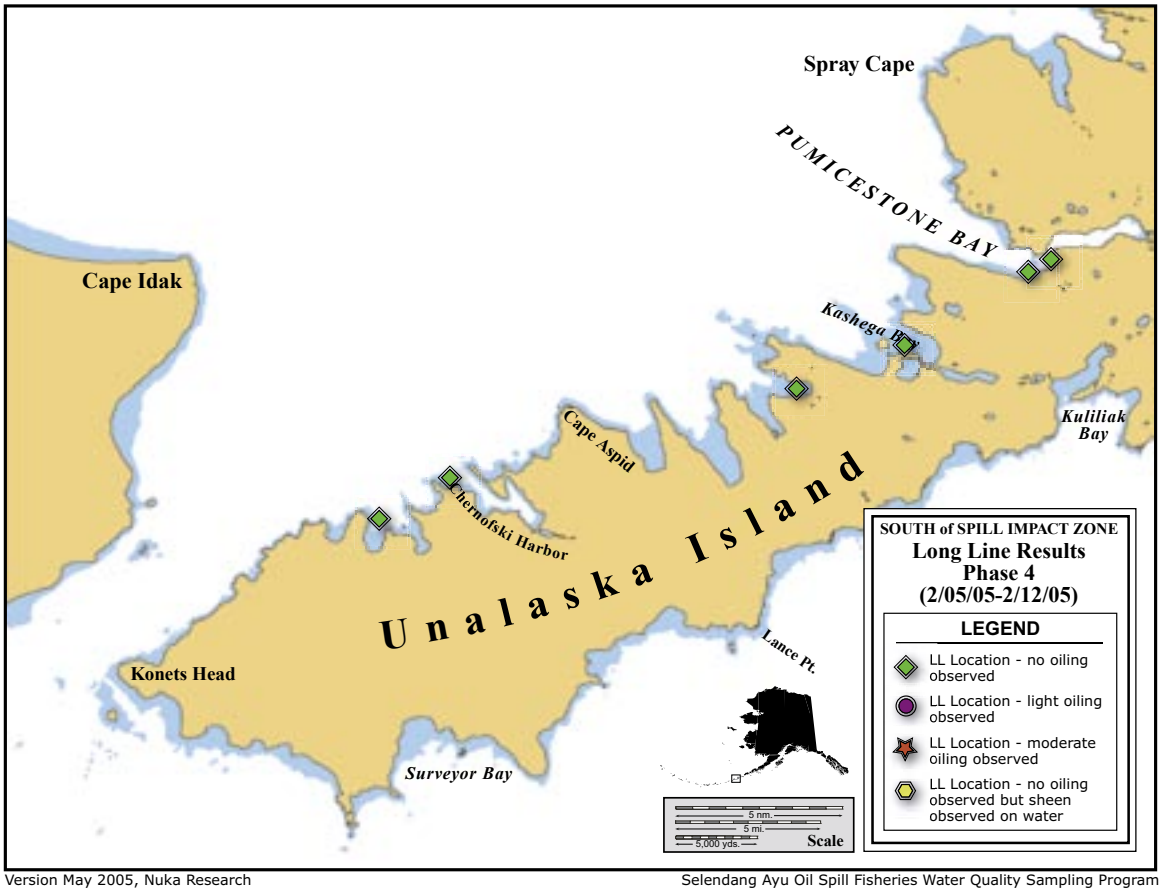
LONG LINE RESULTS

Six long line skates were set and pulled in the South of Spill Impact Zone during Phase 4, with no oil observations reported (Figure 45 and Appendix Q).

Figure 45: South of Spill Impact Zone Long Line Results Phase 4 (2/5/05- 2/10/05)
See Appendix Q for data table.



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DISCUSSION

The *Selendang Ayu* Fisheries Water Quality Sampling Program was established and implemented under tight time constraints in order to provide real time data regarding potential oil contamination in areas where commercial fishing, fish processing, and fishing vessel transits occur. The information collected through the program and presented in this report was done so for the purpose of facilitating emergency decision making. Many of the sampling methods and equipment used to support this program were developed or adapted to address the changing information needs of fishery managers and the Unified Command. Because this process was so dynamic, there was little opportunity during the program to synthesize data.

This report provides a comprehensive record of the *Selendang Ayu* Fisheries Water Quality Sampling Program and synthesizes all of the data collected. This report does not attempt to analyze the data presented or to draw any conclusions about the extent of oiling or the impact of the spill to commercial fisheries.

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Reilly, T.I. and R.K. York. 2001. Guidance on Sensory Testing and Monitoring of Seafood for Presence of Petroleum Taint Following an *Oil Spill.* NOAA Technical Memorandum NOS OR&R 9. 121 pp. http://response.restoration.noaa.gov/oilaids/pdfs/seafood.pdf

Yender, R., J. Michel, and C. Lord. 2002. *Managing Seafood Safety After an Oil Spill.* Seattle: Hazardous Materials Response Division, Office of Response and Restoration, National Oceanic and Atmospheric Administration. 72 pp.

APPENDICES

Appendix A: Unalaska Bay Zone Tow Net Data Table

Appendix B: Unalaska Bay Zone Fisheries Sampling Pot Data Table

Appendix C: Unalaska Bay Zone Snare Pot Data Table

Appendix D: Unalaska Bay Zone Sampling Vessels Seawater Strainer Data Table

Appendix E: Unalaska Bay Zone Seafood Processors' Seawater Intake Monitoring Data Table

Appendix F: Unalaska Bay Zone Passive Snare Device Data Table

Appendix G: Unalaska Bay Zone Beach Survey Data Table

Appendix H: East of Unalaska Bay Zone Tow Net Data Table

Appendix I: East of Unalaska Bay Zone Fisheries Sampling Pot Data Table

Appendix J: East of Unalaska Bay Zone Sampling Vessels Seawater Strainer Data Table

Appendix K: Spill Impact Zone Tow Net Data Table

Appendix L: Spill Impact Zone Fisheries Pot Sampling Data Table

Appendix M: Spill Impact Zone Sampling Vessels Seawater Strainer Data Table

Appendix N: Spill Impact Zone Long- Line Data Table

Appendix O: South of Spill Impact Zone Tow Net Data Table

Appendix P: South of Spill Impact Zone Fisheries Sampling Pot Data Table

Appendix Q: South of Spill Impact Zone Long- Line Data Table

Appendix R: Legend

Appendix S: Tar Ball Terminology Fact Sheet

Appendix T: Pollock and Pacific cod catcher vessel pom-pom pack information sheet

Appendix U: Acronyms

Appendix A: Unalaska Bay Zone Tow Net Data Table

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat	Starting Lon	Ending Lat	Ending Lon	Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
A L	T001	12/29/04	12:50	13:25	2.2	10	53 52.240	167 07.610	53 52.010	167 08.690	no		0.7	217,928	0.58	1.2	0
A L	T002	12/31/04	13:00	14:10	3.5	3	53 59.660	166 50.720	54 01.210	166 45.240	no		3.6	1,150,390	1.17	3.1	0
A L	T003	12/29/04	15:15	16:05	3	10	53 56.840	166 37.660	53 56.910	166 31.970	no		3.4	1,078,073	0.83	4.0	0
A L	T016	1/7/05	11:57	13:00	3.5	3	53 56.728	166 37.028	54 03.002	166 47.819	no		8.9	2,871,649	1.05	8.5	
A L	T017	1/7/05	13:15	14:16	3.5	3	54 01.569	166 47.647	54 02.511	166 40.392	no		4.4	1,404,568	1.02	4.3	
A L	T018	1/7/05	15:02	16:01	3	3	54 02.264	166 49.738	54 02.309	166 55.563	no		3.4	1,101,118	0.98	3.5	
A L	T019	1/7/05	16:10	17:10	4	15-20	54 01.591	166 54.723	54 01.615	166 46.784	yes	tar balls:photos #1089-97; saved as sample net-1; sample analyzed: pattern consistent with bunker	4.7	1,501,035	1.00	4.7	
A L	T020	1/7/05	17:57	19:01	4	15-20	54 04.058	166 54.384	54 01.244	166 47.001	no		5.2	1,663,504	1.07	4.9	0.117070346
A L	T021	1/8/05	12:22	14:06	3	5	54 00.831	166 47.956	54 00.601	166 50.325	yes	smears identified on net; photos #1102-4, 6-8; sample net-2 analyzed: pattern consistent with bunker	1.4	454,137	1.73	0.8	
A L	T022	1/8/05	14:30	15:32	3	8	53 59.790	166 53.600	53 59.770	166 49.350	no		2.5	804,154	1.03	2.4	
A L	T023	1/8/05	15:55	16:59	3	10	54 01.869	166 53.028	54 01.919	166 46.170	no		4.0	1,296,580	1.07	3.8	
A L	T024	1/8/05	17:40	18:41	3	10	54 00.560	166 35.871	53 58.779	166 34.709	no		1.9	613,968	1.02	1.9	0.391409127
A L	T025	1/9/05	08:55	10:00	3	6	54 02.477	166 33.901	54 02.269	166 26.807	no		4.2	1,342,508	1.08	3.9	
A L	T026	1/9/05	10:46	11:45	3	6	54 01.630	166 36.266	54 01.667	166 30.667	no		3.3	1,058,642	0.98	3.4	
A L	T027	1/9/05	12:03	12:59	3	6	54 00.916	166 33.364	54 00.863	166 28.475	no		2.9	924,778	0.93	3.1	
A L	T028	1/9/05	13:09	14:08	3	6	54 01.661	166 29.404	54 01.549	166 24.248	yes	3 smears detected 1)6x2cm 2)4x2cm 3)1x2cm	3.0	975,503	0.98	3.1	0.697442301
A L	T029	1/10/05	08:31	09:30	3	6	54 03.190	166 27.130	54 02.999	166 21.190	yes	smear on net; wiped off before photo taken	3.5	1,124,078	0.98	3.6	
A L	T030	1/10/05	10:00	11:00	3	6	54 02.300	166 26.326	54 02.170	166 19.620	no		3.9	1,268,263	1.00	3.9	
A L	T031	1/10/05	11:20	12:18	3	6	54 00.739	166 22.865	54 00.711	166 27.214	yes	2 tarballs 3mm; photos #1110-3	2.6	822,598	0.97	2.6	
A L	T032	1/10/05	12:46	13:46	3	6	53 58.996	166 24.986	53 58.990	166 30.327	no		3.1	1,010,873	1.00	3.1	
A L	T033	1/10/05	14:10	15:10	3	6	53 57.514	166 25.459	53 58.537	166 29.994	yes	1 tarball 2mm and 4x4cm spot on table from collection cup; photo #1118	2.9	919,624	1.00	2.9	
A L	T034	1/10/05	15:19	16:19	3	6	53 59.817	166 29.900	54 00.067	166 34.586	no		2.8	890,209	1.00	2.8	
A L	T035	1/10/05	16:35	17:35	3	6	53 59.035	166 31.869	53 58.508	166 31.215	no		0.7	209,993	1.00	0.7	
A L	T036	1/10/05	17:55	18:55	3	6	53 59.113	166 33.365	53 57.101	166 32.756	no		2.0	657,786	1.00	2.0	
A L	T037	1/10/05	19:20	20:05	3	6	53 56.845	166 35.584	53 55.211	166 38.060	no		2.2	704,795	0.75	2.9	0.657184224
E	T200	1/12/05	11:18	11:50	2	6	54 0.896	166 31.043	53 59.869	166 30.320	no		1.1	357,734	0.53	2.1	
E	T201	1/12/05	14:07	14:37	2	6	54 17.297	166 41.122	54 16.250	166 40.714	no		1.1	345,609	0.50	2.2	
E	T202	1/12/05	15:55	16:25	2	6	54 12.52	166 33.897	54 11.726	166 33.186	no		0.9	288,499	0.50	1.8	
E	T203	1/12/05	17:25	18:00	2	8	54 6.615	166 32.862	54 05.687	166 30.795	no		1.5	491,315	0.58	2.6	
E	T204	1/12/05	18:40	19:40	2	6	54 1.955	166 27.931	54 00.181	166 27.245	no		1.8	585,548	1.00	1.8	0
E	T205	1/13/05	10:15	11:17	2	6	53 49.762	166 35.953	53 51.673	166 33.443	yes	during tow, tarball was seen and dipped out at 10:39, coordinates 53 50.098; 166 35.349; sample CAPBAY-1 analyzed: IFO 380	2.4	778,148	1.03	2.3	
E	T206	1/13/05	11:35	12:25	2	6	53 52.351	166 34.774	53 49.880	166 35.797			2.5	818,712	0.83	3.1	
E	T207	1/13/05	12:34	13:39	2	6	53 49.836	166 35.843	53 52.657	166 34.321			3.0	952,862	1.08	2.7	
E	T208	1/13/05	13:43	14:43	2	6	53 52.867	166 34.317	53 49.931	166 35.768			3.1	984,336	1.00	3.1	
E	T209	1/13/05	14:46	15:41	2	6	53 49.914	166 35.760	53 52.260	166 32.887			2.9	931,522	0.92	3.2	0.223935088
A L	T519	1/15/05	11:50	12:37	3	6	54 06.469	166 42.932	54 06.637	166 46.656	no		2.2	704,771	0.78	2.8	
A L	T520	1/15/05	12:55	13:30	3	6	54 05.024	166 43.737	54 05.120	166 40.230	yes	one small tar ball 1-2 mm diameter. No sample taken	2.1	662,862	0.58	3.5	
A L	T521	1/15/05	13:44	14:28	3	6	54 03.602	166 38.039	54 03.585	166 41.475	no		2.0	649,144	0.73	2.8	
A L	T522	1/15/05	14:45	15:25	3	6	54 02.106	166 38.775	54 02.161	166 35.307	no		2.0	655,789	0.67	3.1	
A L	T523	1/15/05	15:41	16:18	3	6	54 00.672	166 32.920	54 00.700	166 36.577	no		2.2	691,736	0.62	3.5	
A L	T524	1/15/05	16:35	17:13	3	6	53 59.260	166 33.927	53 59.189	166 30.246	no		2.2	696,999	0.63	3.4	
A L	T525	1/15/05	17:27	17:58	3	6	53 57.914	166 28.379	53 57.950	166 31.761	no		2.0	640,475	0.52	3.9	0.212685556
A L	T526	1/16/05	09:13	09:50	3	6	54 07.256	166 43.844	54 07.361	166 47.320	no		2.0	656,569	0.62	3.3	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat	Starting Lon	Ending Lat	Ending Lon	Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
A L	T527	1/16/05	10:04	10:37	3	6	54 05.839	166 45.309	54 05.808	166 41.713	no		2.1	678,813	0.55	3.8	
A L	T528	1/16/05	10:53	11:42	3	6	54 04.428	166 39.292	54 04.394	166 42.821	yes	one tarball appr.2-3mm wide, black, smears like oil. Some sheen noted near stern during tow	2.1	666,562	0.82	2.5	
A L	T529	1/16/05	11:58	12:34	3	3	54 02.963	166 40.214	54 03.017	166 36.737	no		2.0	657,256	0.60	3.4	
A L	T530	1/16/05	12:49	13:29	3	3	54 01.428	166 34.171	54 01.357	166 37.603	no		2.0	649,340	0.67	3.0	
A L	T531	1/16/05	13:45	14:27	3	6	53 59.829	166 34.973	53 59.763	166 31.320	no		2.2	691,494	0.70	3.1	
A L	T532	1/16/05	14:40	15:17	3	6	53 58.626	166 29.398	53 58.706	166 33.107	no		2.2	702,552	0.62	3.5	
A L	T533	1/16/05	15:30	16:09	3	6	53 57.654	166 31.535	53 57.602	166 28.131	no		2.0	644,831	0.65	3.1	
A L	T534	1/16/05	16:19	17:19	3	6	53 57.167	166 29.493	53 54.224	166 29.951	no		3.0	951,229	1.00	3.0	
N F	T400	1/16/05	09:45	10:34	3	6	53 52.980	166 33.720	53 53.215	166 33.429	yes	0.5cm tarball- sample taken	0.3	93,643	0.82	0.4	
N F	T401	1/16/05	11:00	11:45	3	6	53 53.120	166 33.740	53 53.427	166 34.986	no		0.8	256,189	0.75	1.1	
N F	T402	1/16/05	12:00	13:09	3	6	53 53.510	166 35.010	53 55.500	166 32.090	no		2.6	846,636	1.15	2.3	
N F	T403	1/16/05	13:15	14:15	3	6	53 55.470	166 32.130	53 57.347	166 35.870	no		2.9	931,178	1.00	2.9	
N F	T404	1/16/05	14:20	15:00	4.5	6	53 57.330	166 35.970	53 55.198	166 37.605	no		2.3	752,910	0.67	3.5	
N F	T405	1/16/05	15:40	16:15	4.5	6	53 53.220	166 35.950	53 53.110	166 36.000	no		0.1	36,654	0.58	0.2	
N F	T406	1/16/05	16:30	17:30	4.3	6	53 52.760	166 36.340	53 52.860	166 35.210	yes	Sheen observed off of Devilish Pt., appr. 1000 ft x 100 ft intermittant patches. Tarball observed, but unable to take sample. Sweeps thrown out, collected, and bagged per Polaris request.	0.7	216,802	1.00	0.7	
N F	T407	1/16/05	17:44	18:18	4.3	6	53 52.589	166 34.640	53 51.451	166 33.359	yes		1.4	439,632	0.57	2.4	0.30388084
A L	T535	1/17/05	09:22	10:04	3	6	54 07.210	166 43.391	54 06.650	166 46.961	no		2.2	697,234	0.70	3.1	
A L	T536	1/17/05	10:24	11:04	3	6	54 04.937	166 44.228	54 05.946	166 41.339	no		2.0	634,752	0.67	3.0	
A L	T537	1/17/05	11:22	11:58	3	6	54 04.387	166 38.704	54 03.519	166 41.850	no		2.0	656,648	0.60	3.4	
A L	T538	1/17/05	12:19	12:58	3	6	54 02.012	166 39.215	54 03.131	166 36.282	no	cup end of net ripped out; tied end closed	2.1	661,058	0.65	3.2	
A L	T539	1/17/05	13:10	13:48	3	6	54 02.203	166 34.993	54 01.182	166 38.033	yes	very small, just enough to stain finger, but not enough for photo or sample	2.1	662,066	0.63	3.3	
A L	T540	1/17/05	14:06	14:46	3	6	54 00.105	166 35.350	54 00.851	166 32.097	yes	another tiny tarball about 1.5mm in diameter. Photo, but no sample.	2.1	660,507	0.67	3.1	
A L	T541	1/17/05	15:00	15:37	3	6	53 59.692	166 30.754	53 59.312	166 34.542	yes	tarball 15x6x2mm- collected samples and photos; sample analyzed: unknown HC with several peaks	2.3	727,155	0.62	3.7	
A L	T542	1/17/05	15:53	16:52	3	6	53 58.378	166 32.969	53 58.384	166 29.258	no		2.2	702,542	0.98	2.2	0.55535376
N F	T408	1/17/05	12:30	13:36	3.5	3	53 51.780	166 33.330	53 51.529	166 33.690	no		0.3	105,814	1.10	0.3	
N F	T409	1/17/05	14:00	15:00	3.5	3	53 51.460	166 33.830	53 50.780	166 35.960	yes	smear on net, too small to sample. Photo #T409a-b	1.4	459,836	1.00	1.4	
N F	T410	1/17/05	15:50	16:51	3.5	3	53 50.753	166 35.929	53 50.565	166 35.447	yes	smear on net, oiled feather. Photo very blurry	0.3	109,724	1.02	0.3	
N F	T411	1/17/05	17:20	18:24	3.5	3	53 50.635	166 35.415	53 51.869	166 34.209	yes	sheen approx. 50x100 ft. Took sample; photo very blurry	1.4	458,455	1.07	1.3	
N F	T412	1/18/05	09:26	10:22	4	3	53 54.170	166 36.780	53 57.330	166 35.970	yes	smear- photo very blurry	3.2	1,028,625	0.93	3.4	
N F	T413	1/18/05	10:50	11:58	3.7	3	53 57.330	166 35.970	53 54.610	166 37.960	no		3.0	953,244	1.13	2.6	
N F	T414	1/18/05	12:20	13:01	3.7	3	53 55.160	166 38.570	53 57.280	166 36.130	no		2.6	824,233	0.68	3.8	
N F	T415	1/18/05	13:15	13:52	3.7	3	53 57.240	166 36.350	53 55.650	166 38.620	yes	smear, very small	2.1	668,485	0.62	3.4	
N F	T416	1/18/05	14:14	14:46	3.3	6	53 55.660	166 37.670	53 55.670	166 34.570	no		1.8	587,515	0.53	3.4	
N F	T417	1/18/05	15:00	15:37	3.5	6	53 55.740	166 34.610	53 57.170	166 36.820	no		1.9	622,225	0.62	3.1	
N F	T418	1/18/05	15:50	16:30	3.5	6	53 56.910	166 37.280	53 55.350	166 34.730	no		2.2	696,839	0.67	3.3	
N F	T419	1/18/05	16:41	17:18	3.5	6	53 55.350	166 34.730	53 54.820	166 38.200	no		2.1	679,541	0.62	3.4	0.329994484
N F	T420	1/19/05	09:23	10:27	3.2	6	53 52.530	166 31.390	53 55.080	166 28.370	no		3.1	1,000,861	1.07	2.9	
N F	T421	1/19/05	10:41	11:38	3	6	53 54.620	166 27.360	53 53.390	166 31.860	no		2.9	940,756	0.95	3.1	

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Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
N F	T422	1/19/05	11:47	12:26	3.5	6	53	53.430	166	31.860	53	54.680	166	30.450	no		1.5	483,087	0.65	2.3	
N F	T423	1/19/05	12:30	13:12	3.5	6	53	54.680	166	30.450	53	53.694	166	32.133	no		1.4	450,083	0.70	2.0	
N F	T424	1/19/05	13:35	14:35	3.5	3	53	52.847	166	31.990	53	55.710	166	28.930	no		3.4	1,088,976	1.00	3.4	
N F	T425	1/19/05	14:50	16:03	3.2	3	53	55.820	166	29.160	53	52.510	166	31.580	no		3.6	1,160,020	1.22	3.0	
N F	T426	1/19/05	16:10	16:50	3.2	3	53	52.520	166	31.660	53	54.660	166	30.600	no		2.2	717,544	0.67	3.4	0
A L	T550	1/20/05	09:53	10:33	3	6	54	06.788	166	43.361	54	06.812	166	46.786	no		2.0	646,256	0.67	3.0	
A L	T551	1/20/05	10:46	11:25	3	6	54	05.761	166	45.011	54	05.771	166	41.442	no		2.1	673,667	0.65	3.2	
A L	T552	1/20/05	11:39	12:27	3	6	54	04.693	166	39.641	54	04.730	166	43.380	no		2.2	706,147	0.80	2.7	
A L	T553	1/20/05	12:40	13:13	3	6	54	03.661	166	41.386	54	03.635	166	37.722	no		2.2	692,230	0.55	3.9	
A L	T554	1/20/05	13:23	14:35	3	6	54	02.622	166	36.194	54	02.569	166	39.695	no		2.1	661,885	1.20	1.7	
A L	T555	1/20/05	14:49	15:22	3	6	54	01.407	166	37.537	54	01.301	166	33.564	no		2.3	752,019	0.55	4.3	
A L	T556	1/20/05	15:38	16:17	3	6	53	59.986	166	31.818	53	59.833	166	35.116	no		1.9	625,911	0.65	3.0	
A L	T557	1/20/05	16:31	17:11	3	6	53	58.803	166	33.260	53	58.726	166	29.438	no		2.3	723,866	0.67	3.4	
A L	T558	1/20/05	17:23	18:04	3	6	53	57.704	166	28.018	53	57.133	166	31.117	no		1.9	615,009	0.68	2.8	
N F	T427	1/20/05	09:37	10:42	3.3	3	53	54.269	166	37.550	53	57.398	166	35.421	no		3.4	1,084,936	1.08	3.1	
N F	T428	1/20/05	10:51	11:48	3.3	3	53	57.475	166	35.579	53	54.831	166	38.295	no		3.1	994,527	0.95	3.3	
N F	T429	1/20/05	12:20	13:08	3.3	6	53	54.833	166	38.296	53	57.011	166	37.455	no		2.2	718,918	0.80	2.8	
N F	T430	1/20/05	13:16	13:58	3.1	6	53	56.837	166	37.468	53	53.719	166	35.258	no		3.4	1,087,505	0.70	4.8	
N F	T431	1/20/05	14:38	15:36	3.1	6	53	52.601	166	34.610	53	49.722	166	36.083	no		3.0	967,942	0.97	3.1	
N F	T432	1/20/05	15:38	16:35	3.1	6	53	50.598	166	36.352	53	51.899	166	32.851	no		2.4	785,584	0.95	2.6	
N F	T433	1/20/05	16:52	17:32	3.2	6	53	52.027	166	34.004	53	50.424	166	36.316	no		2.1	677,408	0.67	3.2	
N F	T434	1/20/05	17:43	18:24	3.2	6	53	50.191	166	35.474	53	51.957	166	33.495	no		2.1	681,385	0.68	3.1	0
A L	T559	1/21/05	08:43	09:44	3	6	53	56.436	166	29.563	53	59.190	166	26.700	no		3.2	1,039,064	1.02	3.2	
A L	T560	1/21/05	10:12	11:14	3	6	53	56.593	166	30.675	53	59.143	166	28.126	no		3.0	952,163	1.03	2.9	
A L	T561	1/21/05	11:34	12:33	3	6	53	59.902	166	31.040	53	56.838	166	31.528	no		3.1	990,525	0.98	3.1	
A L	T562	1/21/05	12:44	13:44	3	6	53	56.806	166	32.523	53	59.756	166	33.439	no		3.0	965,221	1.00	3.0	
A L	T563	1/21/05	14:22	15:24	3	6	54	01.504	166	25.410	54	04.397	166	24.515	no		2.9	946,402	1.03	2.9	
E	T266	1/21/05	09:18	09:48	3.5	3	54	01.435	166	36.219	54	03.102	166	37.258	no		1.8	571,368	0.50	3.6	
E	T267	1/21/05	09:49	10:18	3.8	3	54	03.213	166	37.317	54	04.807	166	38.366	no		1.7	549,991	0.48	3.5	
E	T268	1/21/05	10:31	11:01	3.8	3	54	05.498	166	36.520	54	03.826	166	35.758	no		1.7	557,070	0.50	3.5	
E	T269	1/21/05	11:03	11:35	3.9	3	54	03.678	166	35.706	54	01.836	166	35.066	no		1.9	605,094	0.53	3.5	
E	T270	1/21/05	11:51	12:24	3.9	3	54	01.418	166	32.281	54	03.105	166	32.609	no		1.7	546,521	0.55	3.1	
E	T271	1/21/05	12:25	12:54	3	3	54	03.201	166	32.618	54	04.778	166	33.027	no		1.6	513,433	0.48	3.3	
E	T272	1/21/05	13:14	13:44	3.8	3	54	05.192	166	28.660	54	03.386	166	29.068	no		1.8	586,381	0.50	3.7	
E	T273	1/21/05	13:46	14:15	3.9	3	54	03.314	166	29.082	54	01.537	166	29.817	no		1.8	588,590	0.48	3.8	
E	T274	1/21/05	14:28	14:56	3.5	3	54	01.199	166	27.318	54	02.568	166	26.810	no		1.4	450,983	0.47	3.0	
E	T275	1/21/05	14:58	15:31	3	3	54	02.673	166	26.777	54	04.300	166	26.233	no		1.7	533,671	0.55	3.0	
E	T276	1/21/05	16:24	16:54	3.5	3	54	00.137	166	35.477	53	58.450	166	34.608	no		1.8	567,350	0.50	3.5	
E	T277	1/21/05	16:56	17:26	3	3	53	58.402	166	34.620	53	56.876	166	34.876	no		1.5	493,559	0.50	3.1	
N F	T435	1/21/05	09:19	10:21	3	6	53	52.550	166	31.300	53	55.680	166	29.400	no		3.3	1,069,943	1.03	3.2	
N F	T436	1/21/05	10:38	11:30	3	6	53	54.844	166	27.455	53	53.150	166	31.630	no		3.0	961,346	0.87	3.5	
N F	T437	1/21/05	14:34	15:01	3	6	53	54.730	166	30.490	53	53.390	166	31.430	no		1.5	466,691	0.45	3.2	
N F	T438	1/21/05	15:10	15:34	3	6	53	53.833	166	32.157	53	54.402	166	30.402	no		1.2	379,874	0.40	3.0	
N F	T439	1/21/05	15:49	16:19	3	7	53	54.686	166	30.479	53	53.441	166	32.064	no		1.6	500,929	0.50	3.1	
N F	T440	1/21/05	16:33	17:47	2.7	8	53	52.536	166	31.976	53	54.849	166	28.911	no		2.9	944,564	1.23	2.4	
N F	T441	1/21/05	17:53	18:37	3.3	6	53	54.187	166	28.400	53	53.438	166	31.993	no		2.2	722,830	0.73	3.1	0
A L	T564	1/22/05	09:35	10:35	3	6	53	57.609	166	29.007	54	00.512	166	28.835	no		2.9	934,953	1.00	2.9	
A L	T565-1	1/22/05	10:58	11:58	3	4	53	57.726	166	29.865	54	00.702	166	29.697	no		3.0	958,410	1.00	3.0	
A L	T565-2	1/22/05	10:58	11:58	3	8	53	57.726	166	29.865	54	00.702	166	29.697	no		3.0	958,410	1.00	3.0	
A L	T566-1	1/22/05	12:07	13:09	3	7	54	00.772	166	30.731	53	58.200	166	30.781	no		2.6	827,902	1.03	2.5	
A L	T566-2	1/22/05	12:07	13:09	3	12	54	00.772	166	30.731	53	58.200	166	30.781	no		2.6	827,902	1.03	2.5	
A L	T567-1	1/22/05	13:34	14:39	3	6	54	01.156	166	28.762	54	04.273	166	29.095	no		3.1	1,005,238	1.08	2.9	
A L	T567-2	1/22/05	13:34	14:39	3	12	54	01.156	166	28.762	54	04.273	166	29.095	no		3.1	1,005,238	1.08	2.9	
A L	T568-1	1/22/05	14:49	15:49	3	6	54	04.364	166	30.224	54	01.929	166	29.925	no		2.4	785,785	1.00	2.4	
A L	T568-2	1/22/05	14:49	15:49	3	12	54	04.364	166	30.224	54	01.929	166	29.925	no		2.4	785,785	1.00	2.4	
A L	T569-1	1/22/05	16:06	17:04	3	6	54	01.377	166	31.043	54	04.257	166	31.371	no		2.9	929,053	0.97	3.0	
A L	T569-2	1/22/05	16:06	17:04	3	12	54	01.377	166	31.043	54	04.257	166	31.371	no		2.9	929,053	0.97	3.0	
E	T278	1/22/05	09:56	10:24	3	3	53	55.148	166	38.240	53	56.919	166	36.976	no		1.9	618,306	0.47	4.1	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
E	T279	1/22/05	10:28	10:58	3,5	3,5	53	57.105	166	36.497	53	55.598	166	37.140	no		1.6	500,122	0.50	3.1	
E	T280	1/22/05	11:00	11:29	3,5	3	53	55.458	166	37.226	53	55.121	166	36.704	no		0.5	146,818	0.48	0.9	
E	T281	1/22/05	11:31	11:55	3,5	3	53	55.268	166	36.583	53	56.787	166	35.523	no		1.6	528,571	0.40	4.1	
E	T282	1/22/05	12:04	12:32	3	3,5	53	56.434	166	34.731	53	54.888	166	35.759	no		1.7	534,390	0.47	3.6	
E	T283	1/22/05	12:35	12:59	3,5	3,5	53	54.734	166	35.832	53	53.513	166	36.600	no		1.3	419,120	0.40	3.3	
E	T284	1/22/05	13:24	13:59	3,2	4	53	56.086	166	34.999	53	56.923	166	31.672	no		2.1	685,475	0.58	3.7	
E	T285	1/22/05	14:01	14:08	3,5	3,5	53	56.983	166	31.441	53	57.169	166	30.764	no		0.4	141,518	0.12	3.8	
E	T286	1/22/05	14:14	14:42	3,3	3,5	53	57.847	166	30.727	53	57.222	166	33.352	no		1.7	536,275	0.47	3.6	
E	T287	1/22/05	14:45	15:05	3,1	4	53	57.168	166	33.582	53	56.730	166	35.368	no		1.1	366,505	0.33	3.4	
E	T288	1/22/05	15:18	15:49	3	5	53	55.364	166	34.124	53	56.048	166	31.124	no		1.9	609,683	0.52	3.7	
E	T289	1/22/05	15:51	16:29	3,4	3,5	53	56.085	166	30.886	53	54.400	166	28.654	no		2.1	687,849	0.63	3.4	
N F	T442	1/22/05	09:13	09:45	3.3	7	53	52.509	166	31.744	53	53.823	166	30.013	yes	Smear; photo #T442	1.7	535,454	0.53	3.1	
N F	T443	1/22/05	10:04	10:28	3	7	53	53.872	166	29.982	53	54.908	166	28.795	yes	Smear-- Convergence observed; photo #T443	1.3	402,307	0.40	3.1	
N F	T444	1/22/05	11:00	11:44	2.8	7	53	55.988	166	31.133	53	55.421	166	34.659	no		2.2	692,704	0.73	2.9	
N F	T445	1/22/05	11:56	12:27	3	7	53	55.475	166	34.769	53	54.050	166	35.574	yes	1) flat .8x.5cm tarball, sample NFT445 ; 2) .5x.2cm smear; photos #T445A-C; sample analyzed: unknown HC like wax	1.5	483,388	0.52	2.9	
N F	T446	1/22/05	12:55	13:29	3	5	53	53.969	166	35.487	53	52.586	166	34.036	yes	2 stains .2cm; photo #T446	1.6	523,372	0.57	2.9	
N F	T447	1/22/05	13:56	14:31	3	6	53	52.573	166	34.012	53	51.163	166	35.565	no	stain on same spot as in T446	1.7	541,161	0.58	2.9	
N F	T448	1/22/05	14:50	15:33	3	6	53	50.437	166	35.934	53	52.218	166	33.674	no	light sheen on water surface, no tarballs or smears	2.2	716,031	0.72	3.1	
N F	T449	1/22/05	15:45	16:33	3	7	53	51.833	166	33.512	53	49.846	166	36.030	no	stain on the same spot as noted previously.	2.5	798,520	0.80	3.1	0.293897253
A L	T570-1	1/23/05	09:21	10:24	3	1	53	57.789	166	28.433	54	01.209	166	28.298	no		3.4	1,101,089	1.05	3.3	
A L	T570-2	1/23/05	09:21	10:24	3	6	53	57.789	166	28.433	54	01.209	166	28.298	no		3.4	1,101,089	1.05	3.3	
A L	T571-1	1/23/05	10:33	11:33	3	1	54	01.861	166	28.378	54	05.118	166	28.640	no		3.3	1,049,496	1.00	3.3	
A L	T571-2	1/23/05	10:33	11:33	3	6	54	01.861	166	28.378	54	05.118	166	28.640	no		3.3	1,049,496	1.00	3.3	
A L	T572-1	1/23/05	11:44	12:44	3	1	54	05.101	166	29.836	54	02.204	166	29.497	no		2.9	934,652	1.00	2.9	
A L	T572-2	1/23/05	11:44	12:44	3	6	54	05.101	166	29.836	54	02.204	166	29.497	no		2.9	934,652	1.00	2.9	
A L	T573-1	1/23/05	13:08	14:09	3	1	54	05.011	166	31.218	54	02.355	166	30.575	yes	smear found in top net at the front edge of the PVC and cod. 1cm wide	2.7	863,471	1.02	2.6	
A L	T573-2	1/23/05	13:08	14:09	3	6	54	05.011	166	31.218	54	02.355	166	30.575	no		2.7	863,471	1.02	2.6	
A L	T574-1	1/23/05	14:21	15:24	3	1	54	01.340	166	29.507	53	58.323	166	29.548	yes	smear in the top net. Took photo and sample. Barely enough to stain the end of a toothpick. 1-2mm in diameter. Only about 3-4 cm from the last smear- may indicate that it was part of the first smear which was not completely cleaned. Sample analyzed: no results.	3.0	971,110	1.05	2.9	
A L	T574-2	1/23/05	14:21	15:24	3	6	54	01.340	166	29.507	53	58.323	166	29.548	no		3.0	971,110	1.05	2.9	
A L	T575-1	1/23/05	15:34	16:34	3	1	53	58.136	166	30.619	54	01.229	166	30.403	no		3.1	996,380	1.00	3.1	
A L	T575-2	1/23/05	15:34	16:34	3	6	53	58.136	166	30.619	54	01.229	166	30.403	no		3.1	996,380	1.00	3.1	
E	T290	1/23/05	10:10	10:40	3,5	5	53	56.238	166	31.453	53	56.462	166	34.537	no	Tow is not in a straight line; CPUE incalculable	1.8	588,746	0.50	3.7	
E	T291	1/23/05	10:43	11:10	3	8	53	56.519	166	34.808	53	57.111	166	36.835	no	Tow is not in a straight line; CPUE incalculable	1.3	428,656	0.45	3.0	
E	T292	1/23/05	11:12	11:40	3,5	8	53	57.131	166	36.677	53	56.127	166	34.874	no	Tow is not in a straight line; CPUE incalculable	1.5	470,213	0.47	3.1	
E	T293	1/23/05	11:48	12:14	3,5	8	53	55.371	166	33.855	53	54.037	166	33.185	no	Tow is not in a straight line; CPUE incalculable	1.4	447,769	0.43	3.2	
E	T294	1/23/05	12:17	12:49	3,5	8	53	53.974	166	33.140	53	53.932	166	33.352	no	Tow is not in a straight line; CPUE incalculable	0.1	42,417	0.53	0.2	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
E	T295	1/23/05	12:57	13:26	3	7,9	53	53.387	166	33.481	53	54.923	166	33.279	no	Tow is not in a straight line; CPUE incalculable	1.5	495,873	0.48	3.2	
N F	T450	1/23/05	09:51	10:32	3	4	53	52.574	166	31.663	53	54.337	166	29.668	no		2.1	682,062	0.68	3.1	
N F	T451	1/23/05	10:46	11:32	3.2	6	53	54.197	166	28.533	53	52.828	166	32.005	no		2.5	792,389	0.77	3.2	
N F	T452	1/23/05	11:50	12:16	3	7	53	52.591	166	31.297	53	53.961	166	30.712	no		1.4	454,710	0.43	3.3	
N F	T453	1/23/05	12:30	13:10	3.1	9	53	54.600	166	29.947	53	52.566	166	31.275	no		2.2	701,468	0.67	3.3	
N F	T454	1/23/05	13:25	14:19	3	8	53	52.518	166	31.530	53	54.940	166	29.517	no		2.7	868,039	0.90	3.0	
N F	T455	1/23/05	14:34	15:40	3	9	53	54.924	166	27.790	53	52.541	166	31.918	no		3.4	1,096,037	1.10	3.1	
N F	T456	1/23/05	15:49	16:53	3	9	53	52.768	166	31.936	53	52.616	166	31.792	no		0.2	56,037	1.07	0.2	0.121336112
E	T296	1/24/05	09:50	10:16	3.5	8	53	55.843	166	32.653	53	53.911	166	33.545	no	Tow is not in a straight line; CPUE incalculable	2.0	644,434	0.43	4.6	
E	T297	1/24/05	10:20	10:47	3.5	7	53	53.760	166	33.613	53	53.241	166	35.555	no	Tow is not in a straight line; CPUE incalculable	1.3	404,471	0.45	2.8	
E	T298	1/24/05	10:50	11:18	3	5	53	53.324	166	35.724	53	53.393	166	33.696	no	Tow is not in a straight line; CPUE incalculable	1.2	385,337	0.47	2.6	
E	T299	1/24/05	11:20	11:52	2.7	6	53	53.422	166	33.545	53	54.853	166	33.479	no	Tow is not in a straight line; CPUE incalculable	1.4	460,765	0.53	2.7	
E	T300	1/24/05	11:54	12:26	3	7	53	55.605	166	33.721	53	56.203	166	36.257	no	Tow is not in a straight line; CPUE incalculable	1.6	517,685	0.53	3.0	
E	T301	1/24/05	12:28	12:52	3.5	8	53	56.197	166	36.419	53	54.726	166	35.917	no	Tow is not in a straight line; CPUE incalculable	1.5	482,935	0.40	3.8	
E	T302	1/24/05	12:54	13:29	3.5	6	53	54.578	166	35.864	53	52.866	166	34.328	no	Tow is not in a straight line; CPUE incalculable	1.9	623,310	0.58	3.3	
E	T303	1/24/05	13:31	14:04	3	8	53	52.860	166	34.200	53	54.282	166	33.409	no	Tow is not in a straight line; CPUE incalculable	1.5	481,661	0.55	2.7	
E	T304	1/24/05	14:07	15:08	3	8	53	54.261	166	33.501	53	54.822	166	36.976	no	Tow is not in a straight line; CPUE incalculable	2.1	683,166	1.02	2.1	
E	T305	1/24/05	15:11	16:07	3	6	53	54.896	166	37.036	53	56.842	166	36.119	yes	tar ball - sample taken; photo #T305; sample analyzed: IFO 380; Tow is not in a straight line; CPUE incalculable	2.0	650,016	0.93	2.2	
E	T306	1/24/05	16:38	17:33	2.7	6	53	56.080	166	33.001	53	55.233	166	29.576	no	Tow is not in a straight line; CPUE incalculable	2.2	704,029	0.92	2.4	
N F	T457	1/24/05	11:07	11:35	3	7	53	53.063	166	33.852	53	53.964	166	33.260	no	net was torn in 3 places--reclamped and sewn	1.0	310,985	0.47	2.1	
N F	T458	1/24/05	12:05	12:35	3	7	53	53.308	166	34.208	53	54.213	166	33.568	yes	stain in cup- photo #T458	1.0	315,571	0.50	2.0	
N F	T459	1/24/05	12:54	13:21	3	7	53	54.122	166	33.853	53	53.377	166	34.986	no		1.0	321,990	0.45	2.2	
N F	T460	1/24/05	13:40	14:22	3	7	53	52.990	166	34.507	53	54.338	166	33.294	no		1.5	491,104	0.70	2.2	
N F	T461	1/24/05	14:39	15:08	3	7	53	54.323	166	33.285	53	53.328	166	34.586	no		1.3	404,288	0.48	2.6	
N F	T462	1/24/05	15:23	15:49	3	7	53	53.222	166	33.395	53	53.898	166	32.838	no		0.8	241,877	0.43	1.7	
N F	T463	1/24/05	16:04	16:21	3	7	53	53.716	166	32.785	53	53.278	166	33.087	no		0.5	152,172	0.28	1.7	0.446829939
A L	T576-1	1/25/05	10:40	11:14	2	6	53	57.331	166	35.572	53	56.689	166	37.235	no		1.2	376,729	0.57	2.1	
A L	T576-2	1/25/05	10:40	11:14	2	12	53	57.331	166	35.572	53	56.689	166	37.235	no		1.2	376,729	0.57	2.1	
A L	T577-1	1/25/05	11:24	12:24	2.5	6	53	57.063	166	35.618	53	55.480	166	37.970	no		2.1	676,907	1.00	2.1	
A L	T577-2	1/25/05	11:24	12:24	2.5	12	53	57.063	166	35.618	53	55.480	166	37.970	no		2.1	676,907	1.00	2.1	
A L	T578-1	1/25/05	12:36	13:41	2.5	6	53	55.438	166	37.973	53	53.284	166	35.025	no		2.8	890,586	1.08	2.6	
A L	T578-2	1/25/05	12:36	13:41	2.5	12	53	55.438	166	37.973	53	53.284	166	35.025	no		2.8	890,586	1.08	2.6	
A L	T579-1	1/25/05	13:56	14:19	2.5	6	53	52.805	166	33.864	53	53.871	166	33.026	no		1.2	378,148	0.38	3.1	
A L	T579-2	1/25/05	13:56	14:19	2.5	12	53	52.805	166	33.864	53	53.871	166	33.026	no		1.2	378,148	0.38	3.1	
A L	T580-1	1/25/05	14:30	15:33	2.5	6	53	54.839	166	33.435	53	52.197	166	34.213	no		2.7	863,088	1.05	2.6	
A L	T580-2	1/25/05	14:30	15:33	2.5	12	53	54.839	166	33.435	53	52.197	166	34.213	no		2.7	863,088	1.05	2.6	
A L	T581-1	1/25/05	15:38	16:37	2.5	6	53	52.063	166	34.328	53	49.871	166	35.872	no		2.4	764,021	0.98	2.4	
A L	T581-2	1/25/05	15:38	16:37	2.5	12	53	52.063	166	34.328	53	49.871	166	35.872	no		2.4	764,021	0.98	2.4	
N F	T464-1	1/25/05	14:37	15:42	3	7	53	52.565	166	31.719	53	52.471	166	31.592	no		0.1	38,680	1.08	0.1	
N F	T464-2	1/25/05	14:37	15:42	3	3	53	52.565	166	31.719	53	52.471	166	31.592	yes	Stain; photo #T464-2	0.1	38,680	1.08	0.1	
N F	T465-1	1/25/05	16:08	17:11	2.7	7	53	53.632	166	32.138	53	53.388	166	31.794	no		0.3	102,105	1.05	0.3	
N F	T465-2	1/25/05	16:08	17:11	2.7	3	53	53.632	166	32.138	53	53.388	166	31.794	yes	three stains observed; photo #T465-2	0.3	102,105	1.05	0.3	
N F	T466-1	1/25/05	17:39	18:42	2.7	7	53	53.439	166	31.859	53	53.562	166	32.116	no		0.2	62,799	1.05	0.2	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
N F	T466-2	1/25/05	17:39	18:42	2.7	3	53	53.439	166	31.859	53	53.562	166	32.116	yes	1000x70' sheen, one stain; photo #T466-2	0.2	62,799	1.05	0.2	0.722358145
A L	T582-1	1/26/05	08:27	08:59	2	1	53	54.708	166	30.469	53	53.755	166	31.849	no		1.3	403,199	0.53	2.4	
A L	T582-2	1/26/05	08:27	08:59	2	9	53	54.708	166	30.469	53	53.755	166	31.849	no		1.3	403,199	0.53	2.4	
A L	T583-1	1/26/05	09:45	10:50	2	1	53	57.033	166	34.069	54	00.237	166	36.016	no		3.4	1,095,147	1.08	3.1	
A L	T583-2	1/26/05	09:45	10:50	2	9	53	57.033	166	34.069	54	00.237	166	36.016	no		3.4	1,095,147	1.08	3.1	
A L	T584-1	1/26/05	10:59	11:58	2	1	53	59.805	166	35.062	53	57.277	166	33.420	no		2.7	871,034	0.98	2.8	
A L	T584-2	1/26/05	10:59	11:58	2	9	53	59.805	166	35.062	53	57.277	166	33.420	no		2.7	871,034	0.98	2.8	
A L	T585-1	1/26/05	12:32	13:35	2	1	53	56.789	166	32.472	53	56.740	166	36.983	no		2.7	854,687	1.05	2.5	
A L	T585-2	1/26/05	12:32	13:35	2	9	53	56.789	166	32.472	53	56.740	166	36.983	no		2.7	854,687	1.05	2.5	
A L	T586-1	1/26/05	13:42	14:11	2	1	53	56.868	166	37.205	53	57.265	166	35.372	no		1.2	369,961	0.48	2.4	
A L	T586-2	1/26/05	13:42	14:11	2	9	53	56.868	166	37.205	53	57.265	166	35.372	no		1.2	369,961	0.48	2.4	
A L	T587-1	1/26/05	14:25	15:28	2	1	53	55.832	166	36.279	53	52.984	166	34.167	no		3.1	1,000,340	1.05	3.0	
A L	T587-2	1/26/05	14:25	15:28	2	9	53	55.832	166	36.279	53	52.984	166	34.167	no		3.1	1,000,340	1.05	3.0	
A L	T588-1	1/26/05	15:34	16:26	2	1	53	53.018	166	33.747	53	55.966	166	32.423	no		3.1	981,517	0.87	3.5	
A L	T588-2	1/26/05	15:34	16:26	2	9	53	53.018	166	33.747	53	55.966	166	32.423	no		3.1	981,517	0.87	3.5	
A L	T589-1	1/26/05	16:49	17:23	2	1	53	53.977	166	29.811	53	52.669	166	31.397	no		1.6	517,455	0.57	2.8	
A L	T589-2	1/26/05	16:49	17:23	2	9	53	53.977	166	29.811	53	52.669	166	31.397	no		1.6	517,455	0.57	2.8	
N F	T467-1	1/26/05	09:21	09:34	3	3	53	52.030	166	32.846	53	51.451	166	33.454	no		0.7	219,203	0.22	3.1	
N F	T467-2	1/26/05	09:21	09:34	3	7	53	52.030	166	32.846	53	51.451	166	33.454	no		0.7	219,203	0.22	3.1	
N F	T468-1	1/26/05	11:13	11:44	2.8	3	53	57.614	166	35.110	53	56.206	166	34.724	no		1.4	459,052	0.52	2.8	
N F	T468-2	1/26/05	11:13	11:44	2.8	7.5	53	57.614	166	35.110	53	56.206	166	34.724	no		1.4	459,052	0.52	2.8	
N F	T469-1	1/26/05	11:58	12:32	2.8	3	53	56.241	166	34.828	53	56.603	166	37.477	no		1.6	515,230	0.57	2.8	
N F	T469-2	1/26/05	11:58	12:32	2.8	7.5	53	56.241	166	34.828	53	56.603	166	37.477	no		1.6	515,230	0.57	2.8	
N F	T470-1	1/26/05	14:13	14:54	2.8	3	53	51.732	166	33.399	53	50.462	166	35.959	no		2.0	635,092	0.68	2.9	
N F	T470-2	1/26/05	14:13	14:54	2.8	7	53	51.732	166	33.399	53	50.462	166	35.959	no		2.0	635,092	0.68	2.9	
N F	T471-1	1/26/05	15:08	15:52	3.1	3	53	50.430	166	36.245	53	52.224	166	33.699	no		2.3	753,031	0.73	3.2	
N F	T471-2	1/26/05	15:08	15:52	3.1	7	53	50.430	166	36.245	53	52.224	166	33.699	yes	Sample T4712A, tarball; T4712B same tarball; T4712C, tarball. No samples of smears or stains; photos #T471-2A-H; samples analyzed: NF-T4712-A IFO 380, NF-T4712B RRO unknown HC with several peaks, NF-T4712-C IFO 380	2.3	753,031	0.73	3.2	
N F	T472	1/26/05	16:46	17:46	3.5	5	53	52.145	166	33.636	53	50.493	166	36.034	no		2.2	699,993	1.00	2.2	
N F	T473	1/26/05	17:48	18:24	3.5	5	53	50.541	166	35.967	53	52.030	166	33.580	no		2.1	659,588	0.60	3.4	
N F	T474	1/26/05	18:34	18:42	3.2	6	53	51.469	166	33.587	53	51.638	166	32.920	no		0.4	137,806	0.13	3.2	0.424464441
A L	T590-1	1/27/05	09:22	10:25	2.5	1	54	02.932	166	35.995	54	02.962	166	40.343	no		2.6	821,684	1.05	2.4	
A L	T590-2	1/27/05	09:22	10:25	2.5	9	54	02.932	166	35.995	54	02.962	166	40.343	no		2.6	821,684	1.05	2.4	
A L	T591-1	1/27/05	10:41	11:42	2.5	1	54	01.730	166	40.658	54	01.754	166	36.439	no		2.5	797,673	1.02	2.4	
A L	T591-2	1/27/05	10:41	11:42	2.5	9	54	01.730	166	40.658	54	01.754	166	36.439	no		2.5	797,673	1.02	2.4	
A L	T592-1	1/27/05	12:35	13:03	2.5	1	53	58.305	166	35.433	53	58.295	166	33.189	no		1.3	424,843	0.47	2.8	
A L	T592-2	1/27/05	12:35	13:03	2.5	9	53	58.305	166	35.433	53	58.295	166	33.189	no		1.3	424,843	0.47	2.8	
A L	T593-1	1/27/05	13:15	13:50	2.5	1	53	57.493	166	34.791	53	57.495	166	32.229	no		1.5	485,191	0.58	2.6	
A L	T593-2	1/27/05	13:15	13:50	2.5	9	53	57.493	166	34.791	53	57.495	166	32.229	no		1.5	485,191	0.58	2.6	
A L	T594-1	1/27/05	13:58	14:31	2.5	1	53	56.945	166	32.537	53	56.759	166	35.344	no		1.7	535,085	0.55	3.0	
A L	T594-2	1/27/05	13:58	14:31	2.5	9	53	56.945	166	32.537	53	56.759	166	35.344	no		1.7	535,085	0.55	3.0	
A L	T595-1	1/27/05	14:39	15:42	2.5	1	53	57.131	166	36.646	53	54.204	166	36.360	no		2.9	943,669	1.05	2.8	
A L	T595-2	1/27/05	14:39	15:42	2.5	9	53	57.131	166	36.646	53	54.204	166	36.360	no		2.9	943,669	1.05	2.8	
A L	T596-1	1/27/05	15:59	16:29	2.5	1	53	53.100	166	35.045	53	53.653	166	32.825	no		1.4	457,186	0.50	2.8	
A L	T596-2	1/27/05	15:59	16:29	2.5	9	53	53.100	166	35.045	53	53.653	166	32.825	no		1.4	457,186	0.50	2.8	
A L	T597-1	1/27/05	16:36	17:08	2.5	1	53	53.824	166	33.408	53	55.549	166	32.906	no		1.8	563,323	0.53	3.3	
A L	T597-2	1/27/05	16:36	17:08	2.5	9	53	53.824	166	33.408	53	55.549	166	32.906	no		1.8	563,323	0.53	3.3	
N F	T475-1	1/27/05	10:02	10:33	2.9	7	53	52.862	166	34.043	53	51.417	166	33.773	no		1.5	467,915	0.52	2.8	
N F	T475-2	1/27/05	10:02	10:33	2.9	3	53	52.862	166	34.043	53	51.417	166	33.773	yes	2 stains; photos #T475-2A,B	1.5	467,915	0.52	2.8	
N F	T476-1	1/27/05	10:53	11:49	3	6	53	49.811	166	35.977	53	52.152	166	33.509	no		2.8	887,326	0.93	3.0	
N F	T476-2	1/27/05	10:53	11:49	3	2	53	49.811	166	35.977	53	52.152	166	33.509	no		2.8	887,326	0.93	3.0	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
N F	T477-1	1/27/05	12:06	13:06	2.9	6	53	52.289	166	33.870	53	49.781	166	36.189	no		2.9	919,520	1.00	2.9	
N F	T477-2	1/27/05	12:06	13:06	2.9	2	53	52.289	166	33.870	53	49.781	166	36.189	no		2.9	919,520	1.00	2.9	
N F	T478-1	1/27/05	13:40	14:29	3.1	6	53	52.583	166	31.489	53	54.585	166	28.893	no		2.5	810,977	0.82	3.1	
N F	T478-2	1/27/05	13:40	14:29	3.1	2	53	52.583	166	31.489	53	54.585	166	28.893	no		2.5	810,977	0.82	3.1	
N F	T479-1	1/27/05	14:42	15:36	2.9	6	53	54.687	166	29.218	53	52.578	166	31.758	no		2.6	832,405	0.90	2.9	
N F	T479-2	1/27/05	14:42	15:36	2.9	3	53	54.687	166	29.218	53	52.578	166	31.758	no		2.6	832,405	0.90	2.9	
N F	T480-1	1/27/05	15:55	16:12	3.1	6	53	52.232	166	33.796	53	53.071	166	34.213	no		0.9	281,401	0.28	3.1	
N F	T480-2	1/27/05	15:55	16:12	3.1	3	53	52.232	166	33.796	53	53.071	166	34.213	no		0.9	281,401	0.28	3.1	
N F	T481-1	1/27/05	16:24	16:46	2.7	6	53	53.060	166	34.075	53	52.118	166	33.852	no		1.0	306,139	0.37	2.6	
N F	T481-2	1/27/05	16:24	16:46	2.7	3	53	53.060	166	34.075	53	52.118	166	33.852	no		1.0	306,139	0.37	2.6	0.104884043
A L	T598-1	1/28/05	14:46	15:44	2	1	53	52.663	166	31.423	53	54.429	166	28.954	no		2.3	736,493	0.97	2.4	
A L	T598-2	1/28/05	14:46	15:44	2	9	53	52.663	166	31.423	53	54.429	166	28.954	no		2.3	736,493	0.97	2.4	0
A L	T599-1	1/29/05	08:38	09:05	2	0	53	54.675	166	30.475	53	53.675	166	31.849	no		1.3	414,111	0.45	2.9	
A L	T599-2	1/29/05	08:38	09:05	2	9	53	54.675	166	30.475	53	53.675	166	31.849	no		1.3	414,111	0.45	2.9	
A L	T600-1	1/29/05	09:17	10:19	2	0	53	52.771	166	31.374	53	54.490	166	28.825	no		2.3	734,766	1.03	2.2	
A L	T600-2	1/29/05	09:17	10:19	2	9	53	52.771	166	31.374	53	54.490	166	28.825	no		2.3	734,766	1.03	2.2	
A L	T601-1	1/29/05	11:02	11:33	2.3	0	53	57.376	166	35.459	53	56.573	166	37.240	no		1.3	424,983	0.52	2.6	
A L	T601-2	1/29/05	11:02	11:33	2.3	9	53	57.376	166	35.459	53	56.573	166	37.240	no		1.3	424,983	0.52	2.6	
A L	T602-1	1/29/05	11:54	12:54	2	0	53	57.353	166	33.912	53	55.517	166	37.717	no		2.9	932,155	1.00	2.9	
A L	T602-2	1/29/05	11:54	12:54	2	9	53	57.353	166	33.912	53	55.517	166	37.717	no		2.9	932,155	1.00	2.9	
A L	T603-1	1/29/05	13:04	14:03	2	0	53	54.574	166	37.177	53	56.132	166	33.620	no		2.6	840,250	0.98	2.7	
A L	T603-2	1/29/05	13:04	14:03	2	9	53	54.574	166	37.177	53	56.132	166	33.620	no		2.6	840,250	0.98	2.7	
A L	T604-1	1/29/05	14:17	15:18	2	0	53	54.945	166	34.373	53	52.559	166	37.165	no		2.9	932,848	1.02	2.9	
A L	T604-2	1/29/05	14:17	15:18	2	9	53	54.945	166	34.373	53	52.559	166	37.165	no		2.9	932,848	1.02	2.9	
A L	T605-1	1/29/05	15:41	16:43	2	0	53	52.810	166	33.892	53	55.452	166	32.882	no		2.7	871,681	1.03	2.6	
A L	T605-2	1/29/05	15:41	16:43	2	9	53	52.810	166	33.892	53	55.452	166	32.882	no		2.7	871,681	1.03	2.6	
A L	T606-1	1/29/05	17:07	17:37	2	0	53	54.891	166	29.090	53	53.815	166	31.068	no		1.6	510,507	0.50	3.2	
A L	T606-2	1/29/05	17:07	17:37	2	9	53	54.891	166	29.090	53	53.815	166	31.068	no		1.6	510,507	0.50	3.2	
N F	T482-1	1/29/05	09:37	10:07	2.5	1	53	52.915	166	33.841	53	53.963	166	32.779	no		1.2	392,893	0.50	2.4	
N F	T482-2	1/29/05	09:37	10:07	2.5	9	53	52.915	166	33.841	53	53.963	166	32.779	no		1.2	392,893	0.50	2.4	
N F	T483-1	1/29/05	10:18	11:08	3	1	53	53.655	166	32.720	53	52.048	166	34.921	no		2.1	664,778	0.83	2.5	
N F	T483-2	1/29/05	10:18	11:08	3	9	53	53.655	166	32.720	53	52.048	166	34.921	no		2.1	664,778	0.83	2.5	
N F	T484-1	1/29/05	11:19	12:07	3	1	53	51.979	166	34.857	53	49.770	166	36.258	no		2.4	759,146	0.80	3.0	
N F	T484-2	1/29/05	11:19	12:07	3	9	53	51.979	166	34.857	53	49.770	166	36.258	no		2.4	759,146	0.80	3.0	
N F	T485-1	1/29/05	12:16	13:29	2.7	3	53	49.776	166	36.065	53	51.624	166	32.925	no		2.6	842,222	1.22	2.2	
N F	T485-2	1/29/05	12:16	13:29	2.7	9	53	49.776	166	36.065	53	51.624	166	32.925	no		2.6	842,222	1.22	2.2	
N F	T486-1	1/29/05	13:32	14:03	2.7	3	53	52.603	166	32.716	53	52.585	166	31.429	no		0.8	244,278	0.52	1.5	
N F	T486-2	1/29/05	13:32	14:03	2.7	9	53	52.603	166	32.716	53	52.585	166	31.429	no		0.8	244,278	0.52	1.5	
N F	T487-1	1/29/05	14:18	14:50	2.7	3	53	53.829	166	31.996	53	54.737	166	30.404	no		1.3	420,173	0.53	2.5	
N F	T487-2	1/29/05	14:18	14:50	2.7	9	53	53.829	166	31.996	53	54.737	166	30.404	no		1.3	420,173	0.53	2.5	
N F	T488-1	1/29/05	14:56	15:24	3.3	3	53	54.749	166	30.273	53	53.448	166	31.552	no		1.5	483,923	0.47	3.2	
N F	T488-2	1/29/05	14:56	15:24	3.3	9	53	54.749	166	30.273	53	53.448	166	31.552	no		1.5	483,923	0.47	3.2	
N F	T489-1	1/29/05	15:36	15:56	2.8	3	53	52.666	166	31.933	53	52.680	166	33.139	no		0.7	228,876	0.33	2.1	0
N F	T489-2	1/29/05	15:36	15:56	2.8	9	53	52.666	166	31.933	53	52.680	166	33.139	no		0.7	228,876	0.33	2.1	
A L	T607-1	1/30/05	09:11	10:10	2	0	53	56.926	166	27.501	53	58.573	166	25.760	no		1.9	624,269	0.98	2.0	
A L	T607-2	1/30/05	09:11	10:10	2	9	53	56.926	166	27.501	53	58.573	166	25.760	no		1.9	624,269	0.98	2.0	
A L	T608-1	1/30/05	10:17	11:19	2	0	53	59.788	166	24.655	54	02.430	166	20.436	no		3.6	1,166,057	1.03	3.5	
A L	T608-2	1/30/05	10:17	11:19	2	9	53	59.788	166	24.655	54	02.430	166	20.436	no		3.6	1,166,057	1.03	3.5	
A L	T609-1	1/30/05	11:43	12:44	2	0	54	02.621	166	24.627	54	01.059	166	29.487	no		3.3	1,047,346	1.02	3.2	
A L	T609-2	1/30/05	11:43	12:44	2	9	54	02.621	166	24.627	54	01.059	166	29.487	no		3.3	1,047,346	1.02	3.2	
A L	T610-1	1/30/05	12:59	14:08	2	0	54	02.278	166	30.535	54	00.725	166	35.352	yes	tarball found at 1/2 hour check 13:32, 54 01.441; 166 32.944. Sample taken. 2 stains also; photos #1266-8; sample analyzed: unknown HC with several peaks	3.2	1,038,934	1.15	2.8	
A L	T610-2	1/30/05	12:59	14:08	2	9	54	02.278	166	30.535	54	00.725	166	35.352	no		3.2	1,038,934	1.15	2.8	
A L	T611-1	1/30/05	14:35	15:38	2	0	54	03.200	166	34.468	54	01.423	166	38.229	no		2.8	912,413	1.05	2.7	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat	Starting Lon	Ending Lat	Ending Lon	Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
A L	T611-2	1/30/05	14:35	15:38	2	9	54 03.200	166 34.468	54 01.423	166 38.229	no		2.8	912,413	1.05	2.7	
A L	T612-1	1/30/05	16:17	17:19	2	0	54 00.454	166 30.953	53 58.610	166 34.908	no		3.0	955,173	1.03	2.9	
A L	T612-2	1/30/05	16:17	17:19	2	9	54 00.454	166 30.953	53 58.610	166 34.908	no		3.0	955,173	1.03	2.9	
N F	T490-1	1/30/05	09:06	09:41	2.9	2	53 52.650	166 32.688	53 52.751	166 32.772	no		0.1	36,206	0.58	0.2	
N F	T490-2	1/30/05	09:06	09:41	2.9	11	53 52.650	166 32.688	53 52.751	166 32.772	no		0.1	36,206	0.58	0.2	
N F	T491-1	1/30/05	10:32	10:59	3.2	2	53 51.631	166 33.001	53 51.333	166 35.378	no		1.4	461,318	0.45	3.2	
N F	T491-2	1/30/05	10:32	10:59	3.2	10	53 51.631	166 33.001	53 51.333	166 35.378	no		1.4	461,318	0.45	3.2	
N F	T492-1	1/30/05	11:07	11:39	2.7	2	53 51.325	166 34.864	53 52.810	166 34.054	no		1.6	502,089	0.53	2.9	
N F	T492-2	1/30/05	11:07	11:39	2.7	10	53 51.325	166 34.864	53 52.810	166 34.054	no		1.6	502,089	0.53	2.9	
N F	T493-1	1/30/05	11:50	12:51	3	2	53 52.668	166 34.602	53 49.813	166 36.203	no		3.0	967,901	1.02	3.0	
N F	T493-2	1/30/05	11:50	12:51	3	10	53 52.668	166 34.602	53 49.813	166 36.203	no		3.0	967,901	1.02	3.0	
N F	T494-1	1/30/05	12:59	14:07	2.9	2	53 49.840	166 35.819	53 52.626	166 33.905	no		3.0	967,556	1.13	2.7	
N F	T494-2	1/30/05	12:59	14:07	2.9	10	53 49.840	166 35.819	53 52.626	166 33.905	no		3.0	967,556	1.13	2.7	
N F	T495-1	1/30/05	14:33	15:06	2.7	2	53 53.446	166 31.675	53 54.736	166 30.285	no		1.5	491,816	0.55	2.8	
N F	T495-2	1/30/05	14:33	15:06	2.7	10	53 53.446	166 31.675	53 54.736	166 30.285	no		1.5	491,816	0.55	2.8	
N F	T496-1	1/30/05	15:15	15:41	3.1	2	53 54.689	166 30.453	53 53.651	166 31.975	no		1.4	441,502	0.43	3.2	
N F	T496-2	1/30/05	15:15	15:41	3.1	10	53 54.689	166 30.453	53 53.651	166 31.975	no		1.4	441,502	0.43	3.2	
N F	T497-1	1/30/05	15:54	16:27	2.9	2	53 53.434	166 30.243	53 52.732	166 32.070	no		1.3	413,752	0.55	2.3	
N F	T497-2	1/30/05	15:54	16:27	2.9	10	53 53.434	166 30.243	53 52.732	166 32.070	no		1.3	413,752	0.55	2.3	0.147917743
A L	T613-1	1/31/05	09:46	10:46	2	1	54 04.289	166 37.715	54 01.920	166 39.851	no		2.7	862,738	1.00	2.7	
A L	T613-2	1/31/05	09:46	10:46	2	9	54 04.289	166 37.715	54 01.920	166 39.851	no		2.7	862,738	1.00	2.7	
A L	T614-1	1/31/05	11:23	12:26	2.5	1	54 03.869	166 33.364	54 01.127	166 36.153	no		3.2	1,027,998	1.05	3.0	
A L	T614-2	1/31/05	11:23	12:26	2.5	9	54 03.869	166 33.364	54 01.127	166 36.153	no		3.2	1,027,998	1.05	3.0	
A L	T615-1	1/31/05	13:08	14:08	2.5	1	54 01.574	166 34.680	54 01.095	166 32.456	no		1.4	447,905	1.00	1.4	
A L	T615-2	1/31/05	13:08	14:08	2.5	9	54 01.574	166 34.680	54 01.095	166 32.456	no		1.4	447,905	1.00	1.4	
A L	T616-1	1/31/05	14:23	15:23	2.5	1	54 00.115	166 30.680	53 57.435	166 33.501	no		3.2	1,014,502	1.00	3.2	
A L	T616-2	1/31/05	14:23	15:23	2.5	9	54 00.115	166 30.680	53 57.435	166 33.501	no		3.2	1,014,502	1.00	3.2	
A L	T617-1	1/31/05	15:32	16:32	2.5	1	53 57.259	166 34.267	53 54.626	166 36.964	no		3.1	989,657	1.00	3.1	
A L	T617-2	1/31/05	15:32	16:32	2.5	9	53 57.259	166 34.267	53 54.626	166 36.964	no		3.1	989,657	1.00	3.1	
A L	T618-1	1/31/05	16:51	17:56	2.5	1	53 52.852	166 33.859	53 55.433	166 32.837	no		2.7	853,051	1.08	2.5	
A L	T618-2	1/31/05	16:51	17:56	2.5	9	53 52.852	166 33.859	53 55.433	166 32.837	no		2.7	853,051	1.08	2.5	
N F	T498-1	1/31/05	12:47	13:10	2.5	2	53 56.781	166 33.133	53 56.513	166 36.440	yes	Smear; photos #T498-1A-C	2.0	632,402	0.38	5.1	
N F	T498-2	1/31/05	12:47	13:10	2.5	10	53 56.781	166 33.133	53 56.513	166 36.440	yes	tarball; photos #T498-2A-C; sample T498-2 analyzed: RRO unknown HC with several peaks	2.0	632,402	0.38	5.1	
N F	T499-1	1/31/05	13:29	13:54	2.7	2	53 57.540	166 35.436	53 57.034	166 37.287	no		1.2	386,556	0.42	2.9	
N F	T499-2	1/31/05	13:29	13:54	2.7	10	53 57.540	166 35.436	53 57.034	166 37.287	no		1.2	386,556	0.42	2.9	
N F	T700-1	1/31/05	14:10	14:21	2.7	2	53 57.029	166 37.320	53 56.494	166 37.074	no		0.6	178,394	0.18	3.0	
N F	T700-2	1/31/05	14:10	14:21	2.7	10	53 57.029	166 37.320	53 56.494	166 37.074	no		0.6	178,394	0.18	3.0	
N F	T701-1	1/31/05	15:19	15:39	2.5	2	53 52.609	166 32.886	53 52.702	166 32.049	no		0.5	161,614	0.33	1.5	
N F	T701-2	1/31/05	15:19	15:39	2.5	10	53 52.609	166 32.886	53 52.702	166 32.049	no		0.5	161,614	0.33	1.5	
N F	T702-1	1/31/05	15:52	16:28	2.4	2	53 53.486	166 31.722	53 54.709	166 30.336	no		1.5	473,329	0.60	2.5	
N F	T702-2	1/31/05	15:52	16:28	2.4	10	53 53.486	166 31.722	53 54.709	166 30.336	no		1.5	473,329	0.60	2.5	
N F	T703-1	1/31/05	16:33	16:59	3.5	3	53 54.749	166 30.396	53 53.695	166 32.022	no		1.4	458,433	0.43	3.3	
N F	T703-2	1/31/05	16:33	16:59	3.5	10	53 54.749	166 30.396	53 53.695	166 32.022	no		1.4	458,433	0.43	3.3	
N F	T704-1	1/31/05	17:13	17:27	2.5	3	53 53.733	166 31.702	53 53.733	166 31.702	no		0.0	23	0.23	0.0	
N F	T704-2	1/31/05	17:13	17:27	2.5	10	53 53.733	166 31.702	53 53.733	166 31.702	no		0.0	23	0.23	0.0	0.133571942
A L	T619-1	2/1/05	09:13	09:54	2	1	53 57.408	166 35.375	53 56.701	166 37.149	no		1.3	405,824	0.68	1.8	
A L	T619-2	2/1/05	09:13	09:54	2	9	53 57.408	166 35.375	53 56.701	166 37.149	no		1.3	405,824	0.68	1.8	
A L	T620-1	2/1/05	10:06	11:10	2	1	53 56.878	166 35.407	53 55.812	166 37.913	no		1.8	585,803	1.07	1.7	
A L	T620-2	2/1/05	10:06	11:10	2	9	53 56.878	166 35.407	53 55.812	166 37.913	no		1.8	585,803	1.07	1.7	
A L	T621-1	2/1/05	11:20	12:29	2	1	53 54.931	166 37.610	53 56.523	166 33.498	no		2.9	932,655	1.15	2.5	
A L	T621-2	2/1/05	11:20	12:29	2	9	53 54.931	166 37.610	53 56.523	166 33.498	no		2.9	932,655	1.15	2.5	
A L	T622-1	2/1/05	12:36	13:37	2	1	53 56.344	166 32.897	53 53.098	166 33.823	no		3.3	1,059,435	1.02	3.2	
A L	T622-2	2/1/05	12:36	13:37	2	9	53 56.344	166 32.897	53 53.098	166 33.823	no		3.3	1,059,435	1.02	3.2	
A L	T623-1	2/1/05	13:42	14:42	2	1	53 52.871	166 33.864	53 54.945	166 37.216	no		2.9	921,824	1.00	2.9	
A L	T623-2	2/1/05	13:42	14:42	2	9	53 52.871	166 33.864	53 54.945	166 37.216	no		2.9	921,824	1.00	2.9	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
A L	T624-1	2/1/05	15:15	15:48	2	1	53	56.477	166	30.066	53	54.641	166	29.440	no		1.9	602,744	0.55	3.4	
A L	T624-2	2/1/05	15:15	15:48	2	9	53	56.477	166	30.066	53	54.641	166	29.440	no		1.9	602,744	0.55	3.4	
A L	T625-1	2/1/05	15:59	16:28	2	1	53	53.944	166	29.714	53	52.886	166	31.229	no		1.4	445,592	0.48	2.9	
A L	T625-2	2/1/05	15:59	16:28	2	9	53	53.944	166	29.714	53	52.886	166	31.229	no		1.4	445,592	0.48	2.9	
A L	T626-1	2/1/05	16:46	17:11	2	1	53	54.709	166	30.438	53	53.646	166	31.776	no		1.3	425,959	0.42	3.2	
A L	T626-2	2/1/05	16:46	17:11	2	9	53	54.709	166	30.438	53	53.646	166	31.776	no		1.3	425,959	0.42	3.2	
N F	T705-1	2/1/05	09:29	10:32	3	2	53	52.620	166	34.584	53	49.752	166	36.191	no		3.0	972,234	1.05	2.9	
N F	T705-2	2/1/05	09:29	10:32	3	10	53	52.620	166	34.584	53	49.752	166	36.191	no		3.0	972,234	1.05	2.9	
N F	T706-1	2/1/05	10:38	11:23	2.8	2	53	49.931	166	35.490	53	51.931	166	34.280	no		2.1	683,509	0.75	2.8	
N F	T706-2	2/1/05	10:38	11:23	2.8	10	53	49.931	166	35.490	53	51.931	166	34.280	no		2.1	683,509	0.75	2.8	
N F	T707-1	2/1/05	11:41	12:02	2.9	2	53	53.052	166	35.832	53	52.278	166	36.911	no		1.0	322,460	0.35	2.9	
N F	T707-2	2/1/05	11:41	12:02	2.9	10	53	53.052	166	35.832	53	52.278	166	36.911	no		1.0	322,460	0.35	2.9	
N F	T708-1	2/1/05	12:10	12:56	3	2	53	52.205	166	37.017	53	53.739	166	36.057	no		1.6	526,269	0.77	2.1	
N F	T708-2	2/1/05	12:10	12:56	3	10	53	52.205	166	37.017	53	53.739	166	36.057	no		1.6	526,269	0.77	2.1	
N F	T709-1	2/1/05	13:22	13:48	3.1	2	53	52.591	166	32.701	53	52.544	166	31.429	no		0.8	241,839	0.43	1.7	
N F	T709-2	2/1/05	13:22	13:48	3.1	10	53	52.591	166	32.701	53	52.544	166	31.429	no		0.8	241,839	0.43	1.7	
N F	T710-1	2/1/05	14:01	14:32	3	2	53	53.552	166	31.867	53	54.725	166	30.323	no		1.5	477,781	0.52	2.9	
N F	T710-2	2/1/05	14:01	14:32	3	10	53	53.552	166	31.867	53	54.725	166	30.323	no		1.5	477,781	0.52	2.9	
N F	T711-1	2/1/05	14:41	15:07	3	2	53	54.719	166	30.438	53	53.839	166	32.049	no		1.3	416,590	0.43	3.0	
N F	T711-2	2/1/05	14:41	15:07	3	10	53	54.719	166	30.438	53	53.839	166	32.049	no		1.3	416,590	0.43	3.0	
N F	T712-1	2/1/05	15:22	15:54	2.9	2	53	53.246	166	30.965	53	52.660	166	32.692	no		1.2	378,063	0.53	2.2	
N F	T712-2	2/1/05	15:22	15:54	2.9	10	53	53.246	166	30.965	53	52.660	166	32.692	no		1.2	378,063	0.53	2.2	0
A L	T627-1	2/2/05	10:04	10:34	2	1	53	54.711	166	30.383	53	53.847	166	31.916	no		1.3	402,292	0.50	2.5	
A L	T627-2	2/2/05	10:04	10:34	2	9	53	54.711	166	30.383	53	53.847	166	31.916	no		1.3	402,292	0.50	2.5	
A L	T628-1	2/2/05	10:46	11:18	2	1	53	52.653	166	31.425	53	53.749	166	29.912	no		1.4	454,783	0.53	2.7	
A L	T628-2	2/2/05	10:46	11:18	2	9	53	52.653	166	31.425	53	53.749	166	29.912	no		1.4	454,783	0.53	2.7	
A L	T629-1	2/2/05	11:27	12:28	2	1	53	53.637	166	31.152	53	55.427	166	27.891	no		2.6	845,125	1.02	2.6	
A L	T629-2	2/2/05	11:27	12:28	2	9	53	53.637	166	31.152	53	55.427	166	27.891	no		2.6	845,125	1.02	2.6	
A L	T630-1	2/2/05	12:52	13:56	2	1	53	57.752	166	26.187	53	56.154	166	31.640	no		3.6	1,153,888	1.07	3.4	
A L	T630-2	2/2/05	12:52	13:56	2	9	53	57.752	166	26.187	53	56.154	166	31.640	no		3.6	1,153,888	1.07	3.4	
A L	T631-1	2/2/05	14:18	15:18	2	1	53	58.486	166	35.046	53	55.890	166	33.156	no		2.8	909,024	1.00	2.8	
A L	T631-2	2/2/05	14:18	15:18	2	9	53	58.486	166	35.046	53	55.890	166	33.156	no		2.8	909,024	1.00	2.8	
A L	T632-1	2/2/05	15:22	16:22	2	1	53	55.667	166	33.228	53	52.328	166	34.006	no		3.4	1,084,802	1.00	3.4	
A L	T632-2	2/2/05	15:22	16:22	2	9	53	55.667	166	33.228	53	52.328	166	34.006	no		3.4	1,084,802	1.00	3.4	
A L	T633-1	2/2/05	16:41	17:08	2	1	53	52.871	166	33.745	53	53.933	166	33.037	no		1.1	367,261	0.45	2.5	
A L	T633-2	2/2/05	16:41	17:08	2	9	53	52.871	166	33.745	53	53.933	166	33.037	no		1.1	367,261	0.45	2.5	
N F	T713-1	2/2/05	09:05	09:33	3	2	53	53.733	166	31.702	53	52.667	166	31.932	no		1.1	345,876	0.47	2.3	
N F	T713-2	2/2/05	09:05	09:33	3	10	53	53.733	166	31.702	53	52.667	166	31.932	no		1.1	345,876	0.47	2.3	
N F	T714-1	2/2/05	09:43	10:09	3	2	53	53.604	166	31.237	53	54.721	166	30.342	no		1.2	397,574	0.43	2.9	
N F	T714-2	2/2/05	09:43	10:09	3	10	53	53.604	166	31.237	53	54.721	166	30.342	no		1.2	397,574	0.43	2.9	
N F	T715-1	2/2/05	10:16	10:37	3	2	53	54.725	166	30.402	53	53.842	166	31.264	no		1.0	327,861	0.35	2.9	
N F	T715-2	2/2/05	10:16	10:37	3	10	53	54.725	166	30.402	53	53.842	166	31.264	no		1.0	327,861	0.35	2.9	
N F	T716-1	2/2/05	14:17	14:43	3	2	53	57.069	166	37.159	53	55.811	166	36.362	no		1.3	432,150	0.43	3.1	
N F	T716-2	2/2/05	14:17	14:43	3	10	53	57.069	166	37.159	53	55.811	166	36.362	no		1.3	432,150	0.43	3.1	0
A L	T634-1	2/3/05	09:34	10:32	2	1	53	59.586	166	36.015	53	57.201	166	34.584	yes	smear detected at 30 min check. 53º 58.302 166º35.326; photo #1294; smear on glove taken as sample and analyzed: no results.	2.5	814,057	0.97	2.6	
A L	T634-2	2/3/05	09:34	10:32	2	9	53	59.586	166	36.015	53	57.201	166	34.584	no		2.5	814,057	0.97	2.6	
A L	T635-1	2/3/05	10:48	11:47	2	1	53	58.169	166	35.305	54	01.616	166	37.560	no		3.7	1,188,687	0.98	3.8	
A L	T635-2	2/3/05	10:48	11:47	2	9	53	58.169	166	35.305	54	01.616	166	37.560	no		3.7	1,188,687	0.98	3.8	
A L	T636-1	2/3/05	11:58	12:58	2	1	54	01.761	166	39.658	54	01.771	166	34.666	no		2.9	943,774	1.00	2.9	
A L	T636-2	2/3/05	11:58	12:58	2	9	54	01.761	166	39.658	54	01.771	166	34.666	no		2.9	943,774	1.00	2.9	
A L	T637-1	2/3/05	13:21	14:26	2	1	53	59.421	166	35.131	53	56.912	166	33.586	no		2.7	858,914	1.08	2.5	
A L	T637-2	2/3/05	13:21	14:26	2	9	53	59.421	166	35.131	53	56.912	166	33.586	no		2.7	858,914	1.08	2.5	
A L	T638-1	2/3/05	14:45	15:42	2	1	53	57.458	166	35.471	53	55.633	166	37.965	no		2.3	753,857	0.95	2.5	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
A L	T638-2	2/3/05	14:45	15:42	2	9	53	57.458	166	35.471	53	55.633	166	37.965	no		2.3	753,857	0.95	2.5	
A L	T639-1	2/3/05	15:55	16:57	2	1	53	55.143	166	37.174	53	56.234	166	31.784	no		3.4	1,080,167	1.03	3.3	
A L	T639-2	2/3/05	15:55	16:57	2	9	53	55.143	166	37.174	53	56.234	166	31.784	no		3.4	1,080,167	1.03	3.3	
N F	T717-1	2/3/05	09:12	09:39	3.1	2	53	53.450	166	31.380	53	54.660	166	30.430	no		1.3	429,112	0.45	3.0	
N F	T717-2	2/3/05	09:12	09:39	3.1	10	53	53.450	166	31.380	53	54.660	166	30.430	no		1.3	429,112	0.45	3.0	
N F	T718-1	2/3/05	09:44	10:11	3	2	53	54.660	166	30.490	53	53.700	166	32.050	no		1.3	427,772	0.45	3.0	
N F	T718-2	2/3/05	09:44	10:11	3	10	53	54.660	166	30.490	53	53.700	166	32.050	no		1.3	427,772	0.45	3.0	
N F	T719-1	2/3/05	10:21	11:04	2.8	2	53	53.140	166	30.780	53	52.640	166	32.860	no		1.3	426,188	0.72	1.9	
N F	T719-2	2/3/05	10:21	11:04	2.8	10	53	53.140	166	30.780	53	52.640	166	32.860	no		1.3	426,188	0.72	1.9	
N F	T720-1	2/3/05	11:18	12:14	3	2	53	52.600	166	34.070	53	54.520	166	37.580	no		2.8	908,381	0.93	3.0	
N F	T720-2	2/3/05	11:18	12:14	3	10	53	52.600	166	34.070	53	54.520	166	37.580	no		2.8	908,381	0.93	3.0	
N F	T721-1	2/3/05	12:21	13:11	2.8	2	53	54.430	166	37.730	53	52.864	166	34.772	no		2.3	754,213	0.83	2.8	
N F	T721-2	2/3/05	12:21	13:11	2.8	10	53	54.430	166	37.730	53	52.864	166	34.772	no		2.3	754,213	0.83	2.8	
N F	T722-1	2/3/05	13:18	14:21	2.9	2	53	52.550	166	34.770	53	51.590	166	33.040	no		1.4	450,869	1.05	1.3	
N F	T722-2	2/3/05	13:18	14:21	2.9	10	53	52.550	166	34.770	53	51.590	166	33.040	no		1.4	450,869	1.05	1.3	
N F	T723-1	2/3/05	14:29	15:31	3	2	53	49.870	166	36.390	53	51.590	166	33.040	no		2.6	843,302	1.03	2.5	
N F	T723-2	2/3/05	14:29	15:31	3	10	53	49.870	166	36.390	53	51.590	166	33.040	no		2.6	843,302	1.03	2.5	
N F	T724-1	2/3/05	15:40	16:16	3	2	53	52.540	166	32.830	53	52.610	166	32.860	no		0.1	23,239	0.60	0.1	
N F	T724-2	2/3/05	15:40	16:16	3	10	53	52.540	166	32.830	53	52.610	166	32.860	no		0.1	23,239	0.60	0.1	0.058073338
A L	T641-1	2/4/05	18:52	19:54	2	1	53	58.420	167	01.130	53	56.470	167	05.610	no		3.3	1,055,360	1.03	3.2	
A L	T641-2	2/4/05	18:52	19:54	2	9	53	58.420	167	01.130	53	56.470	167	05.610	no		3.3	1,055,360	1.03	3.2	0
C	T901-1	2/7/05	09:27	10:02	2.6	3	53	53.700	166	30.050	53	54.810	166	28.340	No		1.5	482,482	0.58	2.6	
C	T901-2	2/7/05	09:27	10:02	2.6	8	53	53.700	166	30.050	53	54.810	166	28.340	No		1.5	482,482	0.58	2.6	
C	T902-1	2/7/05	11:15	11:54	2.2	3	53	58.940	166	24.970	53	59.820	166	26.920	yes	Smear- Too small to sample; photo #3893	1.4	465,185	0.65	2.2	
C	T902-2	2/7/05	11:15	11:54	2.2	8	53	58.940	166	24.970	53	59.820	166	26.920	yes	Smear - photos #3894-5; Sample CT902-2 taken and analyzed: unknown HC with several peaks	1.4	465,185	0.65	2.2	
C	T903-1	2/7/05	12:25	13:03	2.4	3	54	00.870	166	22.750	54	02.110	166	24.110	No		1.5	474,783	0.63	2.3	
C	T903-2	2/7/05	12:25	13:03	2.4	8	54	00.870	166	22.750	54	02.110	166	24.110	No		1.5	474,783	0.63	2.3	
C	T904-1	2/7/05	14:09	15:31	0.7	3	54	01.110	166	37.340	54	01.580	166	38.770	No		1.0	309,837	1.37	0.7	
C	T904-2	2/7/05	14:09	15:31	0.7	8	54	01.110	166	37.340	54	01.580	166	38.770	No		1.0	309,837	1.37	0.7	
C	T905-1	2/7/05	15:57	16:45	1.9	3	54	00.160	166	33.880	53	59.440	166	36.060	No		1.5	473,112	0.80	1.8	
C	T905-2	2/7/05	15:57	16:45	1.9	8	54	00.160	166	33.880	53	59.440	166	36.060	No		1.5	473,112	0.80	1.8	
C	T906-1	2/7/05	17:02	17:40	2.5	3	53	57.860	166	35.270	53	57.950	166	32.810	No		1.5	466,698	0.63	2.3	
C	T906-2	2/7/05	17:02	17:40	2.5	8	53	57.860	166	35.270	53	57.950	166	32.810	No		1.5	466,698	0.63	2.3	
C	T907-1	2/7/05	18:02	18:47	1.9	3	53	56.270	166	35.170	53	56.940	166	37.340	No		1.4	464,230	0.75	1.9	
C	T907-2	2/7/05	18:02	18:47	1.9	8	53	56.270	166	35.170	53	56.940	166	37.340	No		1.4	464,230	0.75	1.9	0.318844318
C	T908-1	2/10/05	09:50	10:37	2	3	53	59.010	166	25.087	53	59.793	166	27.000	No		1.4	441,095	0.78	1.8	
C	T908-2	2/10/05	09:50	10:37	2	10	53	59.010	166	25.087	53	59.793	166	27.000	No		1.4	441,095	0.78	1.8	
C	T909-1	2/10/05	11:38	12:33	1.9	3	54	00.293	166	33.931	53	59.389	166	36.136	No		1.6	508,637	0.92	1.7	
C	T909-2	2/10/05	11:38	12:33	1.9	10	54	00.293	166	33.931	53	59.389	166	36.136	No		1.6	508,637	0.92	1.7	
C	T910-1	2/10/05	12:56	13:35	2.4	3	53	57.897	166	35.208	53	57.950	166	32.789	No		1.4	458,348	0.65	2.2	
C	T910-2	2/10/05	12:56	13:35	2.4	10	53	57.897	166	35.208	53	57.950	166	32.789	No		1.4	458,348	0.65	2.2	
C	T911-1	2/10/05	14:01	14:50	1.8	3	53	56.253	166	35.132	53	56.957	166	37.344	No		1.5	476,397	0.82	1.8	
C	T911-2	2/10/05	14:01	14:50	1.8	10	53	56.253	166	35.132	53	56.957	166	37.344	No		1.5	476,397	0.82	1.8	
C	T912-1	2/10/05	15:49	16:42	1.9	3	53	52.876	166	34.037	53	51.385	166	34.908	No		1.6	507,578	0.88	1.8	
C	T912-2	2/10/05	15:49	16:42	1.9	10	53	52.876	166	34.037	53	51.385	166	34.908	No		1.6	507,578	0.88	1.8	
C	T913-1	2/10/05	17:22	18:10	1.9	3	53	55.775	166	31.008	53	57.301	166	31.026	No		1.5	491,184	0.80	1.9	
C	T913-2	2/10/05	17:22	18:10	1.9	10	53	55.775	166	31.008	53	57.301	166	31.026	No		1.5	491,184	0.80	1.9	
C	T914-1	2/10/05	18:38	19:38	1.7	3	53	54.634	166	28.140	53	53.653	166	30.122	No		1.5	490,883	1.00	1.5	
C	T914-2	2/10/05	18:38	19:38	1.7	10	53	54.634	166	28.140	53	53.653	166	30.122	No		1.5	490,883	1.00	1.5	0
C	T915-1	2/12/05	09:39	10:19	2.1	3	53	59.000	166	24.960	53	59.800	166	27.000	yes	smear; photos #3912-4; sample taken and analyzed: no results	1.4	464,038	0.67	2.2	
C	T915-2	2/12/05	09:39	10:19	2.1	10	53	59.000	166	24.960	53	59.800	166	27.000	no		1.4	464,038	0.67	2.2	
C	T916-1	2/12/05	10:50	11:39	1.8	3	54	00.890	166	22.730	54	02.140	166	24.090	No		1.5	477,490	0.82	1.8	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
A L	T638-2	2/3/05	14:45	15:42	2	9	53	57.458	166	35.471	53	55.633	166	37.965	no		2.3	753,857	0.95	2.5	
A L	T639-1	2/3/05	15:55	16:57	2	1	53	55.143	166	37.174	53	56.234	166	31.784	no		3.4	1,080,167	1.03	3.3	
A L	T639-2	2/3/05	15:55	16:57	2	9	53	55.143	166	37.174	53	56.234	166	31.784	no		3.4	1,080,167	1.03	3.3	
N F	T717-1	2/3/05	09:12	09:39	3.1	2	53	53.450	166	31.380	53	54.660	166	30.430	no		1.3	429,112	0.45	3.0	
N F	T717-2	2/3/05	09:12	09:39	3.1	10	53	53.450	166	31.380	53	54.660	166	30.430	no		1.3	429,112	0.45	3.0	
N F	T718-1	2/3/05	09:44	10:11	3	2	53	54.660	166	30.490	53	53.700	166	32.050	no		1.3	427,772	0.45	3.0	
N F	T718-2	2/3/05	09:44	10:11	3	10	53	54.660	166	30.490	53	53.700	166	32.050	no		1.3	427,772	0.45	3.0	
N F	T719-1	2/3/05	10:21	11:04	2.8	2	53	53.140	166	30.780	53	52.640	166	32.860	no		1.3	426,188	0.72	1.9	
N F	T719-2	2/3/05	10:21	11:04	2.8	10	53	53.140	166	30.780	53	52.640	166	32.860	no		1.3	426,188	0.72	1.9	
N F	T720-1	2/3/05	11:18	12:14	3	2	53	52.600	166	34.070	53	54.520	166	37.580	no		2.8	908,381	0.93	3.0	
N F	T720-2	2/3/05	11:18	12:14	3	10	53	52.600	166	34.070	53	54.520	166	37.580	no		2.8	908,381	0.93	3.0	
N F	T721-1	2/3/05	12:21	13:11	2.8	2	53	54.430	166	37.730	53	52.864	166	34.772	no		2.3	754,213	0.83	2.8	
N F	T721-2	2/3/05	12:21	13:11	2.8	10	53	54.430	166	37.730	53	52.864	166	34.772	no		2.3	754,213	0.83	2.8	
N F	T722-1	2/3/05	13:18	14:21	2.9	2	53	52.550	166	34.770	53	51.590	166	33.040	no		1.4	450,869	1.05	1.3	
N F	T722-2	2/3/05	13:18	14:21	2.9	10	53	52.550	166	34.770	53	51.590	166	33.040	no		1.4	450,869	1.05	1.3	
N F	T723-1	2/3/05	14:29	15:31	3	2	53	49.870	166	36.390	53	51.590	166	33.040	no		2.6	843,302	1.03	2.5	
N F	T723-2	2/3/05	14:29	15:31	3	10	53	49.870	166	36.390	53	51.590	166	33.040	no		2.6	843,302	1.03	2.5	
N F	T724-1	2/3/05	15:40	16:16	3	2	53	52.540	166	32.830	53	52.610	166	32.860	no		0.1	23,239	0.60	0.1	
N F	T724-2	2/3/05	15:40	16:16	3	10	53	52.540	166	32.830	53	52.610	166	32.860	no		0.1	23,239	0.60	0.1	0.058073338
A L	T641-1	2/4/05	18:52	19:54	2	1	53	58.420	167	01.130	53	56.470	167	05.610	no		3.3	1,055,360	1.03	3.2	
A L	T641-2	2/4/05	18:52	19:54	2	9	53	58.420	167	01.130	53	56.470	167	05.610	no		3.3	1,055,360	1.03	3.2	0
C	T901-1	2/7/05	09:27	10:02	2.6	3	53	53.700	166	30.050	53	54.810	166	28.340	No		1.5	482,482	0.58	2.6	
C	T901-2	2/7/05	09:27	10:02	2.6	8	53	53.700	166	30.050	53	54.810	166	28.340	No		1.5	482,482	0.58	2.6	
C	T902-1	2/7/05	11:15	11:54	2.2	3	53	58.940	166	24.970	53	59.820	166	26.920	yes	Smear- Too small to sample; photo #3893	1.4	465,185	0.65	2.2	
C	T902-2	2/7/05	11:15	11:54	2.2	8	53	58.940	166	24.970	53	59.820	166	26.920	yes	Smear - photos #3894-5; Sample CT902-2 taken and analyzed: unknown HC with several peaks	1.4	465,185	0.65	2.2	
C	T903-1	2/7/05	12:25	13:03	2.4	3	54	00.870	166	22.750	54	02.110	166	24.110	No		1.5	474,783	0.63	2.3	
C	T903-2	2/7/05	12:25	13:03	2.4	8	54	00.870	166	22.750	54	02.110	166	24.110	No		1.5	474,783	0.63	2.3	
C	T904-1	2/7/05	14:09	15:31	0.7	3	54	01.110	166	37.340	54	01.580	166	38.770	No		1.0	309,837	1.37	0.7	
C	T904-2	2/7/05	14:09	15:31	0.7	8	54	01.110	166	37.340	54	01.580	166	38.770	No		1.0	309,837	1.37	0.7	
C	T905-1	2/7/05	15:57	16:45	1.9	3	54	00.160	166	33.880	53	59.440	166	36.060	No		1.5	473,112	0.80	1.8	
C	T905-2	2/7/05	15:57	16:45	1.9	8	54	00.160	166	33.880	53	59.440	166	36.060	No		1.5	473,112	0.80	1.8	
C	T906-1	2/7/05	17:02	17:40	2.5	3	53	57.860	166	35.270	53	57.950	166	32.810	No		1.5	466,698	0.63	2.3	
C	T906-2	2/7/05	17:02	17:40	2.5	8	53	57.860	166	35.270	53	57.950	166	32.810	No		1.5	466,698	0.63	2.3	
C	T907-1	2/7/05	18:02	18:47	1.9	3	53	56.270	166	35.170	53	56.940	166	37.340	No		1.4	464,230	0.75	1.9	
C	T907-2	2/7/05	18:02	18:47	1.9	8	53	56.270	166	35.170	53	56.940	166	37.340	No		1.4	464,230	0.75	1.9	0.318844318
C	T908-1	2/10/05	09:50	10:37	2	3	53	59.010	166	25.087	53	59.793	166	27.000	No		1.4	441,095	0.78	1.8	
C	T908-2	2/10/05	09:50	10:37	2	10	53	59.010	166	25.087	53	59.793	166	27.000	No		1.4	441,095	0.78	1.8	
C	T909-1	2/10/05	11:38	12:33	1.9	3	54	00.293	166	33.931	53	59.389	166	36.136	No		1.6	508,637	0.92	1.7	
C	T909-2	2/10/05	11:38	12:33	1.9	10	54	00.293	166	33.931	53	59.389	166	36.136	No		1.6	508,637	0.92	1.7	
C	T910-1	2/10/05	12:56	13:35	2.4	3	53	57.897	166	35.208	53	57.950	166	32.789	No		1.4	458,348	0.65	2.2	
C	T910-2	2/10/05	12:56	13:35	2.4	10	53	57.897	166	35.208	53	57.950	166	32.789	No		1.4	458,348	0.65	2.2	
C	T911-1	2/10/05	14:01	14:50	1.8	3	53	56.253	166	35.132	53	56.957	166	37.344	No		1.5	476,397	0.82	1.8	
C	T911-2	2/10/05	14:01	14:50	1.8	10	53	56.253	166	35.132	53	56.957	166	37.344	No		1.5	476,397	0.82	1.8	
C	T912-1	2/10/05	15:49	16:42	1.9	3	53	52.876	166	34.037	53	51.385	166	34.908	No		1.6	507,578	0.88	1.8	
C	T912-2	2/10/05	15:49	16:42	1.9	10	53	52.876	166	34.037	53	51.385	166	34.908	No		1.6	507,578	0.88	1.8	
C	T913-1	2/10/05	17:22	18:10	1.9	3	53	55.775	166	31.008	53	57.301	166	31.026	No		1.5	491,184	0.80	1.9	
C	T913-2	2/10/05	17:22	18:10	1.9	10	53	55.775	166	31.008	53	57.301	166	31.026	No		1.5	491,184	0.80	1.9	
C	T914-1	2/10/05	18:38	19:38	1.7	3	53	54.634	166	28.140	53	53.653	166	30.122	No		1.5	490,883	1.00	1.5	
C	T914-2	2/10/05	18:38	19:38	1.7	10	53	54.634	166	28.140	53	53.653	166	30.122	No		1.5	490,883	1.00	1.5	0
C	T915-1	2/12/05	09:39	10:19	2.1	3	53	59.000	166	24.960	53	59.800	166	27.000	yes	smear; photos #3912-4; sample taken and analyzed: no results	1.4	464,038	0.67	2.2	
C	T915-2	2/12/05	09:39	10:19	2.1	10	53	59.000	166	24.960	53	59.800	166	27.000	no		1.4	464,038	0.67	2.2	
C	T916-1	2/12/05	10:50	11:39	1.8	3	54	00.890	166	22.730	54	02.140	166	24.090	No		1.5	477,490	0.82	1.8	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat	Starting Lon	Ending Lat	Ending Lon	Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
C	T916-2	2/12/05	10:50	11:39	1.8	10	54 00.890	166 22.730	54 02.140	166 24.090	No		1.5	477,490	0.82	1.8	
C	T917-1	2/12/05	12:50	13:28	2.4	3	54 01.880	166 39.430	54 01.070	166 37.340	No		1.5	473,428	0.63	2.3	
C	T917-2	2/12/05	12:50	13:28	2.4	10	54 01.880	166 39.430	54 01.070	166 37.340	No		1.5	473,428	0.63	2.3	
C	T918-1	2/12/05	13:51	14:33	2.2	3	54 00.200	166 33.970	53 59.390	166 36.120	No		1.5	483,168	0.70	2.1	
C	T918-2	2/12/05	13:51	14:33	2.2	10	54 00.200	166 33.970	53 59.390	166 36.120	No		1.5	483,168	0.70	2.1	
C	T919-1	2/12/05	14:52	15:30	2.3	3	53 57.880	166 35.250	53 57.960	166 32.800	No		1.4	464,615	0.63	2.3	
C	T919-2	2/12/05	14:52	15:30	2.3	10	53 57.880	166 35.250	53 57.960	166 32.800	No		1.4	464,615	0.63	2.3	
C	T920-1	2/12/05	15:52	16:31	2.3	3	53 56.210	166 35.160	53 56.950	166 37.340	yes	smear; photos #3922-3; sample taken and analyzed: no results	1.5	476,759	0.65	2.3	
C	T920-2	2/12/05	15:52	16:31	2.3	10	53 56.210	166 35.160	53 56.950	166 37.340	No		1.5	476,759	0.65	2.3	
C	T921-1	2/12/05	17:03	17:42	2.4	3	53 57.270	166 30.990	53 55.790	166 30.990	No		1.5	476,366	0.65	2.3	
C	T921-2	2/12/05	17:03	17:42	2.4	10	53 57.270	166 30.990	53 55.790	166 30.990	No		1.5	476,366	0.65	2.3	
C	T922-1	2/12/05	18:02	18:43	2.2	3	53 54.620	166 28.140	53 53.650	166 30.110	No		1.5	486,866	0.68	2.2	
C	T922-2	2/12/05	18:02	18:43	2.2	10	53 54.620	166 28.140	53 53.650	166 30.110	No		1.5	486,866	0.68	2.2	0.262968964
C	T923-1	2/15/05	08:59	09:33	2.4	3	53 58.962	166 24.941	53 59.802	166 27.000	No		1.5	474,255	0.57	2.6	
C	T923-2	2/15/05	08:59	09:33	2.4	10	53 58.962	166 24.941	53 59.802	166 27.000	No		1.5	474,255	0.57	2.6	
C	T924-1	2/15/05	09:57	10:33	2.9	2	54 00.888	166 22.747	54 02.143	166 24.117	No		1.5	479,865	0.60	2.5	
C	T924-2	2/15/05	09:57	10:33	2.9	8	54 00.888	166 22.747	54 02.143	166 24.117	Yes	stain	1.5	479,865	0.60	2.5	
C	T925-1	2/15/05	11:34	12:02	3	3	54 01.133	166 37.439	54 01.888	166 39.456	no		1.4	452,210	0.47	3.0	
C	T925-2	2/15/05	11:34	12:02	3	8	54 01.133	166 37.439	54 01.888	166 39.456	No		1.4	452,210	0.47	3.0	
C	T926-1	2/15/05	13:15	13:44	3.2	3	53 56.231	166 35.204	53 56.937	166 37.277	no		1.4	453,732	0.48	2.9	
C	T926-2	2/15/05	13:15	13:44	3.2	8	53 56.231	166 35.204	53 56.937	166 37.277	yes	2 smears; photos #3931-2; sample taken but not analyzed	1.4	453,732	0.48	2.9	
C	T927-1	2/15/05	14:32	15:23	2	3.5	53 52.884	166 34.098	53 51.338	166 34.913	no		1.6	521,095	0.85	1.9	
C	T927-2	2/15/05	14:32	15:23	2	8	53 52.884	166 34.098	53 51.338	166 34.913	no		1.6	521,095	0.85	1.9	0.629945792
C	T928-1	2/20/05	09:16	09:54	2.5	3	53 59.029	166 24.998	53 59.796	166 27.002	no		1.4	452,503	0.63	2.2	
C	T928-2	2/20/05	09:16	09:54	2.5	30	53 59.029	166 24.998	53 59.796	166 27.002	no		1.4	452,503	0.63	2.2	
C	T929-1	2/20/05	10:36	11:26	2.7	6	54 00.274	166 34.035	53 59.402	166 36.120	no		1.5	484,144	0.83	1.8	
C	T929-2	2/20/05	10:36	11:26	2.7	30	54 00.274	166 34.035	53 59.402	166 36.120	no		1.5	484,144	0.83	1.8	
C	T930-1	2/20/05	11:45	12:31	2.2	3	53 57.845	166 35.262	53 57.944	166 32.813	no		1.4	464,810	0.77	1.9	
C	T930-2	2/20/05	11:45	12:31	2.2	30	53 57.845	166 35.262	53 57.944	166 32.813	no		1.4	464,810	0.77	1.9	
C	T931-1	2/20/05	12:57	13:42	2.2	3	53 56.202	166 35.178	53 56.955	166 37.336	no		1.5	475,273	0.75	2.0	
C	T931-2	2/20/05	12:57	13:42	2.2	30	53 56.202	166 35.178	53 56.955	166 37.336	no		1.5	475,273	0.75	2.0	
C	T932-1	2/20/05	14:18	15:06	1.9	3	53 52.844	166 34.059	53 51.390	166 34.912	no		1.5	495,207	0.80	1.9	
C	T932-2	2/20/05	14:18	15:06	1.9	30	53 52.844	166 34.059	53 51.390	166 34.912	no		1.5	495,207	0.80	1.9	
C	T933-1	2/20/05	16:08	17:04	2.2	3	53 57.307	166 31.025	53 55.793	166 31.000	no		1.5	487,333	0.93	1.6	
C	T933-2	2/20/05	16:08	17:04	2.2	30	53 57.307	166 31.025	53 55.793	166 31.000	no		1.5	487,333	0.93	1.6	
C	T934-1	2/20/05	17:22	18:15	1.8	3	53 54.631	166 28.182	53 53.643	166 30.103	no		1.5	483,563	0.88	1.7	
C	T934-2	2/20/05	17:22	18:15	1.8	30	53 54.631	166 28.182	53 53.643	166 30.103	no		1.5	483,563	0.88	1.7	0
C	T935-1	2/22/05	09:40	10:25	2.2	3	53 58.950	166 24.930	53 59.800	166 27.000	yes	1 tiny smear 1-2 mm, not even large enough to photograph. Nitrile glove kept.	1.5	477,804	0.75	2.0	
C	T935-2	2/22/05	09:40	10:25	2.2	10	53 58.950	166 24.930	53 59.800	166 27.000	no		1.5	477,804	0.75	2.0	
C	T936-1	2/22/05	11:00	11:47	2.1	3	54 00.830	166 22.740	54 02.130	166 24.130	no		1.5	494,122	0.78	2.0	
C	T936-2	2/22/05	11:00	11:47	2.1	10	54 00.830	166 22.740	54 02.130	166 24.130	no		1.5	494,122	0.78	2.0	
C	T937-1	2/22/05	12:43	13:16	2.2	3	54 01.050	166 37.370	54 01.880	166 39.430	no		1.5	472,316	0.55	2.7	
C	T937-2	2/22/05	12:43	13:16	2.2	10	54 01.050	166 37.370	54 01.880	166 39.430	no		1.5	472,316	0.55	2.7	
C	T938-1	2/22/05	14:06	14:49	2.5	3	53 56.190	166 35.150	53 56.950	166 37.340	no		1.5	481,640	0.72	2.1	
C	T938-2	2/22/05	14:06	14:49	2.5	10	53 56.190	166 35.150	53 56.950	166 37.340	no		1.5	481,640	0.72	2.1	
C	T939-1	2/22/05	15:32	16:19	2.2	3	53 51.340	166 34.930	53 52.830	166 34.060	no		1.6	507,213	0.78	2.0	
C	T939-2	2/22/05	15:32	16:19	2.2	10	53 51.340	166 34.930	53 52.830	166 34.060	no		1.6	507,213	0.78	2.0	
C	T940-1	2/22/05	16:54	17:40	1.9	3	53 55.780	166 31.000	53 57.300	166 31.000	yes	1 tiny smear 1-2mm. Not large enough to sample, nitrile glove kept; photo #CT940-1	1.5	489,241	0.77	2.0	
C	T940-2	2/22/05	16:54	17:40	1.9	10	53 55.780	166 31.000	53 57.300	166 31.000	no		1.5	489,241	0.77	2.0	

Appendix A:
Unalaska Bay Zone Tow Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow Number	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat	Starting Lon	Ending Lat	Ending Lon	Evidence of Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE per day
C	T941-1	2/22/05	18:06	18:47	2.3	3	53 54.630	166 28.170	53 53.650	166 30.010	no		1.5	470,368	0.68	2.1	
C	T941-2	2/22/05	18:06	18:47	2.3	10	53 54.630	166 28.170	53 53.650	166 30.010	no		1.5	470,368	0.68	2.1	0.294750089
N F	T942-1	2/27/05	10:29	11:04	2.8	3	53 56.150	166 35.491	53 56.849	166 37.171	yes	3 miniscule (<1mm) stains on shallow net	1.2	389,774	0.58	2.1	
N F	T942-2	2/27/05	10:29	11:04	2.8	10	53 56.150	166 35.491	53 56.849	166 37.171	no	Tiny smear (1-2mm) Glove kept; photo 139-3977	1.2	389,774	0.58	2.1	
N F	T943-1	2/27/05	11:46	12:14	2.9	3	54 00.282	166 34.199	53 59.607	166 35.836	no		1.2	378,317	0.47	2.5	
N F	T943-2	2/27/05	11:46	12:14	2.9	10	54 00.282	166 34.199	53 59.607	166 35.836	no		1.2	378,317	0.47	2.5	
N F	T944-1	2/27/05	12:28	13:01	2.3	3	53 58.169	166 35.304	53 58.365	166 33.517	no	Could not acquire satellites for start waypoint.	1.1	344,149	0.55	1.9	
N F	T944-2	2/27/05	12:28	13:01	2.3	10	53 58.169	166 35.304	53 58.365	166 33.517	no		1.1	344,149	0.55	1.9	
N F	T945-1	2/27/05	13:22	13:57	2.6	3	53 57.503	166 30.694	53 55.788	166 30.872	no		1.7	553,035	0.58	3.0	
N F	T945-2	2/27/05	13:22	13:57	2.6	10	53 57.503	166 30.694	53 55.788	166 30.872	no		1.7	553,035	0.58	3.0	
N F	T946-1	2/27/05	14:22	15:00	3	3	53 54.670	166 28.229	53 53.361	166 30.616	no		1.9	618,412	0.63	3.0	
N F	T946-2	2/27/05	14:22	15:00	3	10	53 54.670	166 28.229	53 53.361	166 30.616	no		1.9	618,412	0.63	3.0	
N F	T947-1	2/27/05	15:25	16:02	3	3	53 51.981	166 33.672	53 50.517	166 35.409	no		1.8	575,148	0.62	2.9	
N F	T947-2	2/27/05	15:25	16:02	3	10	53 51.981	166 33.672	53 50.517	166 35.409	no		1.8	575,148	0.62	2.9	0.69958583
N F	T948-1	3/7/05	11:25	11:59	3	3	53 59.010	166 24.928	53 59.970	166 26.670	yes	2-1mm blobs with associated stain. Not adequate for sample; photos #4007-8	1.4	451,816	0.57	2.5	
N F	T948-2	3/7/05	11:25	11:59	3	10	53 59.010	166 24.928	53 59.970	166 26.670	no		1.4	451,816	0.57	2.5	
N F	T949-1	3/7/05	12:17	12:47	3	3	54 00.779	166 22.680	54 02.026	166 23.857	yes	2 stains on the upper net; photo #4009	1.4	458,942	0.50	2.9	
N F	T949-2	3/7/05	12:17	12:47	3	10	54 00.779	166 22.680	54 02.026	166 23.857	no		1.4	458,942	0.50	2.9	
N F	T950-1	3/7/05	14:02	14:33	3	3	54 02.103	166 39.097	54 01.099	166 36.976	no		1.6	515,017	0.52	3.1	
N F	T950-2	3/7/05	14:02	14:33	3	10	54 02.103	166 39.097	54 01.099	166 36.976	no		1.6	515,017	0.52	3.1	
N F	T951-1	3/7/05	14:53	15:24	2.8	3	54 00.271	166 33.613	53 59.566	166 35.717	no		1.4	458,203	0.52	2.8	
N F	T951-2	3/7/05	14:53	15:24	2.8	10	54 00.271	166 33.613	53 59.566	166 35.717	no		1.4	458,203	0.52	2.8	
N F	T952-1	3/7/05	15:37	16:10	3	3	53 58.250	166 35.586	53 58.594	166 32.989	no		1.6	503,951	0.55	2.9	
N F	T952-2	3/7/05	15:37	16:10	3	10	53 58.250	166 35.586	53 58.594	166 32.989	no		1.6	503,951	0.55	2.9	
N F	T953-1	3/7/05	16:32	17:02	3	3	53 56.342	166 35.188	53 56.914	166 37.485	no		1.5	472,501	0.50	2.9	
N F	T953-2	3/7/05	16:32	17:02	3	10	53 56.342	166 35.188	53 56.914	166 37.485	no		1.5	472,501	0.50	2.9	
N F	T954-1	3/7/05	17:48	18:18	3	3	53 51.379	166 34.553	53 52.444	166 34.013	no		1.1	357,785	0.50	2.2	
N F	T954-2	3/7/05	17:48	18:18	3	10	53 51.379	166 34.553	53 52.444	166 34.013	no		1.1	357,785	0.50	2.2	0.776828095
N F	T955-1	3/16/05	10:25	11:06	3	3	53 54.368	166 28.905	53 55.659	166 27.438	yes	1 cm. Stain on the upper net; photo 4068	1.6	500,005	0.57	2.7	
N F	T955-2	3/16/05	10:25	11:06	3	10	53 54.368	166 28.905	53 55.659	166 27.438	no		1.6	500,005	0.50	3.1	
N F	T956-1	3/16/05	11:36	12:17	3	3	53 59.048	166 24.897	54 00.117	166 27.691	no		2.0	630,791	0.50	3.9	
N F	T956-2	3/16/05	11:36	12:17	3	10	53 59.048	166 24.897	54 00.117	166 27.691	no		2.0	630,791	0.52	3.8	
N F	T957-1	3/16/05	12:43	13:18	3	3	53 58.710	166 32.440	53 58.281	166 35.277	no		1.7	554,522	0.52	3.3	
N F	T957-2	3/16/05	12:43	13:18	3	10	53 58.710	166 32.440	53 58.281	166 35.277	no		1.7	554,522	0.52	3.3	
N F	T958-1	3/16/05	13:33	14:04	3	3	53 59.566	166 35.853	54 00.117	166 33.931	no		1.3	404,588	0.52	2.4	
N F	T958-2	3/16/05	13:33	14:04	3	10	53 59.566	166 35.853	54 00.117	166 33.931	no		1.3	404,588	0.52	2.4	
N F	T959-1	3/16/05	14:30	15:03	3	3	53 56.324	166 35.051	53 56.888	166 37.441	no		1.5	487,814	0.55	2.8	
N F	T959-2	3/16/05	14:30	15:03	3	10	53 56.324	166 35.051	53 56.888	166 37.441	no		1.5	487,814	0.55	2.8	
N F	T960-1	3/16/05	15:36	16:06	3	3	53 55.737	166 31.089	53 57.065	166 31.045	no		1.3	427,524	0.50	2.7	
N F	T960-2	3/16/05	15:36	16:06	3	10	53 55.737	166 31.089	53 57.065	166 31.045	yes	2- 1cm. Stains on the lower net; photo #4069	1.3	427,524	0.50	2.7	
N F	T961-1	3/16/05	16:49	17:17	3	3	53 52.086	166 33.712	53 50.971	166 35.235	no		1.4	460,851	0.50	2.9	
N F	T961-2	3/16/05	16:49	17:17	3	10	53 52.086	166 33.712	53 50.971	166 35.235	yes	3- >1cm. Stains on the lower net; photo #4070	1.4	460,851	0.50	2.9	0.865527136

Appendix B: Unalaska Bay Zone Fisheries Sampling Pot Data Table

Appendix B:
Unalaska Bay Zone Fisheries Sampling Pots Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Pot #	Date In	Time In	Depth (fa)	Latitude		Longitude		Date Out	Time Out	Tanner Crab	Grey Cod	Sculpin	Halibut	Oil	Notes
A L	P032	12/28/04	16:28	45	53	56.214	166	36.943	12/29/04	15:02	0	0	2	0	no	Samples inspected by ADEC, passed
A L	P033	12/29/04	15:07	45	53	55.656	166	37.878	12/30/04	08:15	1	1	2	0	no	Samples inspected by ADEC, passed
A L	P001	12/29/04	16:17	16	53	56.857	166	36.996	12/30/04	07:54	0	0	1	0	no	Samples inspected by ADEC, passed
A L	P034	12/29/04	13:32	9	53	52.590	167	07.920	12/31/04	11:33	0	0	1	0	no	Samples inspected by ADEC, passed
A L	P037	12/29/04	15:19	8	53	53.569	167	08.725	12/31/04	12:52	0	0	0	0	no	Samples inspected by ADEC, passed
A L	P046	1/5/05	12:00	13	53	57.751	166	25.923	1/6/05	09:10	1	0	1	0	no	Samples inspected by ADEC, passed
A L	P047	1/5/05	12:25	50	53	56.604	166	32.154	1/6/05	11:32	0	0	0	0	no	Samples inspected by ADEC, passed
A L	P048	1/5/05	12:42	50	53	55.288	166	36.482	1/6/05	11:42	0	0	0	0	no	Samples inspected by ADEC, passed
A L	P049	1/5/05	12:49	50	53	55.902	166	37.105	1/6/05	11:57	0	1	0	0	no	Samples inspected by ADEC, passed
A L	P050	1/5/05	12:58	45	53	56.432	166	36.998	1/6/05	12:06	0	0	2	2	no	Samples inspected by ADEC, passed
A L	P051	1/5/05	13:07	27	53	56.937	166	36.435	1/6/05	12:15	0	0	1	0	no	Samples inspected by ADEC, passed
A L	P052	1/5/05	13:14	45	53	57.122	166	36.038	1/6/05	12:21	0	0	1	0	no	Samples inspected by ADEC, passed
A L	P053	1/5/05	13:22	26	53	57.301	166	35.598	1/6/05	12:28	28	0	0	0	no	5 samples checked on site, and one had 1/4 dead gills, but no evidence of oil
A L	P054	1/5/05	13:37	42	53	57.978	166	34.647	1/6/05	12:47	0	0	1	0	no	Samples inspected by ADEC, passed
N F	P500	1/13/05	11:43	14	53	52.180	166	33.160	1/14/05	11:00	32	0	0	0	no	Samples inspected by ADEC, passed
N F	P501	1/13/05	12:15	16	53	58.510	166	33.130	1/14/05	11:15	35	0	0	0	no	Samples inspected by ADEC, passed
N F	P502	1/13/05	12:25	22.5	53	51.700	166	33.280	1/14/05	11:30	47	0	0	0	no	Samples inspected by ADEC, passed
N F	P503	1/13/05	12:50	30	53	52.020	166	33.730	1/14/05	11:40	7	0	0	0	no	Samples inspected by ADEC, passed
N F	P504	1/13/05	13:10	45	53	52.220	166	34.040	1/14/05	12:00	19	0	0	0	no	Samples inspected by ADEC, passed
N F	P505	1/14/05	12:15	53	53	53.370	166	36.090	1/15/05	12:55	70	0	0	0	no	Samples inspected by ADEC, passed
N F	P506	1/14/05	12:25	41	53	53.280	166	36.420	1/15/05	12:40	29	0	0	0	no	Samples inspected by ADEC, passed
N F	P507	1/14/05	12:30	29	53	53.130	166	36.760	1/15/05	12:20	23	0	0	0	no	Samples inspected by ADEC, passed
N F	P508	1/14/05	12:40	23	53	52.880	166	37.190	1/15/05	12:15	45	0	0	0	no	Samples inspected by ADEC, passed
N F	P509	1/14/05	12:45	25	53	52.510	166	37.570	1/15/05	12:00	62	0	0	0	no	Samples inspected by ADEC, passed

Appendix C: Unalaska Bay Zone Snare Pot Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Pot #	Date In	Time In	Depth (fa)	Latitude		Longitude		Date Out	Time Out	Oil	Notes
A L	P070	1/18/05	09:37	54	53	57.275	166	34.736	1/24/05	09:40	no	
A L	P071	1/18/05	09:44	18	53	57.939	166	34.949	1/24/05	09:50	no	
A L	P072	1/18/05	09:51	20	53	58.630	166	35.127	1/24/05	10:00	yes	
A L	P073	1/18/05	10:17	25	53	57.355	166	35.643	1/24/05	10:20	no	
A L	P074	1/18/05	10:22	40	53	57.153	166	35.854	1/24/05	10:30	no	
A L	P075	1/18/05	10:30	26	53	57.121	166	36.613	1/24/05	10:40	no	
A L	P076	1/18/05	10:37	27	53	56.737	166	37.030	1/24/05	10:50	no	
A L	P077	1/18/05	10:42	28	53	56.283	166	37.522	1/24/05	11:00	no	
A L	P078	1/18/05	10:50		53	55.443	166	38.073	1/24/05	11:10	no	
A L	P079	1/18/05	10:59	24	53	54.912	166	37.460	1/24/05	11:20	no	
A L	P080	1/18/05	11:10	20	53	53.939	166	36.902	1/24/05	11:35	no	
A L	P081	1/18/05	11:28	28	53	52.338	166	37.165	1/24/05	11:55	no	
A L	P082	1/18/05	11:42	33	53	53.175	166	35.501	1/24/05	12:05	no	
A L	P083	1/18/05	11:57	21	53	54.719	166	34.547	1/24/05	12:20	no	
A L	P084	1/18/05	12:11		53	55.429	166	32.369	1/24/05	12:40	no	
A L	P085	1/18/05	12:17	17	53	54.893	166	32.938	1/24/05	12:55	no	
A L	P086	1/18/05	12:26	6	53	54.286	166	33.887	1/24/05	13:45	no	
A L	P087	1/18/05	12:35	19	53	53.594	166	32.894	1/24/05	14:00	no	
A L	P088	1/18/05	12:40		53	53.292	166	33.292	1/24/05	14:05	no	
A L	P089	1/18/05	12:45	17	53	53.627	166	03.895	1/24/05	14:10	no	
A L	P090	1/18/05	12:56	25	53	52.798	166	33.885	1/24/05	14:20	yes	sample AL-P-90 analyzed: IFO 380
A L	P091	1/18/05	13:03	40	53	52.579	166	34.422	1/24/05	14:25	no	
A L	P092	1/18/05	13:14	20	53	51.949	166	33.663	1/24/05	14:35	no	
A L	P093	1/18/05	13:20	31	53	51.393	166	33.976	1/24/05	14:45	no	
A L	P094	1/18/05	13:28	36	53	51.315	166	35.237	1/24/05	14:55	no	
A L	P095	1/18/05	13:56	14	53	50.303	166	35.151	1/24/05	15:20	no	
A L	P096	1/18/05	14:06		53	49.997	166	35.535	1/24/05	15:25	no	
A L	P097	1/18/05	14:13	12	53	49.948	166	35.928	1/24/05	15:30	no	
A L	P098	1/18/05	14:23		53	50.644	166	35.844	1/24/05	15:10	no	
A L	P099	1/18/05	14:32	18	53	50.954	166	34.684	1/24/05	15:00	no	
A L	P100	1/18/05	15:22		53	55.276	166	29.985	1/24/05	16:40	no	
A L	P101	1/18/05	15:37	9	53	54.301	166	28.663	1/24/05	16:50	no	
A L	P102	1/25/05	13:52	28	53	52.808	166	33.866	1/29/09	16:32	no	Some black spots were evident on sorbent, but did not fluoresce
A L	P103	1/28/05	16:40	25	53	52.857	166	33.775	2/3/09	16:31	no	

Appendix D: Unalaska Bay Zone Sampling Vessels Seawater Strainer Data Table

Appendix D: Unalaska Bay Zone Sea Strainer Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	ID #	Date	Time	Latitude		Longitude		Oil?	Comments
S	S100	1/1/05	15:30	53	59.600	166	34.400	no	SSE of Cape Cheerful
S	S101	1/1/05	16:30	53	54.300	166	29.400	no	Entrance Buoy DH
S	S407	1/2/05	11:15	53	52.700	167	10.800	no	
S	S102	1/2/05	19:30	53	54.200	166	29.600	no	Outbound @ Entrance Buoy
S	S103	1/2/05	20:30	54	01.600	166	37.600	no	Cape Cheerful
S	S104	1/2/05	21:30	54	01.700	166	48.900	no	NE of Driftwood Bay
S	S105	1/2/05	22:30	54	00.100	166	59.000	no	NE of Koriga Pt.
S	S106	1/2/05	23:30	53	55.800	167	07.800	no	WNW of Pt. Kadin
S	S107	1/3/05	12:00	53	57.900	167	01.900	no	WNW Koriga Pt.
S	S108	1/3/05	13:10	54	01.400	166	46.600	no	WNW Reese Bay
S	S109	1/3/05	14:00	53	59.700	166	35.000	no	SE
S	S110	1/3/05	14:45	53	54.500	166	29.300	no	Entrance Buoy DH
S	S408	1/3/05	23:30	53	53.200	167	10.500	no	NNW of Kovrizhka Cape
S	S111	1/4/05	19:30	53	55.800	166	29.500	no	
S	S112	1/4/05	20:30	54	01.500	166	38.400	no	1 nm NE Cape Cheerful
S	S113	1/4/05	21:30	54	00.700	166	50.300	no	N of Driftwood Bay
S	S114	1/4/05	22:30	53	58.700	167	00.700	no	WNW of Bishop Pt.
S	S115	1/5/05	11:30	53	55.300	167	08.300	no	W of Pt. Kadin
S	S116	1/5/05	12:30	54	00.100	166	57.600	no	NNW Point Bishop
S	S117	1/5/05	13:30	54	01.800	166	43.700	no	N of Reese Bay
S	S416	1/5/05	23:30	53	50.600	167	11.500	no	W of Kovrizhka Cape
S	S118	1/6/05	19:00	53	54.900	166	29.100	no	NE of Entrance Buoy
S	S119	1/6/05	19:30	53	59.400	166	33.800	no	
S	S120	1/6/05	20:30	54	01.800	166	45.800	no	2 nm NW of Reese Bay
S	S121	1/6/05	21:30	54	00.600	166	55.700	no	NW of Tebenkof
S	S122	1/6/05	22:30	53	57.600	167	04.200	no	W of Koriga Pt.
S	S123	1/7/05	14:30	53	50.000	167	11.800	no	Cape Kovrizhka
S	S124	1/7/05	15:30	53	59.800	166	57.800	no	N of Bishop Pt.
S	S125	1/7/05	16:30	54	01.800	166	42.200	no	Reese Bay
S	S126	1/7/05	17:30	53	56.900	166	30.600	no	
S	S127	1/7/05	18:00	53	54.900	166	29.100	no	Red Can NE
S	S427	1/8/05	00:30	53	52.900	167	10.200	no	NNW of Cape Kovrizhka
S	S128	1/8/05	19:30	53	53.800	166	30.100	no	Outbound DH
S	S129	1/8/05	20:30	53	58.000	166	32.100	no	
S	S130	1/8/05	21:30	54	02.100	166	40.100	no	N of Cape Cheerful
S	S131	1/8/05	22:30	54	01.500	167	50.900	no	Driftwood Bay
S	S132	1/8/05	23:30	53	59.600	167	00.400	no	Koriga Point
S	S133	1/9/05	17:30	53	53.200	167	11.000	no	Cape Kovrizhka
S	S134	1/9/05	19:00	54	00.200	166	54.100	no	Point Tebenkof
S	S135	1/9/05	20:00	54	01.500	166	39.500	no	Cape Cheerful
S	S136	1/9/05	21:30	53	56.400	166	30.000	no	Ulakta Head
A L	S137	1/10/05	09:00	54	03.010	166	21.780	no	
A L	S138	1/10/05	10:00	54	02.210	166	24.860	no	
A L	S139	1/10/05	11:00	54	02.070	166	19.520	no	
A L	S140	1/10/05	12:00	54	00.590	166	26.780	no	
A L	S141	1/10/05	13:00	53	58.990	166	28.290	no	
A L	S142	1/10/05	14:00	53	58.020	166	27.460	no	
A L	S143	1/10/05	15:00	53	59.840	166	31.260	no	
A L	S144	1/10/05	16:00	54	00.000	166	32.870	no	
A L	S145	1/10/05	17:00	53	57.320	166	31.480	no	
A L	S146	1/10/05	18:00	53	58.960	166	33.300	no	
A L	S147	1/10/05	19:00	53	57.140	166	32.790	no	
S	S148	1/10/05	20:30	53	55.100	166	29.100	no	Outbound DH
S	S149	1/10/05	21:30	54	01.500	166	37.400	no	Cape Cheerful

Appendix D: Unalaska Bay Zone Sea Strainer Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	ID #	Date	Time	Latitude		Longitude		Oil?	Comments
S	S150	1/10/05	22:30	54	01.100	166	49.700	no	Driftwood Bay
S	S151	1/10/05	23:15	53	59.000	166	59.800	no	NW of Bishop Point
S	S152	1/11/05	00:30	53	53.100	167	10.600	no	
S	S153	1/11/05	14:30	53	53.700	167	10.600	no	SW of Point Kadin
S	S154	1/11/05	15:30	53	59.400	167	00.900	no	Bishop Point
S	S155	1/11/05	16:30	54	02.200	166	43.400	no	Reese Bay
S	S156	1/11/05	17:30	53	58.800	166	34.500	no	
S	S157	1/11/05	18:30	53	54.000	166	35.200	no	East of Hog Island
A L	S158	1/12/05	07:45	53	59.950	166	24.484	no	
E	S159	1/12/05	11:50	53	59.869	166	30.320	no	
E	S160	1/12/05	14:37	54	16.250	166	40.714	no	
E	S161	1/12/05	16:25	54	11.726	166	33.186	no	
E	S162	1/12/05	18:00	54	05.687	166	30.795	no	
E	S163	1/12/05	19:40	54	00.181	166	27.245	no	
E	S164	1/13/05	11:17	53	51.673	166	33.443	no	
E	S165	1/13/05	12:25	53	49.880	166	35.797	no	
E	S166	1/13/05	13:39	53	52.657	166	34.321	no	
E	S167	1/13/05	14:43	53	49.931	166	35.768	no	
E	S168	1/13/05	15:41	53	52.260	166	32.887	no	
A L	S169	1/15/05	11:00	54	02.890	166	37.430	no	
A L	S170	1/15/05	12:00	54	06.530	166	43.200	no	
A L	S171	1/15/05	13:00	54	05.120	166	40.090	no	
A L	S172	1/15/05	14:00	54	03.570	166	39.120	no	
A L	S173	1/15/05	15:00	54	02.130	166	37.380	no	
A L	S174	1/15/05	16:00	54	00.680	166	34.280	no	
A L	S175	1/15/05	17:00	53	59.190	166	31.320	no	
A L	S176	1/15/05	18:00	53	57.950	166	31.430	no	
S	S177	1/15/05	20:30	53	53.400	166	34.800	no	S of Hog Island
S	S178	1/15/05	21:30	54	00.200	166	35.500	no	SSE of Cape Cheerful
S	S179	1/15/05	22:30	54	01.800	166	45.800	no	NW of Reese Bay
S	S180	1/15/05	23:30	54	00.400	166	57.300	no	N of Bishop Pt.
S	S181	1/16/05	00:30	53	55.600	167	07.300	no	W of Pt. Kadin
A L	S182	1/16/05	09:00	54	05.650	166	41.350	no	
A L	S183	1/16/05	10:00	54	06.470	166	46.140	no	
A L	S184	1/16/05	10:55	54	04.400	166	39.600	no	
A L	S185	1/16/05	11:55	54	03.060	166	40.610	no	
A L	S186	1/16/05	12:55	54	01.320	166	34.460	no	
A L	S187	1/16/05	13:55	53	59.790	166	33.700	no	
A L	S188	1/16/05	14:55	53	58.670	166	30.960	no	
S	S189	1/16/05	15:30	53	55.100	167	08.200	no	Point Kadin
A L	S190	1/16/05	15:55	53	57.620	166	29.100	no	
S	S191	1/16/05	16:30	54	00.100	166	53.400	no	Bishop Point
A L	S192	1/16/05	16:55	53	55.170	166	29.510	no	
S	S193	1/16/05	17:00	54	01.100	166	51.200	no	
S	S194	1/16/05	18:00	54	01.400	166	37.900	no	Cape Cheerful
S	S195	1/16/05	19:00	53	54.500	166	29.400	no	Red Can
A L	S196	1/17/05	08:00	54	00.011	166	32.432	no	
A L	S197	1/17/05	09:00	54	05.856	166	41.459	no	
A L	S198	1/17/05	09:56	54	06.741	166	46.295	no	
A L	S199	1/17/05	10:54	54	05.724	166	42.021	no	
A L	S200	1/17/05	11:56	54	03.601	166	41.660	yes	found in the filter: 2x4mm; photos and samples taken
A L	S201	1/17/05	12:54	54	03.004	166	36.588	no	
A L	S202	1/17/05	13:54	54	00.660	166	37.144	no	

Appendix D: Unalaska Bay Zone Sea Strainer Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	ID #	Date	Time	Latitude		Longitude		Oil?	Comments
A L	S203	1/17/05	14:55	54	00.118	166	31.251	no	
A L	S204	1/17/05	15:55	53	58.350	166	32.814	no	
S	S205	1/17/05	16:30	53	53.000	166	31.200	no	
A L	S206	1/17/05	16:57	53	58.090	166	29.157	no	
S	S207	1/17/05	17:30	53	59.400	166	34.400	no	
S	S208	1/17/05	18:30	54	01.200	166	46.800	no	
S	S209	1/17/05	19:30	53	59.300	166	53.300	no	
S	S210	1/17/05	20:30	53	53.400	167	09.600	no	
S	S212	1/18/05	06:30	53	56.000	167	07.800	no	
S	S213	1/18/05	07:30	53	59.900	166	58.600	no	
S	S214	1/18/05	08:30	54	01.500	166	46.500	no	
S	S215	1/18/05	08:40	54	01.700	166	44.300	yes	trace amounts
S	S216	1/18/05	09:30	54	00.100	166	35.200	no	
S	S217	1/18/05	09:30	54	00.100	166	35.200	no	
A L	S218	1/18/05	10:02	53	57.374	166	34.408	no	
A L	S219	1/18/05	10:58	53	54.933	166	37.486	no	
A L	S220	1/18/05	11:52	53	54.506	166	35.334	no	
A L	S221	1/18/05	12:53	53	52.959	166	33.897	no	
A L	S222	1/18/05	14:03	53	50.106	166	35.437	no	
A L	S223	1/18/05	14:59	53	54.650	166	33.426	no	
A L	S224	1/18/05	15:47	53	53.736	166	30.905	no	
S	S225	1/19/05	19:00	53	56.100	166	29.900	no	
S	S226	1/19/05	19:30	53	59.500	166	34.000	no	
S	S227	1/19/05	20:30	54	01.900	166	44.100	no	
S	S228	1/19/05	21:30	54	01.000	166	55.300	no	
S	S229	1/19/05	22:30	53	56.500	167	06.000	no	
S	S230	1/19/05	23:30	53	49.700	167	11.000	no	
A L	S231	1/20/05	09:00	54	00.530	166	33.880	no	
A L	S232	1/20/05	09:54	54	06.775	166	43.524	no	
A L	S233	1/20/05	10:53	54	05.785	166	44.321	no	
A L	S234	1/20/05	11:52	54	04.681	166	40.630	no	
A L	S235	1/20/05	12:54	54	03.660	166	39.802	no	
A L	S236	1/20/05	13:55	54	02.575	166	37.708	no	
A L	S237	1/20/05	14:57	54	01.374	166	36.376	no	
S	S238	1/20/05	15:00	53	51.600	167	10.800	no	
A L	S239	1/20/05	15:53	53	59.922	166	33.044	no	
A L	S240	1/20/05	15:56	53	58.763	166	30.825	no	
S	S241	1/20/05	16:00	53	58.500	167	00.800	no	
S	S242	1/20/05	17:00	54	01.400	166	46.500	no	
A L	S243	1/20/05	17:53	53	57.693	166	30.932	no	
S	S244	1/20/05	18:00	53	58.600	166	33.400	no	
A L	S245	1/20/05	18:27	53	53.956	166	30.349	no	
S	S246	1/20/05	18:45	53	54.700	166	29.200	no	
S	S467	1/21/05	00:00	54	00.500	166	56.900	no	
A L	S247	1/21/05	08:15	53	53.776	166	30.518	no	
A L	S248	1/21/05	09:14	53	57.832	166	28.141	no	
E	S249	1/21/05	09:48	54	03.102	166	37.258	no	
A L	S250	1/21/05	10:13	53	56.641	166	30.613	no	
E	S251	1/21/05	10:18	54	04.807	166	38.366	no	
E	S252	1/21/05	11:01	54	03.826	166	35.758	no	
A L	S253	1/21/05	11:13	53	59.109	166	28.156	no	
E	S254	1/21/05	11:35	54	01.836	166	35.066	no	
A L	S255	1/21/05	12:12	53	57.941	166	31.368	no	
E	S256	1/21/05	12:24	54	03.105	166	32.609	no	

Appendix D: Unalaska Bay Zone Sea Strainer Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	ID #	Date	Time	Latitude		Longitude		Oil?	Comments
E	S257	1/21/05	12:54	54	04.778	166	33.027	no	
A L	S258	1/21/05	13:14	53	58.206	166	32.992	no	
E	S259	1/21/05	13:44	54	03.386	166	29.068	no	
A L	S260	1/21/05	14:11	54	01.172	166	28.410	no	
E	S261	1/21/05	14:15	54	01.537	166	29.817	no	
E	S262	1/21/05	14:56	54	02.568	166	26.810	no	
A L	S263	1/21/05	15:12	54	03.869	166	24.713	no	
E	S264	1/21/05	15:31	54	04.300	166	26.233	no	
A L	S265	1/21/05	16:15	53	57.487	166	28.525	no	
E	S266	1/21/05	16:54	53	58.450	166	34.608	no	
E	S267	1/21/05	17:26	53	56.876	166	34.876	no	
S	S268	1/21/05	21:00	53	53.600	166	30.900	no	
S	S269	1/21/05	22:00	53	58.800	166	33.300	no	
S	S270	1/21/05	23:00	54	01.800	166	46.300	no	
A L	S271	1/22/05	09:55	53	58.732	166	28.974	no	
E	S272	1/22/05	10:24	53	56.919	166	36.976	no	
A L	S273	1/22/05	10:58	53	57.726	166	29.865	no	
E	S274	1/22/05	10:58	53	55.598	166	37.140	no	
E	S275	1/22/05	11:29	53	55.121	166	36.704	no	
E	S276	1/22/05	11:55	53	56.787	166	35.523	no	
A L	S277	1/22/05	11:56	54	00.592	166	29.704	no	
E	S278	1/22/05	12:32	53	54.888	166	35.759	no	
A L	S279	1/22/05	12:59	53	58.675	166	30.779	no	
E	S280	1/22/05	12:59	53	53.513	166	36.600	no	
A L	S281	1/22/05	13:57	54	01.257	166	28.738	no	
E	S282	1/22/05	13:59	53	56.923	166	31.672	no	
E	S283	1/22/05	14:08	53	57.169	166	30.764	no	
E	S284	1/22/05	14:42	53	57.222	166	33.352	no	
A L	S285	1/22/05	15:01	54	03.913	166	30.190	no	
E	S286	1/22/05	15:05	53	56.730	166	35.368	no	
E	S287	1/22/05	15:49	53	56.048	166	31.124	no	
A L	S288	1/22/05	15:59	54	01.205	166	30.920	no	
E	S289	1/22/05	16:29	53	54.400	166	28.654	no	
A L	S290	1/22/05	17:01	54	04.115	166	31.348	no	
A L	S291	1/22/05	17:58	53	56.473	166	29.349	no	
S	S292	1/22/05	19:00	53	56.400	167	06.400	no	
S	S293	1/22/05	20:00	54	00.600	166	53.400	no	
S	S294	1/22/05	21:00	54	01.500	166	39.100	no	
S	S295	1/22/05	22:00	53	54.800	166	29.400	no	
S	S479	1/23/05	01:00	53	51.100	167	11.500	no	
A L	S296	1/23/05	09:10	53	56.147	166	29.137	no	
A L	S297	1/23/05	10:01	53	59.979	166	28.342	no	
E	S298	1/23/05	10:40	53	56.462	166	34.537	no	
A L	S299	1/23/05	11:00	54	03.277	166	28.501	no	
E	S300	1/23/05	11:10	53	57.111	166	36.835	no	
E	S301	1/23/05	11:40	53	56.127	166	34.874	no	
A L	S302	1/23/05	11:58	54	04.357	166	29.857	no	
E	S303	1/23/05	12:14	53	54.037	166	33.185	no	
E	S304	1/23/05	12:49	53	53.932	166	33.352	no	
A L	S305	1/23/05	13:05	54	05.000	166	31.100	no	
E	S306	1/23/05	13:26	53	54.923	166	33.279	no	
A L	S307	1/23/05	13:52	54	03.056	166	30.676	no	
A L	S308	1/23/05	15:06	53	59.214	166	29.510	no	
A L	S309	1/23/05	16:00	53	59.494	166	30.480	no	

Appendix D: Unalaska Bay Zone Sea Strainer Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	ID #	Date	Time	Latitude		Longitude		Oil?	Comments
A L	S310	1/23/05	16:53	53	58.869	166	29.903	no	
S	S311	1/23/05	21:00	53	56.300	166	30.000	no	
S	S312	1/23/05	22:00	54	01.600	166	38.900	no	
S	S313	1/23/05	23:00	54	00.500	166	51.200	no	
S	S314	1/24/05	00:00	53	57.500	167	04.500	no	
A L	S315	1/24/05	09:42	53	56.352	166	29.305	no	
E	S316	1/24/05	10:16	53	53.911	166	33.545	no	
E	S317	1/24/05	10:47	53	53.241	166	35.555	no	
A L	S318	1/24/05	11:02	53	55.876	166	37.846	no	
E	S319	1/24/05	11:18	53	53.393	166	33.696	no	
E	S320	1/24/05	11:52	53	54.853	166	33.479	no	
A L	S321	1/24/05	11:58	53	53.015	166	36.487	no	
E	S322	1/24/05	12:26	53	56.203	166	36.257	no	
E	S323	1/24/05	12:52	53	54.726	166	35.917	no	
A L	S324	1/24/05	13:02	53	54.884	166	33.101	no	
E	S325	1/24/05	13:29	53	52.866	166	34.328	no	
E	S326	1/24/05	14:04	53	54.282	166	33.409	no	
A L	S327	1/24/05	14:14	53	53.058	166	33.841	no	
A L	S328	1/24/05	15:05	53	50.783	166	35.352	no	
E	S329	1/24/05	15:08	53	54.822	166	36.976	no	
S	S330	1/24/05	16:00	53	53.700	167	10.000	no	
E	S331	1/24/05	16:07	53	56.842	166	36.119	no	
A L	S332	1/24/05	16:46	53	54.581	166	28.990	no	
S	S333	1/24/05	17:00	53	59.400	166	59.400	no	
E	S334	1/24/05	17:33	53	55.233	166	29.576	no	
S	S335	1/24/05	18:00	54	01.300	166	47.800	no	
S	S336	1/24/05	19:00	53	59.900	166	35.000	no	
S	S337	1/24/05	20:00	53	54.700	166	29.500	no	
S	S338	1/27/05	20:30	53	54.100	166	29.800	no	
S	S339	1/27/05	22:00	54	01.800	166	39.300	no	
S	S340	1/27/05	23:00	54	01.100	166	53.600	no	
S	S341	1/28/05	00:00	53	56.900	167	05.500	no	
S	S342	1/28/05	01:00	53	50.500	167	12.300	no	
S	S343	1/28/05	15:00	53	55.100	167	08.700	no	
S	S344	1/28/05	16:00	53	59.600	166	59.800	no	
S	S345	1/28/05	17:00	54	01.100	166	47.000	no	
S	S346	1/28/05	18:00	54	00.700	166	36.800	no	
S	S347	1/28/05	19:00	53	54.000	166	29.700	no	

Appendix E: Unalaska Bay Zone Seafood Processors' Seawater Intake Monitoring Data Table

Appendix E: Unalaska Bay Zone Seafood Processors' Seawater Intake Monitoring Data Table

Date	Tech	Alyeska	WestWard	Unisea	RoyalAleutian	Discovery Star	BeringStar
1/5/05	ED	Not processing	No	Not processing	Not processing	Not processing	Not processing
1/6/05	ED	No	No	Not processing	Not processing	Not processing	Not processing
1/7/05	ED	No	No	Not processing	Not processing	Not processing	Not processing
1/8/05	ED	No	No	Not processing	Not processing	Not processing	Not processing
1/9/05	ED	No	No	Not processing	Not processing	Not processing	Not processing
1/10/05	AM	No	No	No	No	Not processing	Not processing
1/11/05	AM	No	No	No	No	Not processing	Not processing
1/12/05	ED	No	No	Not processing	Not processing	Not processing	Not processing
1/14/05	ED	No	No	No	No	Not processing	Not processing
1/15/05	AM/ED	No	No	No	No	Not processing	Not processing
1/16/05	AM	No	No	No	No	Not processing	Not processing
1/17/05	AM	No	No	No	No	Not processing	Not processing
1/18/05	AM	No	No	No	No	Not processing	Not processing
1/19/05	AM	No	No	No	No	Not processing	Not processing
1/20/05	AM	No	No	No	No	Not processing	Not processing
1/21/05	AM	No	No	No	No	No	No
1/22/05	TR/AM	No	No	No	No	No	No
1/23/05	AM	No	No	No	No	No	No
1/24/05	AM	No	No	No	No	No	No
1/25/05	AM	No	No	No	No	No	No
1/26/05	AM	No	No	No	No	No	No
1/27/05	AM	No	No	No	No	No	No
1/28/05	AM	No	No	No	No	No	No
1/29/05	AM	No	No	No	No	No	No
1/30/05	AM	No	No	No	No	No	No
1/31/05	AM	No	No	No	No	No	No
2/1/05	TR/AM	No	No	No	No	No	No
2/2/05	TR/RR	No	No	No	No	No	No
2/3/05	RR	No	No	No	No	No	No
2/4/05	RR	No	No	No	No	No	No
2/5/05	RR	No	No	No	No	No	No
2/6/05	RR	No	No	No	No	No	No
2/7/05	TR	No	No	No	Not processing	No	No
2/8/05	RR	No	No	No	Not processing	No	No
2/9/05	RR	No	No	No	Not processing	No	No
2/10/05	TR	No	No	No	Not processing	No	No
2/11/05	TR/RR	No	No	No	Not processing	No	No
2/12/05	TR	No	No	No	Not processing	No	No
2/13/05	RR/ED	No	No	No	Not processing	No	No
2/14/05	RR	No	No	No	No	No	No
2/15/05	ED/5	No	No	No	Not processing	No	No
2/16/05	RR	No	No	No	No	No	No
2/17/05	ED	No	No	No	No	No	No
2/18/05	AM	No	No	No	No	No	No
2/19/05	AM	No	No	No	No	No	No
2/20/05	ED	No	No	No	No	No	No
2/22/05	MJ	No	No	No	Not processing	No	No
2/23/05	AM	No	No	No	No	No	No
2/24/05	AM	No	No	No	No	No	No
2/26/05	AM	No	No	No	No	No	No
2/27/05	AM	No	No	No	No	No	No
2/28/05	AM	No	No	No	No	No	No
3/1/05	AM	No	No	No	No	No	No
3/2/05	AM	No	No	No	No	No	No

Appendix E: Unalaska Bay Zone Seafood Processors' Seawater Intake Monitoring Data Table

Date	Tech	Alyeska	WestWard	Unisea	RoyalAleutian	Discovery Star	BeringStar
3/3/05	MJ/AM	No	No	No	Season ended	Season ended	No
3/4/05	MJ	No	No	No	Season ended	Season ended	No
3/5/05	MJ	Not processing	No	No	Season ended	Season ended	No
3/6/05	MJ	No	No	No	Season ended	Season ended	No
3/7/05	MJ	No	No	No	Season ended	Season ended	No
3/8/05	MJ	No	No	No	Season ended	Season ended	No
3/9/05	MJ	No	No	No	Season ended	Season ended	No
3/10/05	MJ	No	No	No	Season ended	Season ended	No
3/11/05	MJ	No	No	No	Season ended	Season ended	No
3/12/05	MJ	No	No	No	Season ended	Season ended	No
3/13/05	MJ	Not processing	No	No	Season ended	Season ended	No
3/14/05	MJ	No	No	Facility Locked	Season ended	Season ended	No
3/15/05	MJ	Not processing	No	No	Season ended	Season ended	No
3/16/05	MJ	No	No	No	Season ended	Season ended	No
3/17/05	MJ	No	No	No	Season ended	Season ended	No
3/18/05	MJ	No	No	No	Season ended	Season ended	No
3/19/05	MJ	No	No	No	Season ended	Season ended	No
3/20/05	MJ	No	No	No	Season ended	Season ended	No
3/21/05	MJ	Season ended	No	No	Season ended	Season ended	Season ended
3/22/05	MJ	Season ended	No	No	Season ended	Season ended	Season ended
3/23/05	MJ	Season ended	No	No	Season ended	Season ended	Season ended
3/24/05	MJ	Season ended	No	No	Season ended	Season ended	Season ended
3/25/05		Season ended	Season ended	Season ended	Season ended	Season ended	Season ended

Appendix F: Unalaska Bay Zone Passive Snare Device Data Table

Appendix F: Unalaska Bay Zone PSD Data
(NOTE: Key to abbreviations is in Appendix R)

PSD Sample #	Date	Time	Lat.		Lon.		Oil?	Notes
PSD01	2/13/05	15:44	53	54.539	166	29.950	No	
PSD02	2/13/05	15:27	53	55.831	166	31.212	No	
PSD03	2/13/05	10:09	53	57.456	166	26.390	No	
PSD04	2/13/05	10:36	54	00.086	166	23.163	no	
PSD05	2/13/05							Could not Locate
PSD06	2/13/05	12:06	54	00.195	166	37.050	no	
PSD07	2/13/05							Could not Locate
PSD08	2/13/05							Could not Locate
PSD09	2/13/05	12:56	53	57.174	166	35.804	no	
PSD10	2/13/05	13:06	53	57.007	166	37.286	no	
PSD11	2/13/05	13:24	53	54.849	166	37.692	no	
PSD12	2/13/05	13:48	53	52.950	166	34.688	no	
PSD13	2/13/05	13:56	53	52.739	166	33.860	no	
PSD14	2/13/05	14:06	53	52.414	166	34.027	no	
PSD15	2/13/05	14:13	53	52.110	166	37.690	No	
PSD16	2/13/05	14:26	53	51.890	166	34.978	No	
PSD17	2/13/05							Could not Locate
PSD18	2/13/05	09:00	53	52.591	166	31.682	No	
PSD19	2/13/05	09:25	53	53.137	166	30.723	No	
PSD20	2/13/05	15:59	53	53.694	166	32.096	No	
PSD21	2/23/05	15:10	53	52.570	166	31.696	No	
PSD22	2/23/05	15:00	53	53.124	166	30.726	No	
PSD23	2/23/05	09:32	53	57.421	166	26.424	No	
PSD24	2/23/05	10:01	54	00.080	166	23.179	No	
PSD25	2/23/05	11:02	54	00.193	166	37.043	No	
PSD26	2/23/05	11:44	53	57.111	166	35.773	No	
PSD27	2/23/05	11:53	53	56.999	166	37.292	No	
PSD28	2/23/05	12:19	53	54.838	166	37.692	No	
PSD29	2/23/05	12:36	53	52.943	166	34.634	No	
PSD30	2/23/05	12:47	53	52.738	166	33.845	No	
PSD31	2/23/05	12:55	53	52.407	166	33.995	No	
PSD32	2/23/05	13:04	53	52.100	166	33.690	No	
PSD33	2/23/05	13:14	53	51.904	166	34.962	No	
PSD34	2/23/05	09:04	53	55.811	166	31.266	No	
PSD35	2/23/05	08:49	53	54.539	166	29.950	No	
PSD36	2/23/05	14:48	53	53.679	166	32.097	No	
PSD37	3/5/05	10:28	53	52.550	166	31.653	No	
PSD38	3/5/05	10:46	53	53.718	166	32.109	No	
PSD39	3/5/05	10:59	53	53.121	166	30.751	No	
PSD40	3/5/05	11:15	53	54.565	166	29.873	No	
PSD41	3/5/05	11:33	53	55.844	166	31.164	No	
PSD42	3/5/05	12:27	54	00.095	166	23.171	No	
PSD43	3/5/05	13:23	53	57.458	166	26.329	No	
PSD44	3/5/05	14:20	54	00.201	166	37.021	No	
PSD45	3/5/05	15:12	53	57.026	166	37.287	No	
PSD46	3/5/05	15:36	53	54.862	166	37.682	No	
PSD47	3/5/05	16:01	53	52.989	166	34.705	No	
PSD48	3/5/05	16:12	53	52.744	166	33.842	No	
PSD49	3/5/05	16:18	53	52.429	166	34.037	No	
PSD50	3/5/05	16:41	53	51.925	166	34.926	No	

Appendix F: Unalaska Bay Zone PSD Data
(NOTE: Key to abbreviations is in Appendix R)

PSD Sample #	Date	Time	Lat.		Lon.		Oil?	Notes
PSD51	3/15/05	10:43	53	52.550	166	31.653	No	
PSD52	3/15/05	10:56	53	53.121	166	30.751	No	
PSD53	3/15/05	11:08	53	53.718	166	32.109	No	
PSD54	3/15/05	11:24	53	54.565	166	29.873	No	
PSD55	3/15/05	11:38	53	55.021	166	29.932	No	
PSD56	3/15/05	12:12	53	57.456	166	26.334	No	
PSD57	3/15/05	12:47	53	57.582	166	26.166	No	
PSD58	3/15/05	13:03	54	00.131	166	23.285	No	
PSD59	3/15/05	14:49	54	01.379	166	24.949	No	
PSD60	3/15/05	15:31	53	59.906	166	36.693	No	
PSD61	3/15/05	15:52	53	56.599	166	37.307	No	
PSD62	3/15/05	16:14	53	54.592	166	37.217	No	
PSD63	3/15/05	16:24	53	52.736	166	33.839	No	
PSD64	3/15/05	16:31	53	52.420	166	34.033	No	
PSD65	3/15/05	16:47	53	52.847	166	36.806	No	
PSD66	3/24/05		53	52.550	166	31.653	No	
PSD67	3/24/05		53	53.121	166	30.751	No	
PSD68	3/24/05		53	53.718	166	32.109	No	
PSD69	3/24/05		53	54.565	166	29.873	No	
PSD70	3/24/05		53	55.021	166	29.932	No	
PSD71	3/24/05		53	57.456	166	26.334	No	
PSD72	3/24/05		53	57.582	166	26.166	No	
PSD73	3/24/05		54	00.131	166	23.285	No	
PSD74	3/24/05		54	01.379	166	24.949	No	
PSD75	3/24/05		53	59.906	166	36.693	No	
PSD76	3/24/05		53	56.599	166	37.307	No	
PSD77	3/24/05		53	54.592	166	37.217	No	
PSD78	3/24/05		53	52.736	166	33.839	No	
PSD79	3/24/05		53	52.420	166	34.033	No	
PSD80	3/24/05		53	52.847	166	36.806	No	

Appendix G: Unalaska Bay Zone Beach Survey Data Table

Appendix G: Unalaska Bay Zone Beach Survey Data
(NOTE: Key to abbreviations is in Appendix R)

Tarball(s) ID	Date	Time	Latitude		Longitude		Tidal Zone	Shoreline Type	Notes
A01	2/25/05	14:31	53	53.115	166	33.371	MI	Gravel	Black, weathered, firm, sticky, 5cm, with a lot of sand and sediment attached; photos A01, A01_flag, A01_flag2; sample ATB1
A02	2/25/05	14:51	53	53.114	166	33.343	SU	Cobble/Gravel	Old weathered tarball. Two stained cobbles stuck together. Not sticky. 5cm; photos A02, A02_flag
A03	2/25/05	14:55	53	53.115	166	33.322	MI	Cobble/Gravel	Sticky black and brown 5cm.; photos A03, A03_flag
A04	2/25/05	15:02	53	53.121	166	33.273	UI	Cobble/Gravel	Found at base of 50m length berm. Dark brown. 5x3 cm. Sticky, weathered w/ gear and line debris; photos A04, A04-5_flag
A05	2/25/05	15:07	53	53.121	166	33.266	UI	Cobble/Gravel	Found at base of 50m length berm. Dark brown. 5x3 cm. Sticky, weathered w/ gear and line debris; photos A05, A04-5_flag
A06	2/25/05	15:21	53	53.141	166	33.133	UI	Cobble/Gravel	Found at base of 50m length berm. Dark brown. 10x1 cm. Sticky, weathered; photos A06, A06_flag
A07	2/25/05	15:37	53	53.193	166	32.98	MI	Gravel	5 tarballs 5cm radius. Sticky, black. Similar to A01. Same vintage A07-20; photos A07-8
A08	2/25/05	15:43	53	53.195	166	32.972	MI	Gravel	2 weathered tarballs with debris and sand. 5cm. Just south of city water treatment outfall.; photos A07-8
A09	2/25/05	15:44	53	53.196	166	32.967	MI	Gravel	1 tarball black and sticky. Looks like A08; photos A09-13a-b
A10	2/25/05	15:56	53	53.199	166	32.952	MI	Gravel	1 tarball just north of south Alyeska outfall; photos A09-13a-b
A11	2/25/05	15:59	53	53.201	166	32.936	MI	Gravel	7 tarballs north of outfall; photos A09-13a b
A12	2/25/05	16:03	53	53.207	166	32.933	MI	Gravel	7 tarballs; photos A09-13a-b
A13	2/25/05	17:01	53	53.212	166	32.923	MI	Gravel	17 tarballs south of bunker. Wrack and debris embedded; photos A09-13a-b
A14	2/25/05	17:06	53	53.213	166	32.921	MI	Gravel	8 tarballs west of bunker.; photo A14
A15	2/25/05	17:15	53	53.227	166	32.883	MI	Gravel	1 tarball at north Alyeska outfall
A16	2/25/05	17:46	53	53.397	166	32.686	MI	Gravel/Cobble	4 tarballs: 2 3cm, 1 4cm, 1 6cm
A17	2/25/05	17:53	53	53.404	166	32.685	MI	Gravel/Cobble	2 tarballs with debris: 2, 5cm; photo A17
A18	2/25/05	18:01	53	53.413	166	32.675	MI	Gravel/Cobble	1 tarball, 5cm
A19	2/25/05	18:05	53	53.433	166	32.659	MI	Gravel/Cobble	2 tarballs with debris: 5, 2cm
A20	2/25/05	18:19	53	53.576	166	32.593	MI	Gravel/Cobble	2 tarballs: 3, 4cm
SU01	2/26/05	11:41	53	53.912	166	27.934	MI	Sand/Cobble/Boulder	Old sandy oil splattered on rock with shell material; photos SU01a-b
SU02	2/26/05	11:46	53	53.92	166	27.941	MI	Sand/Cobble/Boulder	20x10cm tarball in rock crevice. Weathered, w/ debris, sticky, black; photos SU02a-b; sample SU02
SU03	2/26/05	12:30	53	53.858	166	27.383	MI, UI	Sand/Cobble/Boulder	stains on rocks like SU01
SU04	2/26/05	12:36	53	53.852	166	27.38	MI, UI	Sand/Cobble/Boulder	stains like SU01,2. Still odor of petroleum, shiny in center. 1 3x7cm fresh tarball. Light brown on yellow fishing line.; photos SU04, SU04_bag, SU04_area; samples SU4A, SU4B
F01	2/26/05	15:25	53	52.399	166	31.659	UI	Cobble	2 very weathered hard tarballs with lots of sand. 30 cm diameter. Odorous.; photo F01
F02	2/26/05	15:32	53	52.415	166	31.731	UI	Cobble	1 very weathered with sand. Slight odor.; photo F02
F03	2/26/05	16:19	53	52.414	166	31.323	MI	Gravel/Cobble	1 tarball. Weathered, black w/ debris. 3cm; photo F03
WB01	2/27/05	15:20	53	56.824	166	37.630	MI		1 tarball: black, weathered, sticky, 10cm with sand; sample WB01
WB02	2/27/05	15:32	53	57.190	166	37.521	MI		1 tarball black, weathered with sand and gravel. 5cm
WB03	2/27/05	15:50	53	57.257	166	37.451	MI		1 tarball: older, weathered, not sticky, with a lot of sand. Higher in the MI

Appendix G: Unalaska Bay Zone Beach Survey Data
(NOTE: Key to abbreviations is in Appendix R)

Tarball(s) ID	Date	Time	Latitude		Longitude		Tidal Zone	Shoreline Type	Notes
L01	3/1/05	16:59	53	52.111	166	33.567	MI	Cobble/Boulder	3 splattered brown moussy tarballs. Old, weathered, sticky 10-20cm. Free of debris
L02	3/1/05	17:20	53	52.095	166	33.557	MI	Cobble/Boulder	19 splatters in MI. Approx. 60' long and 2-5' wide area. Same composition as L01. 2-5cm splatters; photo L02
L03	3/1/05	17:59	53	52.057	166	33.546	MI	Cobble/Boulder	22 splatters like L01-2, 3-10cm- Brown and weathered. Sticky with little debris.; photo L03
L04	3/1/05	18:21	53	51.988	166	33.444	MI	Cobble/Boulder	1 tarball in SU edge vegetation. 10x15 cm with vegetation. Sticky, Black
L05	3/1/05	18:24	53	51.991	166	33.449	MI	Cobble/Boulder	1 splattered tarball. Brown, sticky, splattered over rock. 20 cm.
A21	3/3/05	16:59	53	53.157	166	33.073	UI	Gravel/Cobble	1 tarball brown,shiny, sticky, Stuck on leaf; photo A21
L06	3/3/05	18:20	53	52.135	166	33.548	MI	Cobble/Boulder	splatter; photo L06
L07	3/3/05	18:31	53	52.111	166	33.558	MI	Cobble/Boulder	dark Brown shiny, sticky, more like a tarball than tendrils; photosL07a&b
L08	3/3/05	18:51	53	52.061	166	33.55	UI	Cobble/Boulder	brown, shiny, sticky w/ grass 20x5cm; photos L08a&b
L09	3/3/05	19:13	53	52.015	166	32.466	MI	Cobble/Boulder	older, dry surface, splatters on rocks; photo L09
L10	3/3/05	19:21	53	51.994	166	33.443	MI	Cobble/Boulder	Older dark brown tendrils possible from yesterday; photo L10
L11	3/3/05	19:26	53	51.992	166	33.451	UI	Cobble/Boulder	2 large area splatters,glossy, moussey, w/ vegitation.; photo L11a&b
L12	3/4/05	19:00	53	52.051	166	33.54	UI	Cobble/Boulder	5 tarballs ina 1 meter area sticky,brown, w/ debris, weathered; photo L12
WB04	3/5/05	17:36	53	56.897	166	37.640	UI	Sand	Flat(~2mm),1-2cm tarballs w/sand at the edge of vegetation.
WB05	3/5/05	17:36	53	57.050	166	37.546	LI,MI	Sand	Very few widely scattered,fresh at water edge; sampple WB02
SU05	3/6/05	16:43	53	53.842	166	27.526	MI	Sand	1 cm tarball at the MI area at waterline, appeared fresh; photo SU05
SU06	3/6/05	17:04	53	53.86	166	27.395	MI	Sand/Boulder	1 cm tarball at the MI area, sticky, brown with debris
SU07	3/6/05	17:16	53	53.841	166	27.525	MI	Sand	1 cm tarball at the MI area, sticky, brown with debris
SU08	3/6/05	17:20	53	53.851	166	27.646	MI	Sand	1 cm tarball at the MI area, sticky, brown with debris
L13	3/6/05	18:08	53	52.205	166	33.630	UI	Cobble/Boulder	Smeared on plastic debris, fresh, sticky; photos L13, L13b
L14	3/6/05	18:24	53	52.137	166	33.549	MI	Cobble/Boulder	Brown, maliable, area splatter, 8x15cm; photo L14
L15	3/6/05	18:30	53	52.129	166	33.550	MI, UI	Cobble/Boulder	Smears 2-8cm most 2-5cm; photos L15a&b
L16	3/6/05	18:42	53	52.115	166	33.560	UI	Cobble/Boulder	7 tarballs in a 1 meter area between 1-3cm; photo L16
L17	3/6/05	18:55	53	52.057	166	33.552	MI, UI	Cobble/Boulder	20 tarballss in a 4 meter area between 2-8cm splatter; photos L17a-c
L18	3/8/05	14:42	53	52.041	166	33.497	UI	Cobble/Boulder	1 30x15cm tarball at UI in a sorting tray contained debris/soybeans; photo L18; sample L18
F04	3/8/05	15:24	53	52.412	166	31.736	UI	Cobble/Boulder	15 cm diameter ball of grease, smelled and appeared unrelated to spill; photo F04
F05	3/8/05	15:49	53	53.419	166	31.306	UI	Cobble/Boulder	Old, weathered, slightly malliable; photo F05
WB06	3/11/05	12:14	53	56.862	166	37.642	UI	Sand	Area from WB06 to WB07 UI contained 245 tarballs, weathered, flattened, containing debris 1cm-8cm most 2-4cm; photos 4025-6, 4032, 4038; sample WB06
WB07	3/11/05	12:15	53	56.885	166	37.647	UI	Sand	Area from WB06 to WB07 UI contained 245 tarballs, weathered, flattened, containing debris 1cm-8cm most 2-4cm

Appendix G: Unalaska Bay Zone Beach Survey Data
(NOTE: Key to abbreviations is in Appendix R)

Tarball(s) ID	Date	Time	Latitude		Longitude		Tidal Zone	Shoreline Type	Notes
WB09	3/11/05	12:42	53	56.929	166	37.636	UI	Sand	Area from WB08 to WB09-UI contained 75 tarballs, weathered, flattened, containing debris 1cm-4cm
WB10	3/11/05	12:45	53	56.934	166	37.637	UI	Sand	Area from WB010 to WB11 UI contained 5 tarballs, weathered, flattened, containing debris 1cm-4cm
WB11	3/11/05	13:08	53	57.033	166	37.573	UI	Sand	End of section
WB08	3/11/05	13:18	53	56.889	166	37.639	UI	Sand	Area from WB08 to WB09-UI contained 75 tarballs, weathered, flattened, containing debris 1cm-4cm; photos 4027-31
L19	3/12/05	15:14	53	52.126	166	33.548	UI	Cobble/Boulder	5 tarballs , 3-5cm weathered; photo 4058
L20	3/12/05	15:22	53	52.098	166	33.558	UI	Cobble/Boulder	4 tarballs, 3-5cm appeared fresher; photo 4059
L21	3/12/05	15:27	53	52.101	166	33.549	MI-UI	Cobble/Boulder	2x1 meter splatter with larger tarball, appeared fresher, contained debris, sample taken; photos 4060-1; sample L21
L22	3/12/05	15:56	53	52.062	166	33.550	UI	Cobble/Boulder	6 tarballs, 1-3cm weathered; photo 4062
L23	3/12/05	16:06	53	52.054	166	33.539	MI	Cobble/Boulder	1tarball 4cm fresher; photo 4063
L24	3/17/05	16:30	53	52.094	166	33.565	UI	Cobble/Boulder	1 tarball 5cm malliable; photo 4072; sample L24
WB12	3/19/05	18:11	53	56.926	166	37.627	UI	Sand	1 tarball, 1 cm , smeared on glove; photo 4110
WB13	3/19/05	18:14	53	56.928	166	37.630	UI	Sand	1 tarball, 1 cm , smeared on glove
WB14	3/19/05	18:15	53	56.931	166	37.630	UI	Sand	1-2 cm; photo 4111; sample WB14
WB15	3/19/05	18:25	53	57.009	166	37.592	UI	Sand	1 cm; photo 4112
WB16	3/19/05	18:28	53	57.014	166	37.589	UI	Sand	1 cm; photo 4113
L25	3/20/05	16:50	53	52.145	166	33.552	UI	Cobble/Boulder	4 cm single tarball; photo 4114
L26	3/20/05	16:58	53	52.104	166	33.528	UI	Cobble/Boulder	4-5cm smear; photo 4115
L27	3/20/05	17:14	53	52.059	166	33.552	UI	Cobble/Boulder	1 meter area with 2-5% coverage; photo 4116
L28	3/23/05	19:32	53	52.060	166	33.531	UI	Cobble/Boulder	1 tarball 3 cm; photo 4140
L29	3/23/05	19:44	53	51.999	166	33.447	UI	Cobble/Boulder	1 tarball 3 cm; photo 4142
L30	3/23/05	19:47	53	51.995	166	33.444	UI	Cobble/Boulder	4 tarballs average 5cm largest 8cm; photos 4143-4; sample L30

Appendix H: East of Unalaska Bay Zone Tow Net Data Table

Appendix H: East of Unalaska Bay Zone Tow Net Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow #	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE
A L	T004	1/1/05	11:45	12:45	3.5	4	54	01.140	166	24.710	54	03.450	166	20.010	no		3.6	1,158,460	1.00	3.6	
A L	T005	1/1/05	13:10	14:10	3.5	5	54	06.310	166	15.290	54	08.650	166	10.830	no		3.5	1,129,153	1.00	3.5	
A L	T006	1/1/05	15:00	16:00	3.5	3	54	13.520	166	03.130	54	16.580	165	57.680	no		4.4	1,421,411	1.00	4.4	
A L	T007	1/1/05	16:30	17:00	3.5	3	54	13.500	165	51.410	54	12.030	165	50.000	no		1.7	542,496	0.50	3.4	
A L	T008	1/1/05	17:30	18:00	3.5	3	54	10.660	165	45.000	54	09.790	165	41.170	no		2.4	774,055	0.50	4.8	0
A L	T009	1/2/05	13:10	14:10	3.5	5	54	13.070	165	42.420	54	16.980	165	43.230	no		3.9	1,267,693	1.00	3.9	
A L	T010	1/2/05	14:40	15:40	3.5	6	54	20.410	165	36.790	54	23.050	165	30.530	no		4.5	1,449,251	1.00	4.5	
A L	T011	1/2/05	16:50	17:50	3.5	6	54	19.320	165	12.570	54	15.780	165	09.440	no		4.0	1,282,190	1.00	4.0	
A L	T012	1/2/05	18:35	19:35	3.5	6	54	10.520	165	14.670	54	09.160	165	20.740	no		3.8	1,224,753	1.00	3.8	0
A L	T013	1/3/05	10:25	11:25	3	3	54	05.660	165	30.820	54	04.180	165	35.190	no		3.0	952,767	1.00	3.0	
A L	T014	1/3/05	12:25	13:25	3.5	3	53	59.010	165	46.340	53	58.330	165	52.110	no		3.5	1,113,922	1.00	3.5	
A L	T015	1/3/05	14:20	15:20	3.5	3	54	01.000	166	02.700	54	01.060	166	07.320	no		2.7	873,911	1.00	2.7	0
A L	T501	1/12/05	08:17	09:22	4	6	54	01.833	166	24.480	54	04.595	166	19.237	no	net was pulled to check for oil, then put back @ 54 03.223; 166 21.617- time 08:51	4.1	1,331,054	1.08	3.8	
A L	T502	1/12/05	09:29	10:30	4	6	54	05.014	166	18.684	54	07.604	166	13.907	no		3.8	1,227,850	1.02	3.8	
A L	T503	1/12/05	10:36	11:36	4	6	54	07.828	166	13.515	54	10.207	166	08.831	no		3.6	1,168,744	1.00	3.6	
A L	T504	1/12/05	12:55	13:29	3	6	54	19.782	166	01.695	54	18.453	165	59.363	no		1.9	612,093	0.57	3.4	
A L	T505	1/12/05	13:36	14:38	7	6	54	17.857	165	58.022	54	15.355	165	53.189	no		3.8	1,213,870	1.03	3.7	
A L	T506	1/12/05	14:44	15:43	5	6	54	15.215	165	52.766	54	13.052	165	48.098	no		3.5	1,120,633	0.98	3.5	
A L	T507	1/12/05	15:47	16:49	5	6	54	12.988	165	47.764	54	10.430	165	42.629	no		4.0	1,269,978	1.03	3.8	
A L	T508	1/12/05	16:52	17:22	4	6	54	10.247	165	42.348	54	09.064	165	40.383	no		1.7	531,153	0.50	3.3	0
A L	T509	1/13/05	07:26	08:28	3.5	6	54	08.875	165	41.954	54	11.085	165	45.707	no		3.1	1,003,050	1.03	3.0	
A L	T510	1/13/05	08:55	09:55	3	6	54	10.660	165	50.450	54	13.718	165	50.334	no		3.1	984,518	1.00	3.1	
A L	T511	1/13/05	10:15	11:16	3	6	54	13.613	165	54.145	54	15.779	165	58.197	no		3.2	1,032,865	1.02	3.2	
A L	T512	1/13/05	11:42	12:44	4.5	6	54	17.470	165	55.538	54	16.354	165	50.348	no		3.2	1,039,285	1.03	3.1	
A L	T513	1/13/05	13:02	14:06	3.5	6	54	17.263	165	49.109	54	16.030	165	43.845	no		3.3	1,065,885	1.07	3.1	
A L	T514	1/13/05	14:37	15:39	3.5	6	54	13.530	165	45.438	54	12.288	165	39.961	no		3.4	1,105,631	1.03	3.3	
A L	T515	1/13/05	15:59	16:58	3.5	6	54	11.808	165	43.515	54	10.668	165	38.237	no		3.3	1,059,607	0.98	3.4	0
A L	T516	1/14/05	09:08	10:10	2.5	6	54	08.196	166	10.260	54	06.064	166	14.570	no		3.3	1,063,956	1.03	3.2	
A L	T517	1/14/05	10:14	11:14	3.5	6	54	05.958	166	14.853	54	03.568	166	19.115	no		3.5	1,113,309	1.00	3.5	
A L	T518	1/14/05	11:18	12:19	5	6	54	03.397	166	19.449	54	00.727	166	24.714	no		4.1	1,314,952	1.02	4.0	0
E	T210	1/15/05	10:42	11:34	3	3	54	02.171	166	25.168	54	02.560	166	20.656	no		2.7	861,959	0.87	3.1	
E	T211	1/15/05	12:21	13:08	3.5	5	54	06.465	166	14.591	54	05.553	166	17.894	no		2.1	689,045	0.78	2.7	
E	T212	1/15/05	13:25	14:18	3.5	5	54	07.306	166	16.253	54	09.974	166	12.745	no		3.4	1,083,914	0.88	3.8	
E	T213	1/15/05	14:18	15:18	3.5	5	54	09.974	166	12.745	54	11.982	166	07.980	no		3.4	1,106,015	1.00	3.4	
E	T214	1/15/05	16:52	18:04	3.5	5	54	13.100	165	45.950	54	08.823	165	40.953	no		5.2	1,667,643	1.20	4.3	0
E	T215	1/16/05	08:49	09:29	3	3	54	09.406	165	43.953	54	10.624	165	41.129	no		2.1	660,948	0.67	3.1	
E	T216	1/16/05	10:04	10:37	4	3	54	11.500	165	41.845	54	10.177	165	44.814	no		2.2	702,930	0.55	4.0	
E	T217	1/16/05	10:53	11:42	3.5	3	54	10.919	165	45.998	54	12.235	165	43.019	no		2.2	702,937	0.82	2.7	
E	T218	1/16/05	11:58	12:34	4	3	54	13.021	165	44.044	54	11.792	165	46.851	no		2.1	660,079	0.60	3.4	
E	T219	1/16/05	12:49	13:29	3.5	3	54	12.552	165	47.993	54	13.858	165	44.988	no		2.2	704,628	0.67	3.3	
E	T220	1/16/05	13:45	14:27	3.9	3	54	14.740	165	45.825	54	13.431	165	48.831	no		2.2	705,194	0.70	3.1	
E	T221	1/16/05	14:40	15:17	2	3	54	14.227	165	49.875	54	15.456	165	47.066	no		2.1	659,964	0.62	3.3	
E	T222	1/16/05	15:30	16:09	4	3	54	16.349	165	47.903	54	15.069	165	50.798	no		2.1	682,606	0.65	3.3	
E	T223	1/16/05	16:19	17:19	3	3	54	15.850	165	51.821	54	17.093	165	49.018	no		2.1	661,499	1.00	2.1	
E	T224	1/16/05	16:09	16:44	3.5	3	54	17.945	165	49.885	54	16.694	165	52.787	no		2.1	677,786	0.58	3.6	
E	T225	1/16/05	16:59	17:40	3	3	54	17.516	165	53.784	54	18.679	165	50.934	no		2.0	653,183	0.68	3.0	0
E	T226	1/17/05	09:58	10:35	3.5	3	54	18.917	165	50.432	54	17.489	165	53.779	no		2.4	778,711	0.62	3.9	
E	T227	1/17/05	10:45	11:28	3.5	5	54	16.661	165	52.855	54	17.907	165	50.032	no		2.1	664,939	0.72	2.9	

Appendix H: East of Unalaska Bay Zone Tow Net Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow #	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE
E	T228	1/17/05	11:38	12:09	3	3	54	17.140	165	48.939	54	15.890	165	51.776	no		2.1	667,946	0.52	4.0	
E	T229	1/17/05	12:19	12:54	4	3.5	54	15.093	165	50.800	54	16.278	165	48.045	no		2.0	643,225	0.58	3.4	
E	T230	1/17/05	13:04	13:33	4	3.5	54	15.480	165	46.945	54	14.247	165	49.836	no		2.1	673,126	0.48	4.3	
E	T231	1/17/05	13:43	14:15	4	3.5	54	13.447	165	48.836	54	14.681	165	46.000	no		2.1	665,130	0.53	3.9	
E	T232	1/17/05	14:24	15:01	3.5	3.5	54	13.964	165	44.960	54	12.587	165	47.913	no		2.2	710,806	0.62	3.6	
E	T233	1/17/05	15:10	15:42	4	3	54	11.787	165	46.908	54	13.046	165	44.071	no		2.1	670,399	0.53	3.9	
E	T234	1/17/05	15:52	16:22	4	3	54	12.249	165	43.069	54	10.989	165	45.828	no		2.1	659,091	0.50	4.1	
E	T235	1/17/05	16:32	16:57	5	3	54	10.206	165	44.843	54	11.426	165	42.079	no		2.0	652,134	0.42	4.9	
E	T236	1/17/05	17:06	17:38	4	3	54	10.642	165	41.119	54	09.424	165	43.939	no		2.1	660,339	0.53	3.9	0
E	T237	1/18/05	09:27	10:22	3.8	3	54	07.797	165	47.008	54	09.458	165	43.885	no		2.5	795,303	0.92	2.7	
E	T238	1/18/05	10:27	11:00	3.5	3	54	09.422	165	43.886	54	10.627	165	41.107	no		2.0	651,640	0.55	3.7	
E	T239	1/18/05	11:09	11:41	4	3	54	11.423	165	42.059	54	10.083	165	44.914	no		2.1	689,393	0.53	4.0	
E	T240	1/18/05	11:50	12:28	3.8	3	54	10.869	165	45.954	54	12.248	165	43.013	no		2.2	709,744	0.63	3.5	
E	T241	1/18/05	12:35	13:15	3.8	3	54	13.039	165	43.965	54	11.793	165	46.053	no		1.7	561,550	0.67	2.6	
E	T242	1/18/05	13:25	14:04	3.8	3	54	12.600	165	47.869	54	13.852	165	45.050	no		2.1	666,199	0.65	3.2	
E	T243	1/18/05	14:13	14:50	3.5	3	54	14.639	165	45.992	54	13.420	165	48.820	no		2.1	661,052	0.62	3.3	
E	T244	1/18/05	14:59	15:32	3.8	3	54	14.207	165	49.895	54	15.458	165	47.099	no		2.1	662,291	0.55	3.7	
E	T245	1/18/05	15:41	16:17	3.8	3	54	16.273	165	47.884	54	15.070	165	50.804	no		2.1	671,782	0.60	3.5	
E	T246	1/18/05	16:26	17:04	3.5	3	54	15.887	165	51.784	54	17.091	165	49.037	no		2.0	645,533	0.63	3.2	
E	T247	1/18/05	17:14	17:46	4	3	54	17.904	165	49.934	54	16.668	165	52.809	no		2.1	670,843	0.53	3.9	
E	T248	1/18/05	17:56	18:33	3.7	3	54	17.499	165	53.725	54	18.654	165	50.941	no		2.0	641,572	0.62	3.2	0
E	T249	1/19/05	08:09	09:16	4.5	3	54	07.932	165	47.394	54	07.481	165	42.164	no	Dead bird found @ 8:43; coord. 54 07.148, 165 44.903	3.1	997,032	1.12	2.8	
E	T250	1/19/05	09:51	10:48	4.5	3.5	54	09.252	165	38.803	54	10.542	165	37.267	no		1.6	506,140	0.95	1.7	
E	T251	1/19/05	11:01	11:58	4.5	3.5	54	11.330	165	39.044	54	13.620	165	35.295	no		3.2	1,020,459	0.95	3.3	
E	T252	1/19/05	14:14	15:27	4.5	3.5	54	13.695	165	35.461	54	14.025	165	41.170	no		3.4	1,079,322	1.22	2.8	
E	T253	1/19/05	16:11	17:12	4.5	3.5	54	10.675	165	47.543	54	08.398	165	43.425	no		3.3	1,067,463	1.02	3.3	
E	T254	1/19/05	17:34	19:19	4.5	3.5	54	07.707	165	47.535	54	07.800	165	46.814	no		0.4	139,238	1.75	0.2	
A L	T543	1/19/05	07:41	08:39	3	6	53	51.750	166	07.863	53	50.339	166	13.009	no		3.4	1,077,452	0.97	3.5	
A L	T544	1/19/05	09:02	09:55	3	6	53	47.682	166	13.463	53	50.397	166	14.672	no		2.8	903,568	0.88	3.2	
A L	T545	1/19/05	10:17	11:18	3	6	53	48.831	166	17.186	53	47.343	166	22.362	no		3.4	1,094,289	1.02	3.4	
A L	T546	1/19/05	11:41	12:43	3	6	53	44.499	166	22.917	53	47.334	166	25.183	no		3.1	1,009,216	1.03	3.0	
A L	T547	1/19/05	12:59	13:58	3	6	53	46.982	166	28.017	53	43.786	166	29.056	no		3.3	1,047,522	0.98	3.3	
A L	T548	1/19/05	14:15	15:13	3	6	53	44.894	166	31.860	53	41.653	166	32.211	no		3.3	1,045,318	0.97	3.4	
A L	T549	1/19/05	16:29	17:29	3	6	53	50.846	166	20.718	53	52.174	166	14.729	no		3.8	1,214,604	1.00	3.8	0
A L	T255	1/20/05	09:10	09:35	4.1	3	54	17.484	165	53.733	54	18.687	165	50.950	no		2.0	650,493	0.42	4.9	
E	T256	1/20/05	09:44	10:42	2	3	54	18.009	165	49.827	54	16.702	165	52.773	no		2.2	695,203	0.97	2.2	
E	T257	1/20/05	10:54	11:27	4	3	54	15.882	165	51.811	54	17.098	165	49.029	no		2.0	653,112	0.55	3.7	
E	T258	1/20/05	11:35	12:10	3	3	54	16.431	165	47.953	54	15.073	165	50.799	no		2.2	690,880	0.58	3.7	
E	T259	1/20/05	12:20	12:58	3.5	3	54	14.212	165	49.893	54	15.492	165	46.990	no		2.1	683,957	0.63	3.4	
E	T260	1/20/05	13:07	13:33	4	3	54	14.660	165	46.059	54	13.383	165	48.897	no		2.1	673,792	0.43	4.8	
E	T261	1/20/05	13:42	14:19	3	3	54	12.582	165	47.893	54	13.840	165	45.079	no		2.1	666,624	0.62	3.4	
E	T262	1/20/05	14:28	15:00	3.9	3	54	13.088	165	44.073	54	11.775	165	46.927	no		2.1	683,555	0.53	4.0	
E	T263	1/20/05	15:07	15:42	3.9	3	54	10.964	165	46.004	54	12.250	165	42.998	no		2.2	701,253	0.58	3.7	
E	T264	1/20/05	15:51	16:21	3.8	3	54	11.459	165	42.023	54	10.179	165	44.832	no		2.1	670,609	0.50	4.2	
E	T265	1/20/05	16:30	17:05	3.9	3	54	09.422	165	43.966	54	10.627	165	41.021	no		2.1	677,032	0.58	3.6	0

Appendix I: East of Unalaska Bay Zone Fisheries Sampling Pot Data Table

Appendix I: East of Unalaska Bay Fisheries Sampling Pot Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Pot #	Date In	Time In	Depth (fa)	Latitude		Longitude		Date Out	Time Out	Tanner Crab	Grey Cod	Sculpin	Halibut	Oil	Notes
A L	P041	1/4/05	11:03	43	54	03.460	166	22.147	1/7/09	09:32	0	1	2	0	no	Samples inpected by ADEC, passed
A L	P042	1/4/05	11:12	42	54	02.554	166	22.189	1/7/09	10:07	0	1	2	0	no	Samples inpected by ADEC, passed
A L	P043	1/4/05	11:19	40	54	01.901	166	22.150	1/7/09	10:15	0	0	1	1	no	Samples inpected by ADEC, passed
A L	P044	1/4/05	11:25	36	54	01.398	166	22.159	1/7/09	10:24	0	1	0	1	no	Samples inpected by ADEC, passed
A L	P045	1/4/05	11:33	27	54	00.968	166	22.191	1/7/09	10:32	0	1	0	1	no	Samples inpected by ADEC, passed

Appendix J: East of Unalaska Bay Zone Sampling Vessels Seawater Strainer Data Table

Appendix J: East of Unalaska Bay Zone Sampling Vessels Seawater Strainer Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	ID #	Date	Time	Latitude		Longitude		Oil?	Comments
A L	S001	1/12/05	09:02	54	03.640	166	20.740	no	
A L	S002	1/12/05	10:05	54	06.560	166	16.080	no	
A L	S003	1/12/05	11:06	54	08.940	166	11.000	no	
A L	S004	1/12/05	13:10	54	19.250	166	00.820	no	
A L	S005	1/12/05	14:08	54	16.490	166	55.460	no	
A L	S006	1/12/05	15:00	54	14.620	166	51.420	no	
A L	S007	1/12/05	16:15	54	11.860	165	45.480	no	
A L	S008	1/12/05	17:06	54	09.680	165	41.380	no	
A L	S009	1/13/05	08:00	54	10.050	165	43.890	no	
A L	S010	1/13/05	09:00	54	11.550	165	50.420	no	
A L	S011	1/13/05	10:00	54	13.850	165	51.200	no	
A L	S012	1/13/05	11:22	54	15.810	165	57.340	no	
A L	S013	1/13/05	12:50	54	16.810	165	52.850	no	
A L	S014	1/13/05	13:10	54	17.210	165	48.750	no	
A L	S015	1/13/05	14:00	54	16.210	165	44.400	no	
A L	S016	1/13/05	15:15	54	12.840	165	42.280	no	
A L	S017	1/13/05	15:56	54	11.920	165	43.040	no	
A L	S018	1/13/05	17:03	54	10.630	165	38.430	no	
A L	S019	1/14/05	09:00	54	08.370	166	09.500	no	
A L	S020	1/14/05	10:00	54	06.370	166	13.850	no	
A L	S021	1/14/05	10:56	54	04.250	166	18.000	no	
A L	S022	1/14/05	12:00	54	01.680	166	22.710	no	
E	S023	1/15/05	11:34	54	02.560	166	20.656	no	
E	S024	1/15/05	13:08	54	05.553	166	17.894	no	
E	S025	1/15/05	14:18	54	09.974	166	12.745	no	
E	S026	1/15/05	15:18	54	11.982	166	07.980	no	
E	S027	1/15/05	18:04	54	08.823	165	40.953	no	
E	S028	1/16/05	09:29	54	10.624	165	41.129	no	
E	S029	1/16/05	10:37	54	10.177	165	44.814	no	
E	S030	1/16/05	11:42	54	12.235	165	43.019	no	
E	S031	1/16/05	12:34	54	11.792	165	46.851	no	
E	S032	1/16/05	13:29	54	13.858	165	44.988	no	
E	S033	1/16/05	14:27	54	13.431	165	48.831	no	
E	S034	1/16/05	15:17	54	15.456	165	47.066	no	
E	S035	1/16/05	16:09	54	15.069	165	50.798	no	
E	S036	1/16/05	17:19	54	17.093	165	49.018	no	
E	S037	1/16/05	16:44	54	16.694	165	52.787	no	
E	S038	1/16/05	17:40	54	18.679	165	50.934	no	
E	S039	1/17/05	10:35	54	17.489	165	53.779	no	
E	S040	1/17/05	11:28	54	17.907	165	50.032	no	
E	S041	1/17/05	12:09	54	15.890	165	51.776	no	
E	S042	1/17/05	12:54	54	16.278	165	48.045	no	
E	S043	1/17/05	13:33	54	14.247	165	49.836	no	
E	S044	1/17/05	14:15	54	14.681	165	46.000	no	
E	S045	1/17/05	15:01	54	12.587	165	47.913	no	
E	S046	1/17/05	15:42	54	13.046	165	44.071	no	

Appendix J: East of Unalaska Bay Zone Sampling Vessels Seawater Strainer Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	ID #	Date	Time	Latitude		Longitude		Oil?	Comments
E	S047	1/17/05	16:22	54	10.989	165	45.828	no	
E	S048	1/17/05	16:57	54	11.426	165	42.079	no	
E	S049	1/17/05	17:38	54	09.424	165	43.939	no	
E	S050	1/18/05	09:27	54	07.797	165	47.008	no	
E	S051	1/18/05	10:27	54	09.422	165	43.886	no	
E	S052	1/18/05	11:09	54	11.423	165	42.059	no	
E	S053	1/18/05	11:50	54	10.869	165	45.954	no	
E	S054	1/18/05	12:35	54	13.039	165	43.965	no	
E	S055	1/18/05	13:25	54	12.600	165	47.869	no	
E	S056	1/18/05	14:13	54	14.639	165	45.992	no	
E	S057	1/18/05	14:59	54	14.207	165	49.895	no	
E	S058	1/18/05	15:41	54	16.273	165	47.884	no	
E	S059	1/18/05	16:26	54	15.887	165	51.784	no	
E	S060	1/18/05	17:14	54	17.904	165	49.934	no	
E	S061	1/18/05	17:56	54	17.499	165	53.725	no	
A L	S062	1/19/05	06:56	53	57.037	166	13.075	no	
A L	S063	1/19/05	07:51	53	51.519	166	08.831	no	
A L	S064	1/19/05	08:55	53	48.454	166	13.709	no	
A L	S065	1/19/05	09:55	53	50.397	166	14.672	no	
A L	S066	1/19/05	10:56	53	47.839	166	20.577	no	
A L	S067	1/19/05	11:54	53	45.091	166	23.379	no	
A L	S068	1/19/05	12:53	53	47.078	166	26.982	no	
A L	S069	1/19/05	13:55	53	43.954	166	29.000	no	
A L	S070	1/19/05	14:55	53	42.579	166	31.805	no	
A L	S071	1/19/05	16:00	53	47.071	166	25.056	no	
A L	S072	1/19/05	16:53	53	50.884	166	20.630	no	
A L	S073	1/19/05	17:52	53	54.587	166	10.748	no	
E	S074	1/19/05	08:09	54	07.932	165	47.394	no	
E	S075	1/19/05	09:51	54	09.252	165	38.803	no	
E	S076	1/19/05	11:01	54	11.330	165	39.044	no	
E	S077	1/19/05	14:14	54	13.695	165	35.461	no	
E	S078	1/19/05	16:11	54	10.675	165	47.543	no	
E	S079	1/19/05	17:34	54	07.707	165	47.535	no	
E	S080	1/20/05	09:35	54	18.687	165	50.950	no	
E	S081	1/20/05	10:42	54	16.702	165	52.773	no	
E	S082	1/20/05	11:27	54	17.098	165	49.029	no	
E	S083	1/20/05	12:10	54	15.073	165	50.799	no	
E	S084	1/20/05	12:58	54	15.492	165	46.990	no	
E	S085	1/20/05	13:33	54	13.383	165	48.897	no	
E	S086	1/20/05	14:19	54	13.840	165	45.079	no	
E	S087	1/20/05	15:00	54	11.775	165	46.927	no	
E	S088	1/20/05	15:42	54	12.250	165	42.998	no	
E	S089	1/20/05	16:21	54	10.179	165	44.832	no	
E	S090	1/20/05	17:05	54	10.627	165	41.021	no	

Appendix K: Spill Impact Zone Tow Net Data Table

Appendix K: Spill Impact Zone Tow Net Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow #	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE
A L	T664-1	2/15/05	11:16	12:15	3	1	53	47.410	167	06.790	53	45.480	167	03.820	yes	3 tarballs photos 1394, 1395	2.6	839,676	0.98	2.7	
A L	T664-2	2/15/05	11:16	12:15	3	9	53	47.410	167	06.790	53	45.480	167	03.820	yes	1 tarball ,photos 1396, 1397, 1398	2.6	839,676	0.98	2.7	
A L	T665-1	2/15/05	16:20	17:23	3	1	53	44.820	166	59.380	53	44.750	166	54.550	yes	5 including one tarball 6" x 3" tarball, photo 1402, 1405	2.9	919,621	1.05	2.7	
A L	T665-2	2/15/05	16:20	17:23	3	9	53	44.820	166	59.380	53	44.750	166	54.550	yes	2 smears, photos 1403, 1404	2.9	919,621	1.05	2.7	3.6946582
A L	T666-1	2/16/05	9:14	10:14	3	1	53	41.580	166	45.660	53	43.680	166	50.440	yes	5 ea. 1 mm, photo 1415	3.5	1,134,054	1.00	3.5	
A L	T666-2	2/16/05	9:14	10:14	3	9	53	41.580	166	45.660	53	43.680	166	50.440	yes	1 ea. 1 mm, photo 1414' 1416, 1417	3.5	1,134,054	1.00	3.5	
A L	T667-1	2/16/05	10:52	11:53	3	1	53	43.540	166	54.110	53	43.590	167	00.030	yes	1 ea. photo 1421	3.5	1,127,476	1.02	3.5	
A L	T667-2	2/16/05	10:52	11:53	3	9	53	43.540	166	54.110	53	43.590	167	00.030	yes	5 ea. 1 mm, photo 1420	3.5	1,127,476	1.02	3.5	2.6530713
A L	T668-1	2/17/05	09:21	10:18	3	1	53	40.830	166	50.590	53	43.790	166	53.140	no		3.3	1,069,460	0.95	3.5	
A L	T668-2	2/17/05	9:21	10:18	3	9	53	40.830	166	50.590	53	43.790	166	53.140	yes	4 ea tarballs, photo 1449, 1450	3.3	1,069,460	0.95	3.5	
A L	T669-1	2/17/05	19:06	20:08	3	1	53	43.150	166	42.180	53	43.930	166	48.880	no		4.0	1,300,377	1.03	3.9	
A L	T669-2	2/17/05	19:06	20:08	3	9	53	43.150	166	42.180	53	43.930	166	48.880	yes	1 ea. 3 cm, photo 1464	4.0	1,300,377	1.03	3.9	1.0549248
A L	T670-1	2/18/05	09:27	10:28	3	1	53	44.570	167	02.860	53	41.880	167	05.400	no		3.1	991,810	1.02	3.0	
A L	T670-2	2/18/05	9:27	10:28	3	9	53	44.570	167	02.860	53	41.880	167	05.400	yes	2 ea. 5 mm, photo 1465	3.1	991,810	1.02	3.0	
A L	T671-1	2/18/05	15:37	16:41	3	1	53	38.620	167	02.570	53	38.760	167	08.080	yes	20 ea. 10 cm tarballs	3.3	1,052,276	1.07	3.1	
A L	T671-2	2/18/05	15:37	16:41	3	9	53	38.620	167	02.570	53	38.760	167	08.080	yes	10 ea. photos, 1475, 1474, 1476, 1477	3.3	1,052,276	1.07	3.1	7.8274616
A L	T672-1	2/19/05	9:36	10:38	3	1	53	38.700	167	02.470	53	40.820	167	07.490	yes	1 ea. at end, at 1/2 had multiple, photo 1478, 1480	3.7	1,175,695	1.03	3.5	
A L	T672-2	2/19/05	9:36	10:38	3	9	53	38.700	167	02.470	53	40.820	167	07.490	yes	2 ea. smears, had tarballs earlier in tow, photo 1479	3.7	1,175,695	1.03	3.5	
A L	T673-1	2/19/05	17:50	18:29	3	1	53	37.400	167	11.450	53	39.180	167	09.820	yes	soy bean hulls in net	2.0	651,920	0.65	3.1	
A L	T673-2	2/19/05	17:50	18:29	3	9	53	37.400	167	11.450	53	39.180	167	09.820	yes	2 tarballs	2.0	651,920	0.65	3.1	
A L	T674-1	2/19/05	18:44	19:19	3	1	53	37.560	167	11.600	53	38.980	167	10.190	no		1.7	530,376	0.58	2.8	
A L	T674-2	2/20/05	18:44	19:19	3	9	53	37.560	167	11.600	53	38.980	167	10.190	no		1.7	530,376	0.58	2.8	0.6361346
A L	T675-1	2/20/05	08:07	09:08	3	1	53	37.580	167	14.540	53	40.890	167	10.670	no		4.0	1,296,166	1.02	4.0	
A L	T675-2	2/20/05	08:07	09:08	3	9	53	37.580	167	14.540	53	40.890	167	10.670	no		4.0	1,296,166	1.02	4.0	
A L	T676-1	2/20/05	12:44	13:43	3	1	53	39.510	167	07.890	53	43.370	167	07.910	no		3.9	1,242,421	0.98	3.9	
A L	T676-2	2/20/05	12:44	13:43	3	9	53	39.510	167	07.890	53	43.370	167	07.910	yes	1 stain	3.9	1,242,421	0.98	3.9	
A L	T677-1	2/20/05	13:47	14:19	3	30	53	43.740	167	07.980	53	46.010	167	08.360	no		2.3	734,214	0.53	4.3	
A L	T677-2	2/20/05	13:47	14:19	3	40	53	43.740	167	07.980	53	46.010	167	08.360	no		2.3	734,214	0.53	4.3	0.1527743

Appendix L: Spill Impact Zone Fisheries Pot Sampling Data Table

Appendix L: Spill Impact Zone Fisheries Sampling Pot Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Pot #	Date In	Time In	Depth (fa)	Latitude		Longitude		Date Out	Time Out	Tanner Crab	Grey Cod	Sculpin	Halibut	Oil	Notes
A L	P006	12/25/04	17:57	48	53	50.630	167	11.648	12/28/04	12:00	0	0	0	0	n/a	Could not find bouy. Towed under by tide?
A L	P007	12/25/04	18:07	36	53	50.650	167	10.930	12/28/04	12:19	0	4	1	0	no	almost towed under by tide
A L	P008	12/25/04	18:15	15	53	50.720	167	10.460	12/28/04	12:31	0	2	0	0	no	
A L	P009	12/25/04	12:45	9.4	53	46.060	166	57.770	12/27/04	10:05	0	0	1	0	no	
A L	P010	12/25/04	17:15	48	53	44.210	167	09.750	12/28/04	11:17	0	0	0	0	yes	Top snare needs to be examined due to snare color and oil color. No other snares appear to be oiled
A L	P011	12/25/04	13:09	37	53	44.610	167	02.470	12/27/04	10:30	0	1	2	0	yes	Sheen observed on surface as pot came up. 3 oiled gulls observed here, feeding on the bait
A L	P012	12/25/04	11:40	32	53	44.010	166	53.400	12/27/04	09:00	0	4	0	0	no	
A L	P013	12/25/04	09:52	48	53	43.382	166	44.428	12/27/04	08:25	58	0	0	0	no	
A L	P014	12/25/04	10:17	54	53	42.254	166	47.570	12/27/04	07:45	26	0	0	0	no	
A L	P017	12/25/04	11:07	22	53	39.220	166	50.930	12/27/04	06:30	0	2	2	0	no	
A L	P018	12/25/04	14:23	17	53	37.660	167	00.450	12/27/04	14:26	0	0	0	0	no	
A L	P019	12/25/04	14:10	16	53	38.660	167	01.580	12/27/04	14:46	0	3	0	0	no	
A L	P021a	12/25/04	13:59	40	53	39.060	167	02.850	12/27/04	14:50	56	4	0	0	no	
A L	P021b	12/25/04	14:50	14	53	37.950	167	04.107	12/27/04	14:02	0	0	0	0	no	
A L	P022	12/25/04	15:10	7	53	38.230	167	07.130	12/27/04	11:45	0	4	1	0	yes	Heavily oiled snare. Pot snare segregated.
A L	P023	12/25/04	15:27	8	53	38.280	167	07.310	12/27/04	11:56	0	0	0	2	yes	Halibut oiled. Light oil on snares. Snares on pot in separate bag
A L	P024	12/25/04	15:35	6.8	53	38.280	167	07.490	12/27/04	12:05	0	0	1	0	yes	lightly oiled snare. Pot snare separate bag
A L	P025	12/25/04	15:43	8	53	38.190	167	07.740	12/27/04	12:15	0	1	3	0	yes	light oil on snare. Oiled gulls
A L	P026	12/25/04	16:00	10	53	37.870	167	08.120	12/27/04	12:20	0	1	1	0	yes	Cod was inspected on 12/30/04 and passed ADEC EH tests
A L	P027	12/25/04	16:39	40	53	38.500	167	12.680	12/27/04	12:45	0	3	0	1	yes	Snare of surface appeared to be oiled- others did not
A L	P028	12/25/04	14:35	22	53	38.450	167	01.040	12/27/04	14:35	4	0	0	0	yes	oil on tanner's gill and shell. Snares saved. Gills smelled of oil and were a dark color. Bottom of 2 crabs seemed to be stained with oil
A L	P029	12/25/04	11:49	45	53	44.727	166	53.149	12/27/04	09:30	1	2	2	0	no	

Appendix L: Spill Impact Zone Fisheries Sampling Pot Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Pot #	Date In	Time In	Depth (fa)	Latitude		Longitude		Date Out	Time Out	Tanner Crab	Grey Cod	Sculpin	Halibut	Oil	Notes
A L	P030	12/25/04	12:04	14	53	44.970	166	52.150	12/27/04	09:15	0	0	0	0	yes	oil sheen on water. Oil on snare difficult to detect. Water sample 122604001 taken and refrigerated. Pot set aside to prevent re-use
A L	P031	12/25/04	16:15	10	53	38.190	167	06.810	12/27/04	11:37	0	1	0	0	yes	No oil visible on snare. Sheen observed. Oil odor on snare
A L	P154	2/12/05	11:30	9	53	38.256	167	07.154	2/19/05	14:23	0	0	0	0	no	
A L	P155	2/12/05	11:34	10	53	38.322	167	07.318	2/19/05	14:17	0	0	0	0	yes	oil on water surface; snare was oiled; photos #1485-6
A L	P156	2/12/05	11:38	10	53	38.363	167	07.591	2/19/05	13:42	0	0	0	0	no	
A L	P157	2/12/05	11:44	9	53	38.221	167	07.794	2/19/05	13:49	0	0	0	0	no	
A L	P158	2/12/05	12:12	6	53	37.597	167	03.945	2/19/05	12:54	0	0	0	0	no	
A L	P159	2/12/05	12:24	9	53	37.504	167	02.999	2/18/05	17:27	0	0	0	0	no	
A L	P160	2/12/05	12:49	15	53	37.492	166	59.936	2/18/05	15:17	0	0	0	0	yes	slight stain on top snare
A L	P161	2/12/05	13:00	15	53	38.322	167	00.947	2/18/05	15:05	0	0	0	0	yes	oil on water surface; snare was oiled; photo #1473
A L	P162	2/12/05	13:05	13	53	38.595	167	01.340	2/18/05	14:57	0	0	0	0	yes	oil on surface snare; photo #1472
A L	P163	2/12/05	13:10	12	53	38.773	167	01.557	2/18/05	14:27	0	1	0	0	yes	oil on surface snare; photo #1470
A L	P164	2/12/05	13:28	50	53	38.537	167	02.070	2/18/05	14:07	15	0	0	0	yes	oil on surface snare; photo #1469
A L	P165	2/12/05	13:41	39	53	38.896	167	02.648	2/18/05	13:59	0	3	0	0	yes	oil on surface snare; photo # 1468
A L	P166	2/12/05	15:02	16	53	48.157	167	06.620	2/15/05	10:52	0	0	1	1	no	
A L	P167	2/12/05	15:09	7	53	48.403	167	05.673	2/15/05	10:59	0	0	0	0	no	
A L	P168	2/12/05	15:52	31	53	44.94	167	01.563	2/15/05	12:32	0	0	0	0	no	
A L	P169	2/12/05	16:06	29	53	45.462	166	59.247	2/15/05	12:48	0	0	0	0	yes	oil on surface snare; photo #1399
A L	P170	2/12/05	16:12	16	53	46.048	166	58.763	2/15/05	12:57	0	0	0	0	yes	oil on surface snare; photo #1400
A L	P171	2/12/05	16:16	16	53	46.205	166	58.557	2/15/05	13:06	0	0	0	0	no	
A L	P172	2/12/05	16:21	10	53	46.051	166	57.822	2/15/05	13:32	0	0	0	0	yes	oil on surface snare; photo #1401
A L	P173	2/12/05	16:25	9	53	45.863	166	57.324	2/15/05	13:42	0	0	0	0	no	
A L	P174	2/12/05	16:30	12	53	45.582	166	56.786	2/15/05	13:50	0	0	0	0	no	
A L	P175	2/12/05	16:48	25	53	45.038	166	53.259	2/15/05	17:50	0	0	0	0	yes	oil on surface snare; photo #1407
A L	P176	2/12/05	16:55	14	53	45.165	166	52.943	2/15/05	15:52	0	0	0	0	yes	oil on surface & pot snares; photo #1408

Appendix L: Spill Impact Zone Fisheries Sampling Pot Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Pot #	Date In	Time In	Depth (fa)	Latitude		Longitude		Date Out	Time Out	Tanner Crab	Grey Cod	Sculpin	Halibut	Oil	Notes
A L	P177	2/12/05	17:02	6	53	45.186	166	52.621	2/15/05	18:02	0	0	0	0	yes	oil on surface snares; photos #1409-10
A L	P178	2/12/05	17:10	6	53	45.034	166	52.159	2/15/05	18:12	0	0	0	0	yes	oil on surface snare; photo #1411
A L	P179	2/12/05	17:17	25	53	44.715	166	52.202	2/15/05	18:20	0	0	0	0	yes	oil on surface and 10 fathom snares; photos 1412-13
A L	P180	2/12/05	17:49	39	53	42.543	166	50.427	2/16/05	10:29	0	0	0	0	no	
A L	P181	2/12/05	18:03	54	53	42.337	166	47.641	2/15/05	19:41	182	0	0	0	no	
A L	P182	2/12/05	18:15	37	53	43.243	166	47.527	2/16/05	20:00	120	0	0	0	no	
A L	P183	2/12/05	18:27	43	53	43.393	166	44.577	2/16/05	20:38	17	1	0	0	no	
A L	P184	2/12/05	18:33	30	53	43.652	166	44.256	2/16/05	20:47	7	0	0	0	no	
A L	P185	2/12/05	18:45	18	53	43.233	166	42.282	2/16/05	21:03	7	0	0	0	no	
A L	P186	2/15/05	18:38	59	53	44.565	166	53.702	2/17/05	12:38	2	1	1	0	no	
A L	P187	2/15/05	20:02	45	53	41.911	166	45.004	2/17/05	20:02	95	0	0	0	yes	oil on surface snare; photo #1448; crab tag #222157
A L	P188	2/16/05	10:38	73	53	42.377	166	51.328	2/17/05	8:58	0	2	0	0	no	
A L	P189	2/16/05	20:12	40	53	43.355	166	47.534	2/17/05	18:16	6	2	0	0	no	
A L	P190	2/16/05	20:54	43	53	43.315	166	43.984	2/17/05	18:37	5	0	0	0	no	
A L	P191	2/15/05	20:05	45	53	41.911	166	46.930	2/17/05	8:20	180	0	0	0	no	
A L	P192	2/18/05	14:17	56	53	38.716	167	02.940	2/19/05	17:00	162	0	0	0	no	
A L	P193	2/18/05	15:31	53	53	38.231	167	01.865	2/19/05	16:46	259	1	0	0	no	
A L	P194	2/19/05	14:06	53	53	38.917	167	08.318	2/20/05	12:35	0	0	0	0	no	
A L	P195	2/19/05	14:44	59	53	39.191	167	07.731	2/20/05	12:25	0	1	0	0	no	

Appendix M: Spill Impact Zone Sampling Vessels Seawater Strainer Data Table

Appendix M: Spill Impact Zone Sea Strainer Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	ID #	Date	Time	Latitude		Longitude		Oil?	Comments
S	S400	1/3/05	00:30	53	48.800	167	12.000	no	W of Volcano Bay
S	S401	1/3/05	01:30	53	40.900	167	07.300	no	
S	S402	1/3/05	02:30	53	36.000	167	02.800	no	SW Arm Skan Bay on Station
S	S403	1/3/05	05:00	53	43.200	167	01.800	no	Makushin Bay
S	S404	1/3/05	06:25	53	41.900	166	45.200	no	Cannery Bay on station
S	S405	1/3/05	09:30	53	44.000	166	57.800	no	Makushin Bay
S	S406	1/3/05	10:30	53	48.000	167	09.100	no	Volcano Bay
S	S409	1/5/05	00:30	53	45.900	167	12.000	no	SW of Volcano Bay
S	S410	1/5/05	01:30	53	38.900	167	05.200	no	Enter Skan Bay
S	S411	1/5/05	01:55	53	36.400	167	02.900	no	On station Skan Bay SW arm
S	S412	1/5/05	07:00	53	43.300	166	59.900	no	Entrance Makushin Bay
S	S413	1/5/05	08:00	53	41.900	166	45.100	no	On station Cannery Bay
S	S414	1/5/05	09:30	53	44.200	166	59.000	no	Makushin Bay
S	S415	1/5/05	10:30	53	47.700	167	09.600	no	SW of Volcano Bay
S	S417	1/7/05	00:30	53	43.700	167	07.800	no	Outside Makushin Bay
S	S418	1/7/05	01:30	53	44.600	166	56.400	no	Makushin Bay
S	S419	1/7/05	02:00	53	45.000	166	52.700	no	Stationed Humpback Bay
S	S420	1/7/05	04:30	53	37.300	167	02.900	no	Entrance SW arm Skan Bay
S	S421	1/7/05	04:45	53	36.100	167	02.700	no	Stationed Skan Bay SW Arm
S	S422	1/7/05	07:45	53	37.600	167	00.400	no	Stationed Skan Bay east arm
S	S423	1/7/05	10:00	53	43.000	166	57.900	no	Makushin Bay
S	S424	1/7/05	11:30	53	43.400	166	42.900	no	Portage Bay
S	S425	1/7/05	12:30	53	45.100	166	52.800	no	Humpback Bay
S	S426	1/7/05	13:30	53	44.400	167	01.900	no	Makushin Bay
S	S428	1/9/05	01:30	53	45.600	167	05.600	no	W of Makushin Point
S	S429	1/9/05	02:00	53	44.800	166	52.800	no	Stationed Humpback Bay
S	S430	1/9/05	06:30	53	41.900	167	00.300	no	Cape Starichkof
S	S431	1/9/05	07:30	53	37.600	167	00.300	no	Stationed Skan Bay
S	S432	1/9/05	12:30	53	36.200	167	02.800	no	Skan Bay SW arm
S	S433	1/9/05	14:30	53	42.500	167	03.600	no	Enter Makushin Bay
S	S434	1/9/05	15:30	53	45.000	166	52.900	no	Humpback Bay
S	S435	1/9/05	16:30	53	45.200	167	05.300	no	W of Makushin Point
S	S436	1/10/05	01:30	53	46.600	167	08.900	no	Volcano Bay
S	S437	1/10/05	02:30	53	44.700	166	57.700	no	Makushin Bay
S	S438	1/10/05	03:00	53	44.900	166	52.700	no	stationed Humpback Bay
S	S439	1/10/05	06:30	53	43.700	166	59.800	no	Makushin Bay
S	S440	1/10/05	07:30	53	38.700	167	01.500	no	Stationed Skan Bay
S	S441	1/10/05	13:30	53	45.200	167	09.300	no	SSW of Volcano Bay
S	S442	1/16/05	01:30	53	48.100	167	09.500	no	Volcano Bay
S	S443	1/16/05	02:30	53	44.300	166	58.800	no	Makushin Bay
S	S444	1/16/05	03:30	53	41.900	166	46.900	no	Cannery Bay
S	S445	1/16/05	03:40	53	41.900	166	45.200	no	Stationed Cannery Bay
S	S446	1/16/05	05:00	53	43.500	166	44.400	no	Portage Bay
S	S447	1/16/05	05:15	53	43.500	166	44.300	no	Stationed Portage Bay
S	S448	1/16/05	08:40	53	44.900	166	52.400	no	Stationed Humpback Bay
S	S449	1/16/05	12:00	53	38.300	167	01.100	no	Stationed Skan Bay east arm
S	S450	1/16/05	14:30	53	47.800	167	10.600	no	Volcano Bay
S	S451	1/17/05	22:30	53	39.000	167	03.500	no	
S	S452	1/17/05	22:40	53	38.700	167	01.800	yes	trace amts
S	S453	1/18/05	01:00	53	43.900	166	58.700	no	
S	S454	1/18/05	01:40	53	44.700	166	52.700	no	
S	S455	1/18/05	04:30	53	44.400	166	59.800	no	
S	S456	1/18/05	05:30	53	49.100	167	11.500	no	

Appendix M: Spill Impact Zone Sea Strainer Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	ID #	Date	Time	Latitude		Longitude		Oil?	Comments
S	S457	1/20/05	00:30	53	44.300	167	00.700	no	
S	S458	1/20/05	01:00	53	44.700	166	52.500	no	
S	S459	1/20/05	03:30	53	43.300	166	42.700	no	
S	S460	1/20/05	05:30	53	43.600	166	53.200	no	
S	S461	1/20/05	06:30	53	41.300	167	05.300	no	
S	S462	1/20/05	07:15	53	38.700	167	01.600	no	
S	S463	1/20/05	10:15	53	36.200	167	02.900	no	
S	S464	1/20/05	11:30	53	42.400	167	04.700	no	
S	S465	1/20/05	13:00	53	45.200	166	52.600	no	
S	S466	1/20/05	14:00	53	45.400	167	04.200	no	
S	S468	1/22/05	02:00	53	47.400	167	10.300	no	
S	S469	1/22/05	03:00	53	39.400	167	05.200	no	
S	S470	1/22/05	03:40	53	36.400	167	02.900	no	
S	S471	1/22/05	05:30	53	38.800	167	01.600	no	
S	S472	1/22/05	09:00	53	43.200	167	02.600	no	
S	S473	1/22/05	09:45	53	45.000	166	52.500	yes	
S	S474	1/22/05	12:50	53	43.600	166	43.900	no	
S	S475	1/22/05	15:00	53	38.000	166	51.700	no	
S	S476	1/22/05	16:00	53	41.200	166	51.200	no	
S	S477	1/22/05	17:00	53	44.100	166	58.600	no	
S	S478	1/22/05	18:00	53	49.000	167	11.100	no	
S	S480	1/24/05	02:00	53	45.800	167	05.900	no	
S	S481	1/24/05	03:00	53	45.900	166	52.300	no	
S	S482	1/24/05	05:40	53	43.200	166	42.300	no	
S	S483	1/24/05	09:00	53	38.000	166	51.700	no	
S	S484	1/24/05	11:00	53	42.200	167	05.000	no	
S	S485	1/24/05	11:30	53	38.600	167	01.500	no	
S	S486	1/24/05	13:00	53	36.400	167	02.900	no	
S	S487	1/24/05	15:00	53	45.100	167	09.200	no	
S	S488	1/28/05	02:30	53	45.000	166	52.900	no	
S	S489	1/28/05	06:30	53	43.300	166	42.500	no	
S	S490	1/28/05	09:30	53	43.500	166	58.300	no	
S	S491	1/28/05	10:45	53	38.700	167	01.500	no	
S	S492	1/28/05	13:00	53	40.300	167	05.500	no	
S	S493	1/28/05	14:00	53	48.100	167	10.500	no	

Appendix N: Spill Impact Zone Long- Line Data Table

Appendix N: Spill Impact Zone Long Line Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Long Line #	Date in	Time In	Starting Bottom Depth	Starting Lat		Starting Lon		Date Out	Time Out	Ending Bottom Depth	Ending Lat		Ending Lon		Oil ?	Notes
A L	L007	02/12/05	13:50	16	53	38.665	167	01.484	02/18/05	14:38	36	53	38.566	167	01.696	yes	oil odor slightly evident on 3 snares of the first 1/3 of the line, and one snare on the second 1/3; photo #1471
A L	L008	02/12/05	17:23	23	53	44.923	166	52.318	02/15/05	18:48	35	53	44.873	166	52.439	no	
A L	L009	02/15/05	13:20	4	53	46.388	166	57.797	02/16/05	13:44	15	53	46.060	166	58.220	no	
A L	L010	02/15/05	14:01	4	53	46.081	166	57.209	02/16/05	14:09	23	53	45.604	166	57.864	no	
A L	L011	02/15/05	14:32	6	53	45.642	166	56.396	02/16/05	14:41	25	53	45.328	166	56.824	yes	oil noticed at 14:46 N53 45.354 W166 56.705; Photo #1434
A L	L012	02/15/05	14:57	11	53	45.282	166	55.277	02/16/05	16:13	27	53	44.938	166	55.768	yes	oil noticed 16:16 N53 45.231 W166 55.323; Photo #1441
A L	L013	02/15/05	15:22	33	53	45.374	166	57.551	02/16/05	16:41	100	53	45.001	166	58.082	no	
A L	L014	02/15/05	15:54	104	53	44.496	166	59.669	02/16/05	12:10	104	53	44.206	167	00.992	no	
A L	L015	02/15/05	17:36	11	53	45.108	166	53.050	02/16/05	17:29	30	53	44.977	166	53.718	yes	oil evident 2 places: 17:35 N53 45.011 W166 53.504; Photo #1442 & 17:40 N53 44.963 W166 53.669; Photo #1443
A L	L016	02/15/05	18:29	15	53	45.094	166	52.599	02/16/05	17:52	38	53	44.941	166	53.258	yes	oil evident 4 places: 17:55 N53 45.082 W166 52.663, Photo #1444; 17:57 N53 45.059 W166 52.726, Photo #1445; 18:02 N53 45.043 W166 52.950, Photo#1446; 18:02 N53 44.922 W166 53.201, Photo #1447
A L	L017	02/16/05	13:15	105	53	43.738	166	57.246	02/17/05	10:46	93	53	43.811	166	58.632	yes	Slight smear evident: 10:54 N53 43.860 W166 58.365; Photo #1451
A L	L018	02/16/05	15:25	7	53	45.007	166	52.078	02/17/05	12:52	35	53	44.867	166	52.690	yes	oil evident in 4 places: 1st was a tarball most were smears- 12:57 N53 44.912 W166 52.473, Photo #1455; 13:02 N53 44.967 W166 52.266, Photo #1456; 13:04 N53 44.981 W166 52.205, Photo #1457 2 poms; 13:08 N53 45.013 W166 52.148 Photo#none 11 poms in a row
A L	L019	02/16/05	15:39	16	53	44.792	166	51.975	02/17/05	13:19	41	53	44.581	166	52.931	no	
A L	L020	02/16/05	15:59	39	53	44.798	166	52.916	02/17/05	13:47	40	53	44.672	166	53.507	yes	oil was evident in 4 places: 1st was tarball, rest were smears- 13:55 N53 44.704 W166 53.359, Photo#1458; 13:57 N53 44.738 W166 53.282, Photo#none 4 in a row in bag; 14:01 N53 44.773 W166 53.169, Photo#1459; 14:03 N53 44.741 W166 53.183, Photo#1460 2 in a row
A L	L021	02/16/05	18:31	35	53	44.128	166	52.095	02/17/05	12:07	98	53	43.798	166	52.525	yes	oil was evident in 3 places: 1st was tarball, rest were smears- 12:10 N53 43.978 W166 52.099, Photo#1452; 12:17 N53 43.798 W166 52.232, Photo#1453; 12:20 N53 43.775 W166 52.347, Photo#1454
A L	L022	02/16/05	19:27	66	53	41.025	166	51.145	02/17/05	16:35	77	53	41.352	166	51.488	yes	oil was evident on 1 snare: 16:43 N53 41.269 W166 51.358, Photo#1462

Appendix N: Spill Impact Zone Long Line Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Long Line #	Date in	Time In	Starting Bottom Depth	Starting Lat		Starting Lon		Date Out	Time Out	Ending Bottom Depth	Ending Lat		Ending Lon		Oil ?	Notes
A L	L023	02/16/05	19:49	64	53	43.343	166	49.462	02/17/05	17:53	59	53	43.342	166	48.782	yes	oil was evident on 1 snare: 17:58 N53 43.395 W166 49.474, Photo#1463
A L	L024	02/16/05	21:10	16	53	43.171	166	42.319	02/17/05	18:41	41	53	43.267	166	43.095	no	
A L	L025	02/17/05	11:46	94	53	43.472	166	51.494	02/17/05	17:14	102	53	43.474	166	52.888	no	
A L	L026	02/17/05	15:14	63	53	43.240	167	06.373	02/18/05	10:53	46	53	42.498	167	06.385	yes	oil was evident in 2 places: 11:05 N53 42.999 W167 06.354, Photo #1466; 11:12 N53 42.999 W167 06.396, Photo#1467
A L	L027	02/18/05	11:48	90	53	39.512	167	05.142	02/19/05	15:33	63	53	39.020	167	04.006	no	
A L	L028	02/18/05	12:13	20	53	38.459	167	06.154	02/19/05	13:12	19	53	38.417	167	05.168	no	
A L	L029	02/18/05	12:29	55	53	38.400	167	03.170	02/19/05	16:07	53	53	38.250	167	02.533	no	
A L	L030	02/18/05	12:44	51	53	38.024	167	01.692	02/19/05	16:27	50	53	37.845	167	01.163	no	
A L	L031	02/18/05	12:58	16	53	38.273	167	00.885	02/19/05	12:14	48	53	38.235	167	01.518	no	
A L	L032	02/18/05	13:14	16	53	38.514	167	01.108	02/19/05	11:47	51	53	38.467	167	01.922	no	
A L	L033	02/18/05	13:31	16	53	38.764	167	01.455	02/19/05	11:28	48	53	38.706	167	02.013	no	
A L	L034	02/18/05	13:47	17	53	39.162	167	02.402	02/19/05	11:03	44	53	39.113	167	03.142	yes	slight smear evident: 11:13 N53 39.165 W167 05.737, Photo #1481
A L	L035	02/19/05	13:58	12	53	37.934	167	08.297	02/20/05	10:25	15	53	38.338	167	07.994	no	
A L	L036	02/19/05	14:33	15	53	38.172	167	06.601	02/20/05	11:21	13	53	38.452	167	07.497	no	
A L	L037	02/19/05	14:59	22	53	37.714	167	08.958	02/20/05	9:56	27	53	38.317	167	08.508	no	
A L	L038	02/19/05	15:16	15	53	38.217	167	06.051	02/20/05	10:55	26	53	38.498	167	06.883	no	
A L	L039	02/19/05	17:17	42	53	39.126	167	05.996	02/20/05	11:49	67	53	39.562	167	07.207	no	
A L	L040	02/19/05	17:32	60	53	39.491	167	08.720	02/20/05	9:28	56	53	38.949	167	09.234	no	

Appendix O: South of Spill Impact Zone Tow Net Data Table

Appendix O: South of Spill Impact Zone Tow Net Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Tow #	Date	Time In	Time Out	Speed Kts.	Net Depth (ft.)	Starting Lat		Starting Lon		Ending Lat		Ending Lon		Oil	Notes	Distance (nm)	Volume Sampled Gallons	Time (hours)	Average Speed (knots)	CPUE
A L	T642-1	2/5/05	10:39	11:40	2	1	53	31.370	167	06.750	53	32.660	167	12.230	no		3.5	1,127,574	1.02	3.5	
A L	T642-2	2/5/05	10:39	11:40	2	9	53	31.370	167	06.750	53	32.660	167	12.230	no		3.5	1,127,574	1.02	3.5	
A L	T643-1	2/5/05	13:16	14:19	2.5	1	53	32.130	167	06.540	53	33.420	167	12.370	no		3.7	1,189,768	1.05	3.5	
A L	T643-2	2/5/05	13:16	14:19	2.5	9	53	32.130	167	06.540	53	33.420	167	12.370	yes		3.7	1,189,768	1.05	3.5	
A L	T644-1	2/5/05	16:06	17:08	2.5	1	53	31.550	167	03.320	53	32.220	166	59.000	no		2.7	854,145	1.03	2.6	
A L	T644-2	2/5/05	16:06	17:08	2.5	9	53	31.550	167	03.320	53	32.220	166	59.000	no		2.7	854,145	1.03	2.6	0.157655
A L	T645-1	2/6/05	8:05	9:06	2.5	1	53	32.770	167	15.630	53	30.870	167	11.750	no		3.0	961,783	1.02	2.9	
A L	T645-2	2/6/05	8:05	9:06	2.5	9	53	32.770	167	15.630	53	30.870	167	11.750	no		3.0	961,783	1.02	2.9	
A L	T646-1	2/6/05	10:22	11:23	2.5	1	53	28.630	167	09.910	53	30.680	167	14.750	no		3.5	1,137,663	1.02	3.5	
A L	T646-2	2/6/05	10:22	11:23	2.5	9	53	28.630	167	09.910	53	30.680	167	14.750	no		3.5	1,137,663	1.02	3.5	
A L	T647-1	2/6/05	12:06	13:09	2.5	1	53	28.490	167	13.160	53	30.400	167	17.560	yes	stain; photo #1347	3.2	1,043,022	1.05	3.1	
A L	T647-2	2/6/05	12:06	13:09	2.5	9	53	28.490	167	13.160	53	30.400	167	17.560	yes	stain	3.2	1,043,022	1.05	3.1	0.318221
A L	T648-1	2/7/05	10:43	11:47	2.5	1	53	28.600	167	21.820	53	27.520	167	17.660	yes	stain; photos #1362,3	2.7	869,566	1.07	2.5	
A L	T648-2	2/7/05	10:43	11:47	2.5	9	53	28.600	167	21.820	53	27.520	167	17.660	yes	stain; photo #1364	2.7	869,566	1.07	2.5	
A L	T649-1	2/7/05	14:01	15:03	2.5	1	53	25.400	167	20.490	53	28.060	167	23.440	yes	stain; photo #1368	3.2	1,026,081	1.03	3.1	
A L	T649-2	2/7/05	14:01	15:03	2.5	9	53	25.400	167	20.490	53	28.060	167	23.440	no		3.2	1,026,081	1.03	3.1	
A L	T650-1	2/7/05	15:37	16:38	2.5	1	53	25.450	167	23.810	53	28.460	167	26.220	no		3.3	1,073,327	1.02	3.3	
A L	T650-2	2/7/05	15:37	16:38	2.5	9	53	25.450	167	23.810	53	28.460	167	26.220	no		3.3	1,073,327	1.02	3.3	0.505225
A L	T651-1	2/8/05	10:46	11:43	3.5	1	53	23.790	167	31.580	53	25.840	167	35.990	yes	2 tarballs 1 cm, 3 smears; photos #1375,6; sample AL-T651-1 Analyzed: Bunker fuel IFO 380	3.3	1,072,920	0.95	3.5	
A L	T651-2	2/8/05	10:46	11:43	3.5	9	53	23.790	167	31.580	53	25.840	167	35.990	no		3.3	1,072,920	0.95	3.5	
A L	T652-1	2/8/05	13:18	13:47	2.5	1	53	23.330	167	29.850	53	24.440	167	31.200	no		1.4	441,328	0.48	2.8	
A L	T652-2	2/8/05	13:18	13:47	2.5	9	53	23.330	167	29.850	53	24.440	167	31.200	no		1.4	441,328	0.48	2.8	
A L	T653-1	2/9/05	18:11	19:09	2.5	1	53	27.710	167	21.390	53	24.840	167	34.190	no		8.2	2,622,307	0.97	8.4	
A L	T653-2	2/9/05	18:11	19:09	2.5	9	53	27.710	167	21.390	53	24.840	167	34.190	no		8.2	2,622,307	0.97	8.4	0.604368
A L	T654-1	2/10/05	10:43	11:43	3	1	53	23.340	167	37.170	53	26.240	167	39.480	no		3.2	1,033,282	1.00	3.2	
A L	T654-2	2/10/05	10:43	11:43	3	9	53	23.340	167	37.170	53	26.240	167	39.480	no		3.2	1,033,282	1.00	3.2	
A L	T655-1	2/10/05	12:58	13:38	3	1	53	30.240	167	44.720	53	28.280	167	46.900	no		2.4	756,498	0.67	3.5	
A L	T655-2	2/10/05	12:58	13:38	3	9	53	30.240	167	44.720	53	28.280	167	46.900	no		2.4	756,498	0.67	3.5	
A L	T656-1	2/10/05	15:24	16:28	3	1	53	19.620	167	50.120	53	23.090	167	43.860	no		5.1	1,641,228	1.07	4.8	
A L	T656-2	2/10/05	15:24	16:28	3	9	53	19.620	167	50.120	53	23.090	167	43.860	no		5.1	1,641,228	1.07	4.8	0
A L	T657-1	2/11/05	8:19	9:19	3	1	53	26.470	167	40.730	53	25.500	167	46.430	no		3.5	1,136,732	1.00	3.5	
A L	T657-2	2/11/05	8:19	9:19	3	9	53	26.470	167	40.730	53	25.500	167	46.430	no		3.5	1,136,732	1.00	3.5	
A L	T658-1	2/11/05	9:33	10:34	3	1	53	23.400	167	46.210	53	20.230	167	52.370	no		4.9	1,562,344	1.02	4.8	
A L	T658-2	2/11/05	9:33	10:34	3	9	53	23.400	167	46.210	53	20.230	167	52.370	no		4.9	1,562,344	1.02	4.8	
A L	T659-1	2/11/05	11:58	12:53	3	1	53	24.930	167	48.070	53	23.790	167	43.170	yes	smears and stain, 6 cm long; photos #1388-90	3.1	1,009,272	0.92	3.4	
A L	T659-2	2/11/05	11:58	12:53	3	9	53	24.930	167	48.070	53	23.790	167	43.170	no		3.1	1,009,272	0.92	3.4	
A L	T660-1	2/11/05	17:51	18:54	3	1	53	29.860	167	31.540	53	29.830	167	25.280	no		3.7	1,198,621	1.05	3.6	
A L	T660-2	2/11/05	17:51	18:54	3	9	53	29.860	167	31.540	53	29.830	167	25.280	no		3.7	1,198,621	1.05	3.6	
A L	T661-1	2/11/05	19:17	20:19	3	1	53	32.440	167	23.100	53	32.350	167	17.590	no		3.3	1,054,322	1.03	3.2	
A L	T661-2	2/11/05	19:17	20:19	3	9	53	32.440	167	23.100	53	32.350	167	17.590	no		3.3	1,054,322	1.03	3.2	0.251623
A L	T662-1	2/12/05	8:28	9:30	3	1	53	36.070	167	15.300	53	39.730	167	12.900	no		3.9	1,263,964	1.03	3.8	
A L	T662-2	2/12/05	8:28	9:30	3	9	53	36.070	167	15.300	53	39.730	167	12.900	yes	1.5 cm tarball; photo #1392	3.9	1,263,964	1.03	3.8	
A L	T663-1	2/12/05	9:47	10:49	3	1	53	39.680	167	09.620	53	43.030	167	08.630	yes	smear; photo #1393	3.4	1,094,648	1.03	3.3	
A L	T663-2	2/12/05	9:47	10:49	3	9	53	39.680	167	09.620	53	43.030	167	08.630	no		3.4	1,094,648	1.03	3.3	

Appendix P: South of Spill Impact Zone Fisheries Sampling Pot Data Table

Appendix P: South of Spill Impact Zone Fisheries Sampling Pot Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Pot #	Date In	Time In	Depth (fa)	Latitude		Longitude		Date Out	Time Out	Tanner Crab	Grey Cod	Sculpin	Halibut	Oil	Notes
A L	P104	2/5/05	12:24	9	53	34.056	166	08.385	02/06/05	13:52	0	0	0	1	no	
A L	P105	2/5/05	12:38	17	53	32.859	167	08.442	02/06/05	14:04	0	2	2	0	no	
A L	P106	2/5/05	12:49	27	53	32.034	167	06.827	02/06/05	14:15	1	0	3	0	no	
A L	P107	2/5/05	13:02	25	53	31.365	167	04.770	02/06/05	14:26	1	4	1	0	no	
A L	P108	2/5/05	14:33	27	53	32.108	167	11.567	02/06/05	14:57	0	3	0	0	no	
A L	P109	2/5/05	14:48	9	53	32.085	167	08.497	02/06/05	15:15	31	2	0	0	no	
A L	P110	2/5/05	15:02	9	53	31.131	167	06.366	02/06/05	15:30	0	9	0	0	no	
A L	P111	2/5/05	15:13	8	53	30.772	167	04.636	02/06/05	15:40	0	0	0	1	no	
A L	P112	2/5/05	15:33	12	53	31.282	167	03.322	02/06/05	15:50	0	2	1	0	no	
A L	P113	2/5/05	17:15	8	53	32.004	166	58.741	02/06/05	16:32	0	3	0	0	no	
A L	P114	2/6/05	9:13	15	53	30.498	167	11.443	02/07/05	18:49	0	1	1	0	no	
A L	P115	2/6/05	9:23	24	53	30.469	167	12.625	02/07/05	18:38	0	0	0	0	no	
A L	P116	2/6/05	9:39	30	53	31.041	167	15.786	02/07/05	18:15	0	6	2	0	no	
A L	P117	2/6/05	9:53	25	53	30.405	167	14.423	02/07/05	18:27	0	2	2	1	no	
A L	P118	2/6/05	10:08	11	53	29.242	167	11.785	02/07/05	19:01	0	1	1	0	no	
A L	P119	2/6/05	10:18	6	53	28.688	167	10.187	02/07/05	19:11	0	0	2	0	no	
A L	P120	2/6/05	11:34	30	53	29.961	167	16.383	02/07/05	18:05	0	4	3	0	no	
A L	P121	2/6/05	11:41	15	53	29.508	167	17.033	02/07/05	17:57	0	8	0	0	no	
A L	P122	2/6/05	11:56	20	53	28.977	167	14.079	02/07/05	17:42	0	4	0	2	no	
A L	P123	2/6/05	12:02	14	53	28.504	167	13.421	02/07/05	17:34	0	1	4	0	no	
A L	P124	2/7/05	10:38	30	53	28.757	167	22.202	02/09/05	13:56	0	12	1	0	no	
A L	P125	2/7/05	11:58	6	53	27.288	167	16.458	02/09/05	14:27	0	0	0	0	no	
A L	P126	2/7/05	12:09	9	53	27.327	167	16.868	02/09/05	14:32	0	0	0	0	no	
A L	P127	2/7/05	12:56	5	53	26.507	167	17.869	02/09/05	15:11	0	0	1	0	no	
A L	P128	2/7/05	13:00	6	53	26.345	167	17.617	02/09/05	15:18	0	0	0	0	no	
A L	P129	2/7/05	13:41	16	53	26.455	167	22.452	02/09/05	15:53	0	4	0	1 dead	no	
A L	P130	2/7/05	13:49	7	53	26.030	167	21.301	02/09/05	16:03	0	0	1	0	no	
A L	P131	2/7/05	13:57	7	53	25.324	167	20.411	02/09/05	16:13	0	1	0	0	yes	yes on one pot snare (saved in seprate bag & sampled); sample AL-P131 analyzed: Bunker Fuel IFO 380
A L	P132	2/7/05	15:22	10	53	26.152	167	24.269	02/09/05	16:50	0	4	5	0	no	
A L	P133	2/7/05	15:33	5	53	25.412	167	23.835	02/09/05	16:59	0	1	0	0	no	
A L	P134	2/9/05	9:32	7	53	23.340	167	29.725	02/10/05	20:21	0	0	0	0	no	
A L	P135	2/9/05	10:01	10	53	23.675	167	32.233	02/10/05	20:05	2	0	0	0	no	
A L	P136	2/9/05	10:20	16	53	24.655	167	34.387	02/10/05	19:27	0	2	1	1	no	
A L	P137	2/9/05	12:07	46	53	25.868	167	35.099	02/10/05	19:14	0	4	0	0	no	
A L	P138	2/9/05	12:26	71	53	27.313	167	36.674	02/10/05	17:11	0	0	0	0	no	
A L	P139	2/9/05	12:27	25	53	25.721	167	30.829	02/10/05	18:51	0	14	1	0	no	
A L	P140	2/9/05	12:53	49	53	27.244	167	32.412	02/10/05	18:35	0	4	0	0	no	
A L	P141	2/9/05	13:09	31	53	27.392	167	28.783	02/10/05	18:15	0	8	0	0	no	
A L	P142	2/9/05	13:23	18	53	26.554	167	26.365	02/10/05	18:02	0	4	2	0	no	
A L	P143	2/9/05	13:36	40	53	27.904	167	26.879	02/10/05	17:47	0	0	0	0	no	
A L	P144	2/10/05	9:33	15	53	23.972	167	35.366	02/11/05	16:03	0	0	0	1	no	

Appendix P: South of Spill Impact Zone Fisheries Sampling Pot Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Pot #	Date In	Time In	Depth (fa)	Latitude		Longitude		Date Out	Time Out	Tanner Crab	Grey Cod	Sculpin	Halibut	Oil	Notes
A L	P145	2/10/05	9:55	8	53	22.833	167	37.933	02/11/05	15:32	0	1	0	0	no	
A L	P146	2/10/05	10:10	40	53	24.333	167	38.670	02/11/05	15:16	0	2	1	2	no	
A L	P147	2/10/05	10:26	19	53	23.391	167	39.969	02/11/05	15:05	0	6	2	1	no	
A L	P148	2/10/05	12:02	29	53	25.387	167	43.220	02/11/05	13:11	0	6	0	0	no	
A L	P149	2/10/05	12:43	48	53	31.246	167	42.507	02/11/05	17:05	0	0	0	0	no	
A L	P150	2/10/05	14:31	11	53	24.229	167	49.814	02/11/05	11:51	0	9	0	0	no	
A L	P151	2/10/05	14:44	27	53	23.282	167	48.771	02/11/05	13:14	0	2	1	0	no	
A L	P152	2/10/05	15:00	33	53	21.279	167	46.903	02/11/05	11:19	0	38	0	0	no	
A L	P153	2/10/05	15:20	25	53	19.691	167	49.591	02/11/05	14:08	0	23	0	0	no	

Appendix Q: South of Spill Impact Zone Long- Line Data Table

Appendix Q: South of Spill Impact Zone Long Line Data
(NOTE: Key to abbreviations is in Appendix R)

Vessel	Long Line #	Date in	Time In	Starting Bottom Depth	Starting Lat		Starting Lon		Date Out	Time Out	Ending Bottom Depth	Ending Lat		Ending Lon		Oil?	Notes
A L	L001	02/05/05	15:20	9	53	30.728	167	04.756	02/07/05	8:58	20	53	30.867	167	04.661	no	
A L	L002	02/05/05	15:58	15	53	31.191	167	03.342	02/06/05	15:58	33	53	31.186	167	03.547	no	
A L	L003	02/06/05	18:08	8	53	28.560	167	10.910	02/07/05	19:22	8	53	28.673	167	10.977	no	
A L	L004	02/07/05	12:02	3	53	27.311	167	16.433	02/09/05	15:45	5	53	27.323	167	16.586	no	
A L	L005	02/08/05	10:27	14	53	24.549	167	34.130	02/10/05	19:35	17	53	24.666	167	34.159	no	
A L	L006	02/10/05	10:01	15	53	23.279	167	37.748	02/11/05	15:45	16	53	23.371	167	37.822	no	
A L	L007	02/12/05	13:50	16	53	38.665	167	01.484	02/18/05	14:38	36	53	38.566	167	01.696	yes	oil slightly evident on 3 snares of the first 1/3 of the line, and one snare on the second 1/3; photo #1471
A L	L008	02/12/05	17:23	23	53	44.923	166	52.318	02/15/05	18:48	35	53	44.873	166	52.439	no	

Appendix R: Legend

Beach Survey			
Tarball(s) ID		**Tidal Zone**	
A	Airport Beach	UI	Upper Intertidal
F	Front Beach	MI	Middle Intertidal
L	Little South America	SU	Super Tidal
SP	Spit Beach	LI	Lower Intertidal
SU	Summer Bay		
WB	Wide Bay		

Vessel Name	
A L	Alaskan Lady
C	Commitment
E	Exito
N F	Northern Fury
S	Sirene

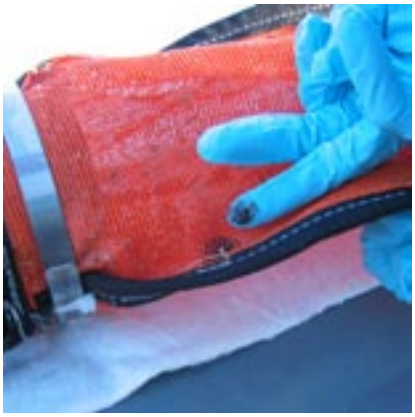
Appendix S: Tar Ball Terminology Fact Sheet

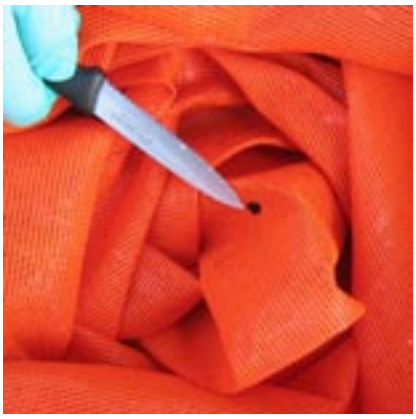
Terminology used in describing oil encountered in tow nets during *Selendang Ayu* fisheries water quality sampling program

In describing results from tow net sampling in Unalaska Bay and other areas, three terms have been used to describe the oil observed on the tow net: stain, smear, and tarball.

Stain = spot of oil that fluoresces under UV light observed on net, but not enough to wipe off with glove or sample.

Smear = oil adhered to net in sufficient quantity to wipe off with a glove but not enough oil to sample for lab analysis.





Tarball = anything larger than a smear, sufficient size to sample for lab analysis.

Please note that the difference between these three types of oil evidence are not necessarily indicative of the total amount of oil encountered in the net, but may in fact have more to do with the length of retention in the tow net. For example, if a tarball is encountered early in a thirty-minute tow, by the time the net is pulled, all that remains as evidence of the encounter may be a smear or stain.

Appendix T: Pollock and Pacific cod catcher vessel pom-pom pack information sheet

IMC • United States Coast Guard • Alaska Department of Environmental Conservation

IMC

U.S. Department of Homeland Security
United States Coast Guard

Alaska Department of Environmental Conservation

Unified Command: *M/V Selendang Ayu Grounding*

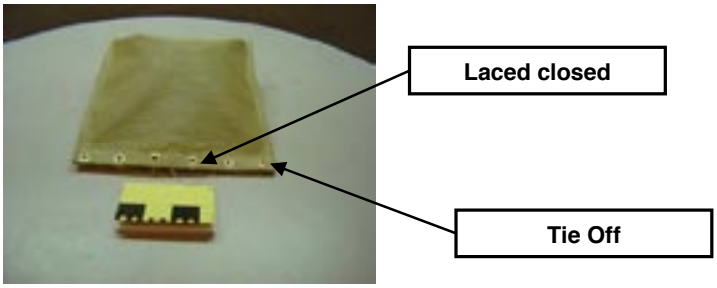
JANUARY 31, 2005

NOTICE TO PACIFIC COD CATCHER BOATS

Cooperative efforts between the fishing industry, the State of Alaska and the M/V Selendang Ayu Unified Command continue with the goal of collecting data and taking steps to minimize the risk of oil contamination in fish/shellfish.

Pacific cod catcher boats delivering their catches into the Dutch Harbor/Unalaska area are being asked to install and maintain oil detection “pom pom packs” in their RSW tanks.

The “pom pom packs” will consist of a mesh bag enclosing “pom pom snare material” designed to attract and capture floating oil contaminants. The bag assemblies will be provided to catcher boats.



Each vessel is also asked to provide a small trawl float and to secure each “pom pom pack” with the float to keep the bag near the surface of the water inside each RSW tank.

Please secure the “pom pom pack” in the tank prior to tank down. **REMOVE THE PACK FROM THE TANK** and check it for signs of oil contamination before the fish are placed in the tank. Inspection should include smelling for oil and looking for tar balls or other contamination both on the outside of the bag and on the pom poms inside. Also, please check the tank for any oil sheen. If oil contamination is found:

- Please place the contaminated pack in the plastic bag provided and enter the date, vessel name and location (lat x long) into the vessel’s log and on the bag.
- Notify your processor who will notify the Alaska Department of Environmental Conservation, (Rebecca Sheffield, tel 581-4632 and cell 391-2118)
- Alaska Department of Environmental Conservation inspectors will retrieve the contaminated pack upon vessel's return to port.
- Follow your regular tank cleaning procedures.

If no oil contamination is detected store the pack where it will not be contaminated. The mesh bags and pom poms are made to be reused during the season.

Appendix U – Acronyms

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
BS	Beach segment
CG	Coast Guard
CPUE	Catch per unit effort
DH	Dutch Harbor
EH	Environmental Health (ADEC)
F/V	Fishing vessel
GPS	Global positioning system
ICS	Incident Command System
IFO	Intermediate Fuel Oil
IPHC	International Pacific Halibut Commission
IFQ	Individual Fishery Quota
kts	knots
LAT	latitude
LI	lower intertidal
LON	longitude
LL	Long line
LLC	Limited Liability Company
MI	middle intertidal
M/V	Motor vessel
nm	nautical miles
NOAA	National Oceanic and Atmospheric Administration
NTP	Notice to proceed
PSD	Passive snare device
RRO	residual range oil
RSW	Refrigerated Sea Water
SS	Seawater strainer
SSC	Scientific Support Coordinator
SU	super tidal
TPH	Total petroleum hydrocarbons
TPM	Tarballs per million gallons of seawater sampled
UC	Unified Command
UV	Ultra-violet
UI	upper intertidal

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