

ALASKA DEPARTMENT OF FISH AND GAME

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WATERFOWL REPORT

by

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Volume X
Annual Project Segment Report
Federal Aid in Wildlife Restoration
Project W-13-R-3 and W-17-1, Work Plan C

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WORK PLAN SEGMENT REPORT
FEDERAL AID IN WILDLIFE RESTORATION

STATE: Alaska TITLE: Small Game and Furbearer
PROJECT NO.: W-13-R-3 and W-17-1 Investigations
WORK PLAN: C TITLE: Waterfowl
JOBS: 1,2,3,4,5,6,8,9 (W-13-R-3); 1,2,3,4,8,9,10 (W-17-1)
PERIOD COVERED: January 1, 1968 to December 31, 1968

ABSTRACT

At the request of the U.S. Fish and Wildlife Service and Oregon State University, dusky Canada geese were banded on the Copper River delta. A total of 449 geese were captured using a large wing trap. Sixteen of these birds had been banded previously; but the remaining 433 geese, including 271 juveniles and 162 adults, were subsequently banded and released.

Waterfowl bag checks were conducted on hunters utilizing four South-central Alaska marshes. Large numbers of waterfowl were present, but mild weather resulted in poor hunting during most of the season. Hunters bagged on average of 0.7 fewer ducks per day in 1968 than in 1967. By increasing the average length of each trip by 0.5 days hunters bagged 0.3 more ducks per trip.

Species composition of the bag changed very little from that of 1967 on Anchorage area marshes. Considerable change was noted in the composition of the hunters' bag in the Cordova area. Mallards increased by 13 percent over 1967; but pintails, widgeons, green-winged teal and godwalls decreased significantly.

State and federal agencies concerned with pollution cooperated in enumerating, investigating and documenting pollution. Aerial reconnaissance flights were made to investigate reported incidences of pollution and to patrol for unreported pollution.

Two cases of waterfowl and sea bird contamination by oil were investigated and documented. Daily flights were made over Cook Inlet to observe and record the dispersion of 1,000 barrels of oil lost through a pipeline break on October 23, 1968.

Initial attempts to band mallards wintering in Southeastern Alaska met with little success.

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OBJECTIVES

To determine the effect of land uplifting associated with the earthquake of March 27, 1964 on the production of waterfowl on the Copper River Delta.

To identify important waterfowl breeding, migration and hunting areas.

To provide the Pacific Flyway Council and Regulations Committee with annual estimates of statewide waterfowl production.

To determine annual take, hunter success, species, composition and sex and age ratios of birds harvested.

To observe and document the effects of pollution and industrial development on waterfowl and wetland habitat in Alaska.

To determine wintering areas, migration patterns, and exploitation rates of waterfowl wintering in Alaska.

To discover, through experimental crop production and experimental manipulation of natural habitats, how to maintain and improve habitat quality in the northern part of the North American continent.

TECHNIQUES

At the request of the U.S. Fish and Wildlife Service and Oregon State University, dusky Canada geese (Branta canadensis occidentalis) were banded on the Copper River Delta. These birds were captured in a large, wing trap which was built adjacent to Alagonik Slough near the geographic center of the goose nesting area. Wings for this trap were constructed by six-foot long spruce poles driven into the ground about 15-20 feet apart and draped loosely with 5 1/4-inch mesh red salmon gill net. The holding pen, made of spruce poles and chicken wire and built about 100 feet from the slough edge, consisted of one large central pen flanked by two smaller pens for holding juvenile geese. All portions of this holding pen were roughly circular in shape with the central pen being approximately eight feet in diameter. Experience indicated that a larger central pen would result in injured geese.

For several days following completion of the trap, early morning flights were made to determine when sufficient numbers of geese (700-1000) were near enough to the trap to facilitate their capture. The actual goose drive was accomplished using one airplane (Piper Super Cub, PA 18) and three skiffs. Flocked geese were herded into Alaganik Slough with continued low-level passes by the aircraft, then driven into the trap itself with the skiffs. As the geese neared the trap several members of the banding crew positioned themselves along its wings to insure that the birds would enter the trap. When most geese were on dry ground within the confines of the wings the skiff operators beached their craft and walked slowly behind the birds forcing them eventually into the holding pens. With all birds in the holding pens the trap door was closed and juvenile geese were segregated into the two smaller holding pens. The geese were then allowed to remain undisturbed for 10-15 minutes to become adjusted to the trap, then banded.

A minimum of six men was required to complete the banding operation. Two men caught the geese in the holding pen, two men determined the sex and age of the birds, one man banded the birds and one man recorded pertinent data. An experienced crew using this procedure can sex, age and band about 350 geese in six hours.

Waterfowl hunters returning from the field were checked on the Copper River Delta, Palmer Hay Flats and the Anchorage road system marshes. Hunters returning from the Susitna Flats were checked at Lake Hood. These hunters were queried about the area hunted, method of hunting and crippling losses. The sex, age and species of each bag were recorded.

Flights over Anchorage area marshes were made in conjunction with pollution surveillance flights (see report for Job C-8) to observe waterfowl concentrations and habitat conditions.

Aerial reconnaissance surveys were flown by the Alaska Department of Fish and Game, Federal Water Pollution Control Administration and Bureau of Sport Fisheries and Wildlife in a cooperative effort to assess and document pollution and its effects on waterfowl and other sea birds in Cook Inlet. These flights were of two types: 1) those to observe reported spills and 2) those to patrol for unreported spills.

Data collected on pollution observations included date, location, type of pollutant, source, cause and extent.

FINDINGS

Ecological Studies of the Copper River Delta

(C-1)

Dusky Canada Goose Banding

During the 1968 goose banding operation on the Copper River Delta, a total of 449 geese were captured. Sixteen of these birds were adults which had been previously banded. Consequently, 433 geese were banded, including 271 juveniles and 162 adults. The sex and age composition of these banded geese is shown in Table 1.

Table 1. Sex and age composition of 433 dusky Canada geese banded on the Copper River Delta in 1968.

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Undetermined</u>	<u>Total</u>
Adult	33	33	96	162
Juvenile	144	122	5	271
Total	177	155	101	433

Habitat Inventory

(C-2)

This job was inactive during 1968. Future planning, however, entails a thorough and comprehensive appraisal of Alaska's wetlands.

Statewide Waterfowl Production

(C-3)

This job was inactive during 1968.

Statewide Waterfowl Harvest

(C-4)

Weather and Habitat Conditions

An extremely dry summer left water levels in most Southcentral marshes very low. In the Trading Bay area many small lakes were dry and most of the larger lakes were very low. As a result, the area was less attractive to waterfowl and hunting was poor. Although most other Southcentral marshes had low water levels, none were as severely affected as Trading Bay.

Unusually large numbers of waterfowl were present on most Southcentral marshes for the opening of the season. Numerous sightings of blue-winged teal led many observers to believe that ducks unsuccessful in nesting in the drought-stricken prairie provinces had moved into the area. Hunters reported large numbers of ducks on the Susitna flats but found hunting difficult after the young birds had moved to the mud flats where they were unavailable to hunters. The lack of storms throughout the season allowed ducks to stay on the mud flats except during periods of very high tides. This resulted in rather poor hunting. Ducks were available in the Anchorage area through the weekend of the 12th and 13th of October.

Duck hunting in the Cordova area continued to be poor. Hunters managed to bag more birds per trip by increasing the length of their trips. Days spent in the field per hunting trip rose from 1 to 1.4. Ducks were available in the Cordova area through the end of October. After the first of November only a few local mallards remained.

Bag Checks

More bag checks were made in the Cordova area this year than last. Fewer bag checks were made on hunters utilizing the Anchorage road system marshes and the Susitna flats. Because of the different types of hunting in the various areas the Days-Per-Hunter and Ducks-Per-Day figures differed considerably from last year's total for Southcentral Alaska.

Although hunters on the Susitna flats expressed the opinion that hunting was poorer than last year, bag check data indicated no change. This may be accounted for because a large portion of the bag checks were made on opening weekend hunters who were highly successful, and a sizable portion of the bag checks made during mid-season on the Susitna flats hunters were lost before reaching the reporting biologist.

A total of 293 hunters who spent 513 days afield were checked. Their bag consisted of 1,299 ducks, 72 geese, 2 cranes and 80 snipe. Bag-check statistics indicate that hunters spent an average of one half day more in the field per trip. Although fewer ducks were bagged per day than last year, the increased effort resulted in more ducks per hunter. Crippling loss was 14% on ducks and 13% on geese.

Species Composition of the Harvest

Data presented in Table 4 indicate that in the Anchorage area, pintail, widgeon and green-winged teal comprised about the same percentages of the bag as last year while mallards were down about 3%. Percentages of shovelers and gadwalls were up considerably.

In the Cordova area, the percentage of mallards in the bag jumped from 19.6 last year to 32.6 this year, while pintail, widgeon, green-wing teal and gadwall decreased substantially. Canada geese comprised 15.2% of the bag of the Cordova area hunters this year compared to 20.3% last year.

Effects of Pollution and Industrial Development

(C-8)

Two instances of oiling of sea birds and waterfowl were documented in 1968 (Table 5). On October 4, 1968 a report was received at the ADF&G office in Homer that large numbers of oil-covered sea birds were observed on the beach at Anchor Point. Aerial surveys made on October 5 confirmed this report. An estimated 250 to 350 distressed pigeon guillemots (Cepphus columba) were observed on a 10-mile stretch of beach immediately south of the mouth of Anchor River. Personnel of the ADF&G, BSF&W, BCF, and FWPCA conducted a beach clean-up on October 6 to remove distressed birds from the area utilized by the public near the mouth of Anchor River. A total of 122 guillemots and 5 murres (Uria spp) was removed.

Those birds strong enough to escape capture were dispatched with a shotgun. All birds collected were contaminated with a hard, weathered oil. Unlike some of the birds collected last year, none were completely engulfed in oil. Apparently, the oil affecting these birds was a thinner type. Laboratory analysis of the pollutant is not available at this time.

A second case of waterfowl contamination by oil occurred on October 26, 1968. FWPCA personnel collected two mallards in Redoubt Bay and found them to be contaminated with oil.

To determine the extent to which the waterfowl population of the area was affected, personnel of ADF&G, FWPCA, and BSF&W collected ducks in Redoubt Bay. Five mallards, (Anas platyrhynchos); one bufflehead (Bucephala albeola); one merganser (Mergus spp); and one red-necked grebe (Podiceps grisegena) were collected. All 5 mallards and the bufflehead were contaminated with oil. With the exception of one hen mallard collected by the FWPCA on October 26, none of these birds had enough oil on them to mat feathers significantly and cause a loss of insulation.

On October 23, three days prior to the first collection, the Shell Oil Company Nikiski Middleground Shoal pipeline broke, releasing an estimated 1,000 barrels of crude oil into Cook Inlet. Although daily flights were made to record the movements and dispersion of the slick, oil was never observed in Redoubt Bay. Possibly oil drifted through this area between observations, or a thin layer of oil, undetectable from the air, may have been present causing contamination of these birds.

The following observations were made on the movement and dispersion of the slick:

October 23, 1968: Slick covered an area from old Tyonek to 12 miles below the forelands. Dark, heavy masses were located in a 1 square-mile area at the lower end of the slick area. The slick was between 5 and 8 miles wide, broken and covered an area of about 240 square miles.

October 24, 1968: The heavy mass located in a 1 square-mile area on the 23rd was observed to be reduced to a line 12 miles long and 400 yards wide with large areas of grey sheen interspersed with black masses. Broken grey sheens were observed throughout the area from Granite Point to the Forelands.

October 25, 1968: Broken grey sheen covered most of the area between the forelands and the north end of Kalgin Island. Some dark masses of oil were observed.

Mallard Populations Wintering in Southeastern Alaska

(C-9)

An attempt was made in January 1967 to band wintering mallards at Faragut Bay near Petersburg. Inclement weather conditions coupled with an inacceptance of corn bait by the local mallard population resulted in the failure of this banding effort. U.S. Fish and Wildlife Service Game Management Agents from Juneau attempted to band this area in December 1967 with slightly better success. Liberal prebaiting with kernal corn finally attracted enough ducks to the trapping area that 114 mallards were captured and banded. Future banding efforts in Southeastern Alaska will stress the development of a technique whereby adequate numbers of ducks may be captured for banding.

Maintenance and Improvement of Northern Waterfowl Habitats

(C-10)

This job was inactive during 1968. Future planning will include a program in cooperation with personnel of the U.S. Forest Service to determine the effectiveness of pothole blasting for improving hunting areas in Southeastern Alaska.

October 26, 1968: No observations were made.

October 27, 1968: Scattered grey sheens were observed from forelands to Granite Point. No black masses were seen.

As indicated in previous reports, oil may cling to suspended material in water, become weighted and sink. Oil also spreads and thins until it is undetectable with the unaided eye. These phenomena apparently explain the disappearance of oil from the surface of the Inlet.

Table 2.

HARVEST INFORMATION FROM SOUTHCENTRAL ALASKA 1966 - 1968

	Days Per Hunter	Ducks Per Day	Ducks Per Hunter
Cordova (1968)	1.4	2.3	3.2
Hay Flats (1968)	0.6	5.4	3.5
Anchorage Road System (1968)	0.5	2.0	1.0
Susitna Flats (1968)	2.0	3.2	6.4
Southcentral Total (1968) (292 hunters)	1.8	2.5	4.5
Southcentral Total (1967) (376 hunters)	1.3	3.2	4.2
Southcentral Total (1966) (138 Hunters)	1.3	3.1	4.1

Table 3.

GOOSE HARVEST INFORMATION 1968

	Days Per Hunter	Geese Per Day	Geese Per Hunter
Cordova	1.4	0.4	0.6
Susitna	2.0	0.6	0.2

Table 4.

SPECIES COMPOSITION OF THE 1968 SOUTHCENTRAL ALASKA WATERFOWL BAG CHECKS

	<u>Anchorage</u>		<u>Cordova</u>		<u>Total</u>	
	No.	%	No.	%	No.	%
Pintail	349	33.6	59	17.9	403	29.8
Mallard	159	15.5	107	32.6	266	19.7
Widgeon	219	21.4	40	12.1	259	19.2
Green-winged Teal	99	9.6	30	9.1	129	9.5
Blue-winged Teal	5	0.5	3	.9	8	0.6
Shoveler	100	9.8	23	7.0	123	9.1
Gadwall	14	1.3	4	1.2	18	1.3
Scaup	2	.2	7	2.1	9	0.7
Canvasback	7	.7	0	0.0	7	0.5
Goldeneye	30	2.9	1	0.3	31	2.3
Bufflehead	4	.4	0	0.0	4	0.3
Old Squaw	1	.1	0	0.0	1	Trace
Merganser	0	0.0	4	1.2	4	0.3
White-fronted Goose	7	.7	0	0.0	7	0.5
Canada Goose	14	1.4	50	15.2	64	4.5
Crane	2	.2	0	0.0	2	0.1
Unknown	16	1.5	0	0.0	16	1.2
	1,023	99.8	328	99.6	1,351	99.6

Table 5. Oil and refuse observations in Cook Inlet from 8/25/67 to 11/12/68.

Date	Location	Type	Source	Cause	Magnitude
8-25	Granite Point	Oil	Barge	Barge alongside	Iridescent sheen; no estimate of size
9-19	Trading Bay, 4 mi N of McArthur River	Oil	Drill barge Atlantic-Richfield	Unknown	Iridescent sheen from rig to beach waterfowl feeding in oil sheen
9-20	Nikiski Docks to Kenai River	Oil	Unknown	Cause unknown. Emission of white fluid from Rig Tenders dock noted	1/2x3 miles and around vessels, oil observed near mouth of Kenai of Kenai River
9-20	Kikishka, Arness dock	Oil	Unknown	Unknown	Large black globs and sheen in area of outer sunken vessel type dock
9-27	Trading Bay, 4 mi N of McArthur River	Oil	Vessel Drill barge	Atlantic-Richfield barge on beach	400 ft long, 100 ft wide at outer end
9-27	1 mile east of Pan Am "B"	Oil	Unknown	Unknown	3/4 mile long, 20 yd wide
9-27	Nikiski - Rig Tenders Dock	Oil	Unknown	Unknown	Around south side of dock
9-27	Nikiski, Rig Tenders Dock	Oil	Unknown	Unknown	From south side of dock 3 miles dock beach
9-27	Nikishka - Arness Terminal	Oil	Unknown	Unknown	Sheen completely around facility
10-2	East Forelands between Shell "C" and Pan Am "D"	Oil	Unknown	Unknown	3 miles long with black ropy material

Table 5. (Continued)

Date	Location	Type	Source	Cause	Magnitude
10-26	Forelands-Shell "C"	Crude Oil	Platform Shell "C"	Accidental valve malfunction	10 bbls
11-22	Homer	Black Oil	Unknown	Presumed tanker ballast	4 oiled ducks
11-23	Anchor Point	Black Oil	Unknown	Presumed tanker ballast	10-12 oiled ducks
11-24	Homer Beach	Black Oil	Unknown	Presumed tanker ballast	Hundreds of oiled ducks
11-24	Ninilchik	Black Oil	Unknown	Presumed tanker ballast	Several oiled ducks
11-25	Homer area	Black Oil	Unknown	Presumed tanker ballast	43 dead ducks
11-30	Rabey Spit, Seldovia Bay	Black Oil	Unknown	Presumed tanker ballast	6 dead ducks
12-8	Halibut Cove	Black Oil	Unknown	Presumed tanker ballast	2 sick cormorants, 1 sick loon, 7 dead ducks
11-26 27 28	Below Forelands	Black Oil	Platform	Drill stem test	90 bbls a day for 7 hrs
12-6	Between Forelands and Rig Tenders Dock	Black Oil	Unknown	Unknown	200 by 400 yards
12-7	1-1/2 mi W of Nikishka	Black Oil	Unknown	Unknown	Small amount of black oil

Table 5. (Continued)

Date	Location	Type	Source	Cause	Magnitude
12-21	East Foreland area	Oil	Unknown	Possible diesel from drilling mud	(1) 1/2 mi x 200 ft (2) 100 x 100 yards
12-21	Nikiski	Oil	Unknown	Unknown	3 miles long and 1/4 mile wide
12-30	Drift River Terminal	Crude Oil	Tanker Washington Trader	Vessel collided with dock and ruptured oil tank	1500-1700 bbls
<hr/>					
<u>1968</u>					
1-2	Port of Anchorage	Av. gas	Texaco stge area	Drain pipe	1 bbl
1-3	Southeast of Kalgin Island	Brown discolored water	Unknown	Unknown	Several strings
1-8	128 1/2 and 20 miles from E Chugach Light	Black oil	Unknown	Unknown (probably tanker ballast)	50-75 feet wide, several miles long
1-19	North of W Foreland	Oily appearing substance	Union-Marathon Dolly Varden	Drain pipe	Small sheen w/black material
1-19	Seldovia Bay	Oil	Vessel Aleution Queen	Unknown	Around ship and out into bay
1-26	Nikiski near Rig Tenders Dock	Black oil	Unknown	Unknown	Black globs on ice passed dock for 3 hrs.; 20 to 30 ft. wide; 30 to 40 ft. offshore
1-31	Seldovia	Diesel	Tug HERCULES	Unknown	200 gal. lost in mishap
2-18	Seldovia - Homer	Oil	REBECCA	Pumping ballast	20 mile slick

Table 5 (Continued)

Date	Location	Type	Source	Cause	Magnitude
1968					
2-28	Nikiski	Oil sludge	Standard Oil Refinery outfall	Settling pond	3 foot black glob at end of discharge pipe, slick along beach for 300 yds
2-28	Nikiski	Black oil	Kenai Pipeline Dock	Sump pond	Small sheen around sump discharge
2-29	East Foreland area	Crude oil	Shell onshore	Pig trap sump	2 bbls
3-5	Platform area	Oil	Platform Unknown	Unknown	Not much
3-11	Trading Bay	Oil	Platform "K"	Unknown	1/2 bbl
3-12	Trading Bay near King Salmon platform	Oil	Unknown	Unknown	1/2 bbl
3-26	Trading Bay, near King Salmon platform	Refuse	Unknown	Unknown	5 pallet boards and several mud sacks
3-28	Trading Bay	Oil	Platform Union Monopod	Wash tank	10 bbls
3-31	Nikiski Rig Tenders Dock	Diesel	CARL TIDE II	Unknown	110 gallons
4-3	East Foreland Pan Am Dillon area	Diesel	Platform Pan Am Dillon	Spill from welding machine	3,600 yards long
4-4	Salamatof Beach to Kenai River mouth	Oil	Unknown	Unknown	5 mi long, 100 yd wide
4-5	Middle Ground Shoal area	Oil	Platform Shell "C"	Possible diesel through desander	5,900 yds, 25-100 yds wide Predominantly sheen
4-7	Seldovia Bay	Oil sheen	Unknown	Unknown	East side of Seldovia Bay to entrance

Table 5 (Continued)

Date	Location	Type	Source	Cause	Magnitude
1968					
4-7	Granite Point	Oil	Platform Mobil	Unknown	Heavy sheen w/black material on it
4-11	Trading Bay area	Oil	Platform Grayling	Tank overflow	5 bbls
4-15 16	Port of Anchorage	Black oil	Old Army Dock	Broken oil line	10-20 bbls
4-17	Grayling platform	Diesel	Vessel Tug Crowley	Broken hose	315 bbls
4-18	East Foreland area	Crude oil	Pan Am Shore facility	Oil clean-up tank	15 bbls
5-4	Nikiski Kenai Oil	Crude oil	Tanker ACHILLES	Unknown	2 bbls
5-10	Trading Bay, 3 mi W of Monopod	Oil	Unknown	Unknown	1 square mile of sheen
5-15	Granite Point	Brown fluid with sheen	Platform Mobil	Platform discharge line	Light sheen
5-15	Trading Bay	Brown fluid with sheen	Platform At-Richfield King Salmon	Platform discharge line	Light sheen
5-15	Trading Bay, 1/4 mi S of Grayling platform	Oil	Unknown	Unknown	2 square mi sheen
5-18	East Foreland area	Oil	Platform Pan Am Dillon	Pipe flange leak	23 bbls
5-19	East Foreland area	Oil	Platform Pan Am Dillon	Pipe flange leak	12 bbls

Table 5 (Continued)

	Date	Location	Type	Source	Cause	Magnitude
14	1968					
	5-19	East Foreland area	Oil	Platform Pan Am Dillon	Oil skimmer	2 bbls
	5-26	Trading Bay	Oil	Platform AT-Richfield King Salmon	Skimmer tank	3-4 bbls
	5-29	Nikiski S of Kenai Pipeline dock	Oil	Unknown	Unknown	50 feet wide, 1 mile long
	6-6	Granite Point, 3 miles E of "Bruce	Crude oil	Pipeline "B" line	Pipeline break	380 bbls
	6-13	Trading Bay	Oil	Platform Union Monopod	Skim tank overflow	1/2 bbl
	6-17	Middle Ground Shoal	Diesel in drilling mud	Platform Shell "C"	Mud pit overflow	Sheen 2 miles long
	6-17	Granite Point area	Oil	Pan Am Platform Bruce	Broken seals in crane motor	3 gallons
	6-17	Granite Point area	Lube oil	Pan Am Platform Anna	Plugged oil skim tank pump	1 bbl
	6-19	Trading Bay	Oily water	Platform Union Grayling	Skim tank overflow	1 bbl
	6-22	Trading Bay	Oil	Platform Union Monopod	Skim tank overflow	1 bbl
	6-24	Trading Bay, Texaco	Engine oil #30 and Poly-Complex A-11	Platform Texaco-Superior A	Barrel dumped by workmen	1 bbl

Table 5 (Continued)

	Date	Location	Type	Source	Cause	Magnitude
	1968					
	7-2	Port of Anchorage	Garbage and debris	Unknown	Unknown	Unknown
	7-17	Trading Bay area	Oil	Platform Union Grayling	Debris stuck pump in waste water tank	2 bbls
	7-22	Seward	Oil	Mermaid II	Cooling system malfunction	Unknown
	8-3	Granite Point area	Oil	Platform Mobil	Unknown (may be same spill)	Light sheen
	8-3	Between Platform Mobil and Union Monopod	Oil	Unknown	Unknown	Small oil globs in tide rips
15	8-3	Middle Ground Shoal	Oil	Platform Pan Am "B"	Unknown	Crescent shaped sheen, vicinity of platform
	8-13	Trading Bay area	Oil	Platform Union Grayling	Overflow on floatation tank	2 bbls; 1 mi long, 1/2 mi wide
	8-15	Rig Tenders dock	Cement	Carl Tide II	Dumped by crew	Unknown
	8-17	Between Union Platforms Monopod and Grayling	Oil	Unknown	Unknown	100" X 300"
	8-17	Municipal Dock, Homer	Fish waste and debris	Alaska Seafoods	Dumping	Unknown
	8-20	Port of Anchorage POL Dock	Black oil	Unknown	Unknown	Less than 1 bbl
	8-27	1/2 mi north of Monoped	Oily Material	Unknown	Unknown	10 X 40 yds
	8-27	Between Dillon and Shell "A"	Oil	Unknown	Unknown	1/2 mi long, 5 mi wide

Table 5 (Continued)

Date	Location	Type	Source	Cause	Magnitude
1968					
9-5	Ship Creek and Port of Anchorage	Oil	Oil storage tank. Tank or truck leak City Public Works		100 bbls
9-6	Marathon "Dolly Varden"	Oil	Collection reservoir	Clogged drain	1 bbl
9-9	1/2 mi E of Union "Grayling"	Oil	Unknown	Unknown	1 mile long
9-10	1 mi below Woronzof to Port of Anchorage	Oil	Tanker PANOS	Unknown	1 1/2 mi long, 1/2 mi wide
9-12	Marathon "Dolly Varden"	Oil	Skim tank	Failure of high switch gear	3 bbls
9-13	Atlantic Richfield Tr. Bay #1	Oily Material	Unknown	Unknown	Unknown
9-13	Pan Am MGS "B"	Oil	Unknown	Unknown	Unknown
9-13	Pan Am MGS "D"	Oil	Unknown	Unknown	Unknown
9-30	Pan Am "Dillon"	Oily bituminous material	Drilling mud	Mud out of balance	Unknown
9-30	Below "Dillon"	Garbage	Unknown	---	Evident
9-30	Phillips	Garbage	Platform	Unknown	Evident
10-4	Anchor Point area	Oiled Guillemots	Unknown	Possibly tanker discharge	200 waterfowl
10-10	Arness Dock	Oil	Unknown	Unknown	Unknown
10-20	2 mi NE of "Anna"	Oil	Pan Am "Bruce"	Kobe tank overflow	35 bbls

Table 5 (Continued)

Date	Location	Type	Source	Cause	Magnitude
1968					
10-20	Same as above in oil slick	Garbage	Unknown	-----	Evident
10-23	Shell pipeline "B" 1/2 to shore facility from Platform A	Oil	Pipeline "B"	Pipe failure	1,000 bbls
10-27	Pan Am Dillon	Oily Material	Pan Am Dillon	Unknown	Unknown
10-28	E of Kalgin Island	Oil	Possibly from Shell pipe failure	Unknown	Large amount mixed with tide rip debris
10-30	Pan Am "Dillon"	Diesel oil	Dillon	Broken valve	2 bbls
10-30	Same as above	Oily Material	Heliport	Unknown, mixed with snow	Unknown
10-30	Same as above	Garbage	Dillon	Man throwing overboard	Evident
10-30	Nikiski Oil Dock	Gasoline	Tanker HANNA	Discharged clean wash water after contamination	Unknown volume. 2 mi long, 300 yd wide
10-30	2 mi E of Union onshore	Oil	Unknown	Unknown	2 mi long, 300 yds wide
10-31	Union "Monopod"	Oil	Skim tank	Overflow	10 gallons
11-6	Union "Grayling"	Oil	Slop tank	Overflow	5 bbls
11-7	Texaco-Superior	Oil	Separator tank	High level switch failure	5 bbls
11-12	Nikiski Oil Dock	Oil	Tanker Houston	Unknown	Unknown

Table 6 Pollution by source 1966 thru 1968.

<u>Oil Pollution in Cook Inlet</u>					
<u>Source</u>	<u>Prior to 1966</u>	<u>1966</u>	<u>1967</u>	<u>(10 mo.) 1968</u>	<u>Total</u>
Pipelines	--	4	3	2	9
Platforms	2	*7	*4	***37	48
Shore facilities	2	**2	1	7	11
Tankers	--	2	5	3	10
Exploratory rigs and service vessels	--	*2	*12	2	16
Fishing vessels	--	--	--	1	1
Unknown	--	12	19	*20	49
	—	—	—	—	—
	4	29	44	67	144

Note: 19 pollution incidents from August 24 to November 18, 1968.

- * Includes 1 refuse case
- ** Includes 2 refuse cases
- *** Includes 3 refuse cases

City of Anchorage spill, 9/5/68, included.

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