

1989 CAPE PEIRCE, ALASKA

MARINE MAMMALS REPORT

By: LAURI JEMISON

Unpubl. rept. USFWS Togiak Nat.
Wildlife Refuge

Graphics by: GAY SHEFFIELD

The 1989 Cape Peirce field season began 21 April when Lee Hotchkiss and Lisa Haggbloom flew two loads of supplies in the refuge Cessna 185 to the cabin. On 26 April Hotchkiss made two more trips with more supplies and Lisa Haggbloom and Diane Campbell who set up camp. The cabin had been used during the winter and considerable amounts of trash were left scattered around inside and outside. A 10' Zodiac and 15hp outboard were brought to the Cape. The Zodiac was secured to the pole at Lee's Landing and the outboard was wrapped in a plastic tarp and stored above the high tide line in the dunes. A 10' by 15' Weatherport tent was set up and used for fuel and equipment storage. Lauri Jemison arrived at the Cape 11 May and Haggbloom left for Anchorage to attend a seabird meeting. When Haggbloom returned on 22 May, Campbell departed; Jemison and Haggbloom primarily staffed the camp until it was closed on 7 October. In September a Klepper kayak was brought out to the cape; it was assembled and secured to the pole at Lee's Landing.

On 7 October Mike Harder of Manokotak Air arrived in the Widgeon to pick up Jemison and Haggbloom and one plane load of gear. Extra gear was covered and left at Lee's Landing until Harder, Jemison and Haggbloom returned on 12 October, loaded up the gear and departed for Dillingham.

WALRUS

Cape Peirce was historically used as a haulout area by walrus but was abandoned sometime during the first half of this century. No use of this area was recorded until 1981 when refuge personnel observed walrus utilizing the sand and gravel beaches from Cape Peirce Point to Maggy Beach. This year three beach/cove areas were recognized as main haulout sites: Odobenus Cove, South Firebaugh Beach and Maggy Beach (Figure 1). These areas were censused on a daily basis. Weather permitting, censusing began between 8:30 and 10:30 a.m., starting with Maggy Beach and continuing south along the cliffs to Odobenus Cove. Data collected during the census included date, weather, time, tide, number of animals hauled out, number of animals in the water, unusual scars or features on walrus, and observations of any disturbances to the walrus. Counts were made from the same observation point to minimize inconsistencies and were done with a pair of binoculars and a tally-wacker. At least two counts were made of each haulout and the counts were averaged. If the two counts were not within 5% of each other, a third count was taken and the two closest counts were averaged. Radio telemetry equipment was used to monitor for animals with transmitters. Unfortunately the telemetry equipment was not functioning properly, so it is unknown if any transmitted walrus visited the Cape Peirce area this season. No tagged or transmitted walrus were observed during the census counts.

Walrus first began hauling out in Odobenus Cove on June 24. On July 8th walrus began hauling out on South Firebaugh Beach and used

this area for the rest of the season. During the first week of August, walrus abandoned Odobenus Cove and began showing up on Maggy Beach. After this time, Maggy Beach was used periodically as a haulout until the close of camp. No walrus were observed on the east side of the peninsula, although several decaying carcasses were seen on the beach north of Shiak Island.

Alternating periods of feeding and resting contribute to the fluctuating numbers of walrus on the beaches. Between June 24 and October 5 there were 10 peaks in the haulout numbers (Figure 2). Haulout periods ranged from 3 to 9 days with an average stay of 4.8 days. Number of days between haulout peaks ranged from 2 to 10 days; on average there were 5.4 days between peaks. Several times this season poor weather conditions (high winds and rain) caused walrus to evacuate the beach.

Walrus use of the Cape Peirce area in 1989 was drastically different than trends established over the past five years. This season the peak haulout occurred on September 29 with a total of 2435 animals. This number is extremely low when compared to peak numbers of the past four years. The highest count thus far (12,500) occurred on July 27, 1985. The high counts in 1986, 1987, and 1988 were 11,600, 6,250, and 6,900 respectively. Walrus numbers reached or exceeded one thousand animals on only ten days this season. Last year one thousand or more walrus were counted on 85 different days. A variety of factors could contribute to the significant decrease in walrus activity at Cape Peirce, including:

- Increase in boat and plane disturbances over the past five years.
- Proximity of the herring fishery in the spring.
- Location and productivity of feeding grounds.
- Potential displacement of walrus at Round Island as a result of the yellowfin sole fishery.

A nightly radio schedule was set up with Round Island to compare walrus haulout numbers. A correlation between the number of walrus at Cape Peirce and Round Island is apparent. (Figures 3 and 4). Use of both haulout sites by individual walrus has been repeatedly documented by radio-telemetry data.

A biotechnician working for the USFWS-Marine Mammals Management Division spent three and a half weeks at Cape Peirce collecting acoustical underwater and in-air measurements to help define and evaluate noise based disturbances. Unfortunately, the technician arrived at the Cape on June 17 and missed the frequent plane and boat traffic that occurred earlier in the season during the herring fishery. As a result of equipment failure, very few underwater sound measurements of any sort (mechanical or natural) were obtained, however some in-air sounds were recorded. This work was also conducted at Round Island before and after the Cape Peirce visit.

MORTALITY

Upon arrival at Cape Peirce, there were thirty five walrus

carcasses on Maggy Beach, in various stages of decay, and five carcasses on South Firebaugh Beach. At the close of camp there were seven new carcasses at Cape Peirce: one apparently sick walrus was seen hauled out alone on North Firebaugh and a couple of days later we saw this walrus dead with its tusks removed. Two walrus were washed ashore, one on Maggy Beach and one near Lee's Landing. Four walrus apparently died while hauled out on Maggy Beach just after the peak haulout for the season. When possible, ivory was collected and body measurements were taken (Tables 1 and 2). No hunting of walrus occurred while the field camp was set up this year.

Walrus hauling out at Cape Peirce this season did not impress me as being terribly healthy. Quite a few appeared rather thin, often the outline of the hip and rib bones could be seen. Lisa Haggblom who was at Cape Peirce during the 1987 season felt the walrus were far thinner this year than two years earlier.

On September 6th a walrus hauled out on Maggy Beach, and remained hauled out in the same spot, just above the high tide line, until we closed camp. When we returned to the Cape on October 12th to pick up the last of our gear, this walrus was still alive, but severely emaciated. A walrus seen several times on South Firebaugh appeared to have a broken left forelimb. The limb did not seem to impede movement; by tucking the limb in close to its body the walrus had no trouble moving around on the beach or up and over other walrus in its path. Walrus were frequently observed with a thick yellow discharge of mucus coming from the nostrils. One large adult was seen with a circular gash 4" in diameter and 2"-3" deep on his right hip.

DISTURBANCES

In 1989 aircraft once again proved to be the most frequent cause of disturbance to the walrus. Throughout the season there were twelve recorded disturbances, eleven of these were aircraft related, one was caused by a boat. More plane disturbances occurred, but the affects on the walrus were not directly observed, and so could not be accounted for. Appendix I summarizes all plane and boat sightings and describes disturbances. In the past, defining the level and severity of a disturbance has been left to subjective opinion. In an attempt to better standardize and quantify the severity of a disturbance, a rating system has been developed; this system was used at both Cape Peirce and Round Island this season. Walrus reactions to disturbance have been divided into three levels, each level being assigned a numerical value (to simplify matters, the level number and the numerical value of the level are in fact the same number). The levels are defined as follows:

- Level 1: Walruses raise heads or move bodies, seen as a wave or a ripple within a group of walrus.
- Level 3: Walruses move towards water, usually stopping on the beach or in the intertidal zone.
- Level 5: Walruses move directly into water, usually do

not mill, and do not haulout again for at least several hours.

To determine the severity of a disturbance, the number of walrus disturbed at a particular level is multiplied by the numerical value attached to that level. The product of these numbers is then compared to an index to determine disturbance severity. The index numbers are defined as the following:

INDEX	SEVERITY OF DISTURBANCE
0-100	low
101-1000	moderate
1000+	severe

For example, if 50 walrus were disturbed at level 3, to determine the index number one would multiply $50 \times 3 = 150$. An index number of 150 is considered a moderate disturbance. This disturbance rating system should eliminate inconsistencies and help biologists better determine significance of various disturbances. In light of the fluctuation in walrus numbers at Cape Peirce and Round Island over the past few years, it is important to investigate as many of the potential causes as possible to try and better understand what is happening to the walrus population utilizing the Bristol Bay area.

HARBOR SEALS

Throughout the season the sandbars and shore areas of Nanvak Bay were used as haulout areas by harbor seals. The first seals were sighted on April 30th. Thereafter seals were present in the bay on a regular basis. The majority of the time seals utilized Sealbar, a sandbar in the southern end of the bay which is exposed on low and mid tides (Figure 1). In August and September seals occasionally hauled out on the eastern tip of North Spit Beach.

Censusing the seal population in the bay is difficult because there is no highpoint from which to view the haulout areas. Seal numbers were estimated on a daily (or near daily) basis, either from the beach east of Lee's Landing or from Lookout Dune. Censusing was done with a pair of binoculars or a 600mm spotting scope. Occasionally when seals were hauled out on the back side of Sealbar (and thus difficult to count), estimates of seal numbers were made from up on the cliffs where the entire sandbar is visible. The number of seals increased dramatically from mid-August through late September. The high seal count this season occurred on September 21 when 343 seals hauled out on Sealbar (Figure 5).

In late May a mother-pup pair was observed. Considering the small size of the pup, it was most likely born in Nanvak Bay. Several other pups were seen during the summer and one dead seal pup without its head was found washed up on shore by Lee's Landing.

In 1975 Brian and Pattie Johnson estimated the high seal count for Nanvak Bay to be approximately 3,100 animals. They witnessed ten births and had a maximum of 36 seal pups in the bay in late June. Pupping occurred on Channel Bar, an area seldom used this season. In 1986 Seven Mazzone estimated the seal population in the

bay to be approximately 550 animals. It is unknown why there has been such a sharp decline in the seal population at Nanvak Bay, however, some possibilities may be:

- increase in plane traffic over Nanvak Bay
- reduction in food supply due to commercial fishing in the area
- natural fluctuations in population levels
- mortality due to drift gill nets

While hiking on the east side of the peninsula, seven to ten seals were usually seen hauled out on the rocks just to the east of Rugged Point. Occasionally one or two seals would haulout on rocks off of Parlier Beach.

In order to more accurately census the seal population at Cape Peirce, an observation point should be established on one of the high dunes on North Spit. The Klepper could be brought to the Cape in the spring and used to cross the channel. On days when high winds would restrict kayak use, the seals should be counted from Lookout Dune.

The seals in Nanvak Bay were disturbed on many occasions. Much of the plane traffic over the bay caused the seals to vacate their haulout, especially the bi-monthly supply flights from Dillingham when the float plane would take off and land in the bay. Use of the Zodiac in the bay always resulted in the seals returning to the water; even the Klepper would frighten some of the seals off of the sandbar. In June a native boat entered the bay and shot and killed one seal. The impact of these incidents on the seal population is unknown.

STELLER SEA LIONS

A Steller's sea lion rookery is located about 20 miles northwest of Cape Peirce on the westernmost tip of Cape Newenham. Sea lions were sighted on fifteen different occasions this year with twelve of the sightings occurring between late April and early June. In all sightings but one, the sea lions were seen in the Cape Peirce Point/Odobenus Cove area. One sea lion hauled out on a rock on the southwestern edge of Odobenus Cove. This animal remained there for six days before leaving. On the fifth day a second, much smaller sea lion hauled out next to the first.

Two sea lions were seen swimming in Odobenus Cove while 45 walrus were hauled out on the beach. The sea lions swam in circles several times and then approached within 20 feet of the walrus, frequently raising their heads and looking toward the beach. After several minutes the sea lions left the cove and headed north.

While a sea lion was swimming north along the cliffs in Odobenus Cove a group of kittiwakes and immature gulls were circling and diving around it. The sea lion dove down then surfaced with a large fish in its mouth, shook the fish vigorously several times and then flung it about 10 feet away. When the sea lion retrieved the fish it was mobbed by gulls and kittiwakes in search of a free meal.

GRAY WHALES

Gray whales travelling north during the spring migration were observed on eleven different occasions from late April to early June. The whales were usually sighted between Cape Peirce Point and South Firebaugh Beach, often swimming parallel to the cliffs. On May 25, two adults were seen repeatedly surfacing near each other, exposing their entire head and leaving it exposed for about thirty seconds. The whales then rolled to the side, exposed chin and foreflipper then submerged. Three mother-calf pairs were seen during the migration.

ORCAS

On May 16, eight orcas were seen in the Odobenus Cove area. Two groups of three were travelling together and two were travelling individually. In one case, a walrus was seen swimming in close to the cliffs at Odobenus Cove, its head held high out of the water. A couple of minutes later a single orca was seen swimming toward the walrus, about 50 feet from the cliffs at Odobenus Cove. The walrus remained close to the cliffs and the orca continued to approach until it was within 20 feet of the cliffs. The orca swam around in the cove for a few minutes and then departed to the south. Several minutes later the walrus was seen leaving the cove, but it stayed close to the cliffs during its departure.

HARBOR PORPOISE

Two harbor porpoises were observed on August 24 between South Firebaugh Beach and Odobenus Cove. The porpoises were observed for approximately 20 minutes swimming in a haphazard circular pattern close to the cliffs. This was the only porpoise sighting this season.

RECOMMENDATIONS

Limit the number of supply flights to Cape Peirce during the seal pupping season (mid May to Late June).

Eliminate supply flights to the Cape when walrus are hauled out on Maggy Beach.

Bring the Klepper to the Cape at the beginning of the season so it can be used for the seal census.

Build the new cabin on the hill above the spring. This location would move the center of human activity away from the haulout areas on Maggy beach while providing a view of Maggy Beach, the channel and Nanvak Bay.

Develop a management plan for the Cape Peirce area and set up guidelines for potential visitor use.

Provide law enforcement training for the people who staff the Cape next season.

Hire a biotechnician to monitor the walrus and harbor seal populations; the position should not be staffed by a new volunteer each season.

Provide a weatherproof storage box for the outboard engine which is stored in the dunes.

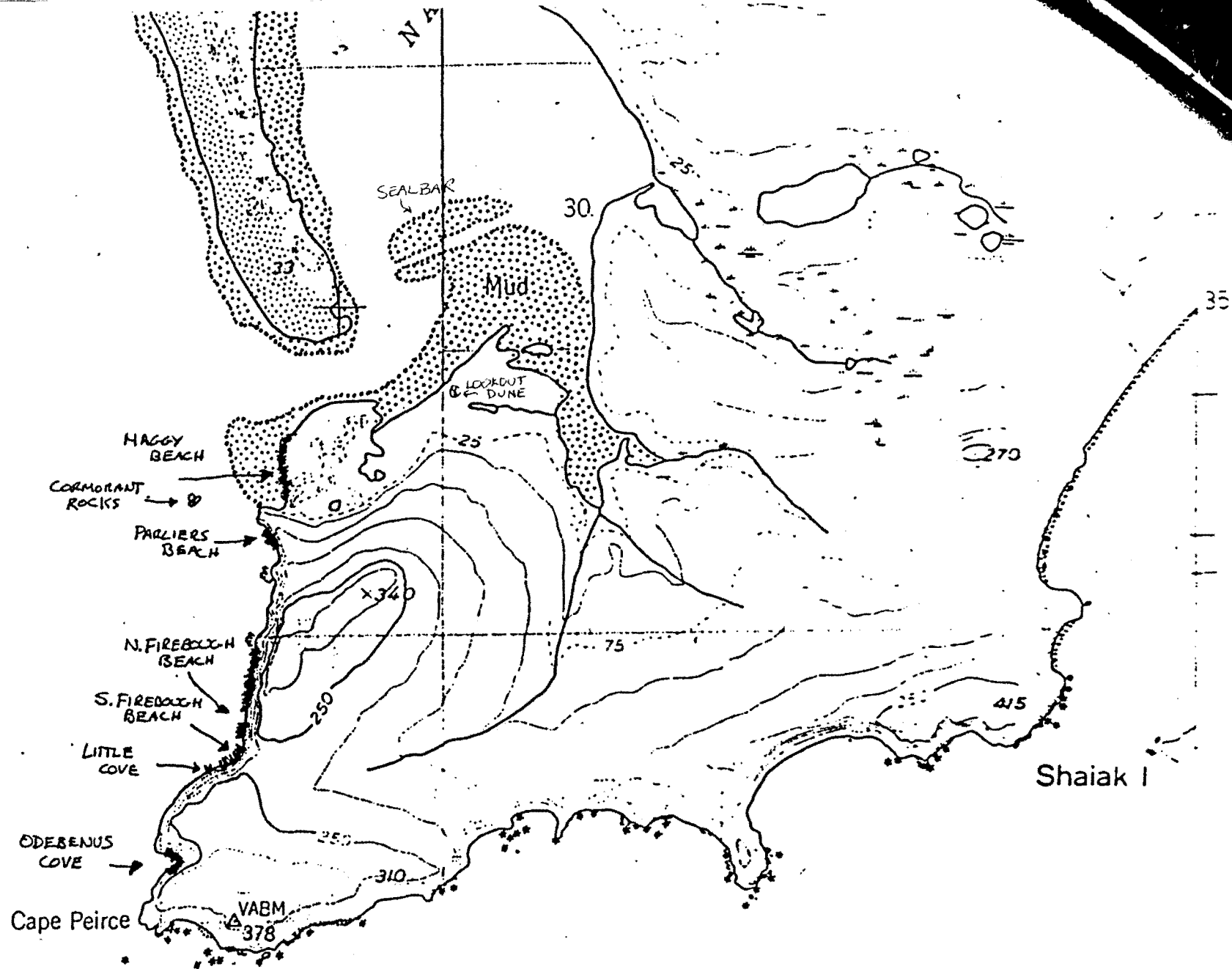


FIGURE 1

FIGURE 2

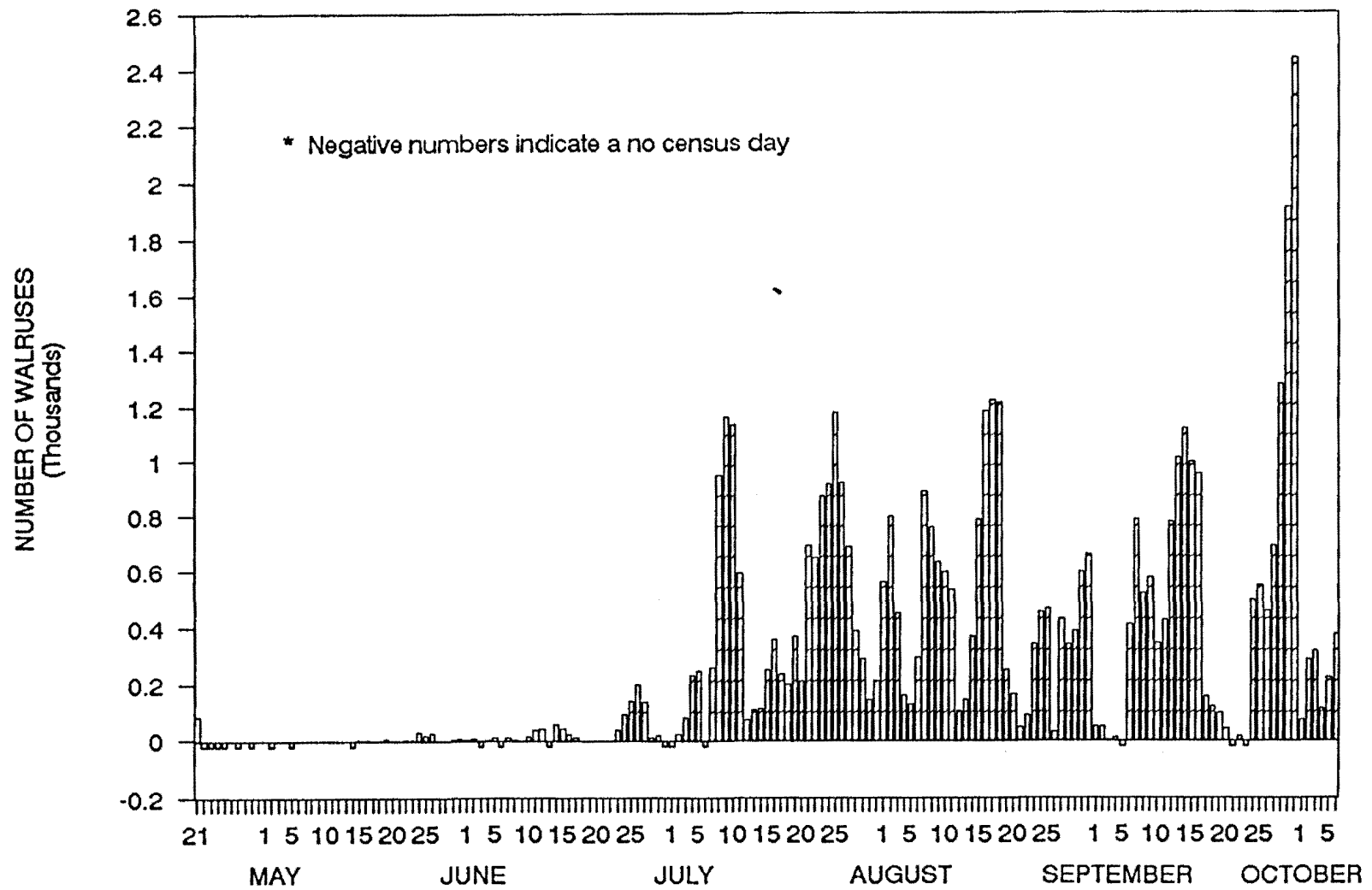


Figure . -- Chronology of pacific walrus (*Odobenus rosmarus*) numbers at Cape Peirce, Bristol Bay, Alaska, 1989.

FIGURE 3

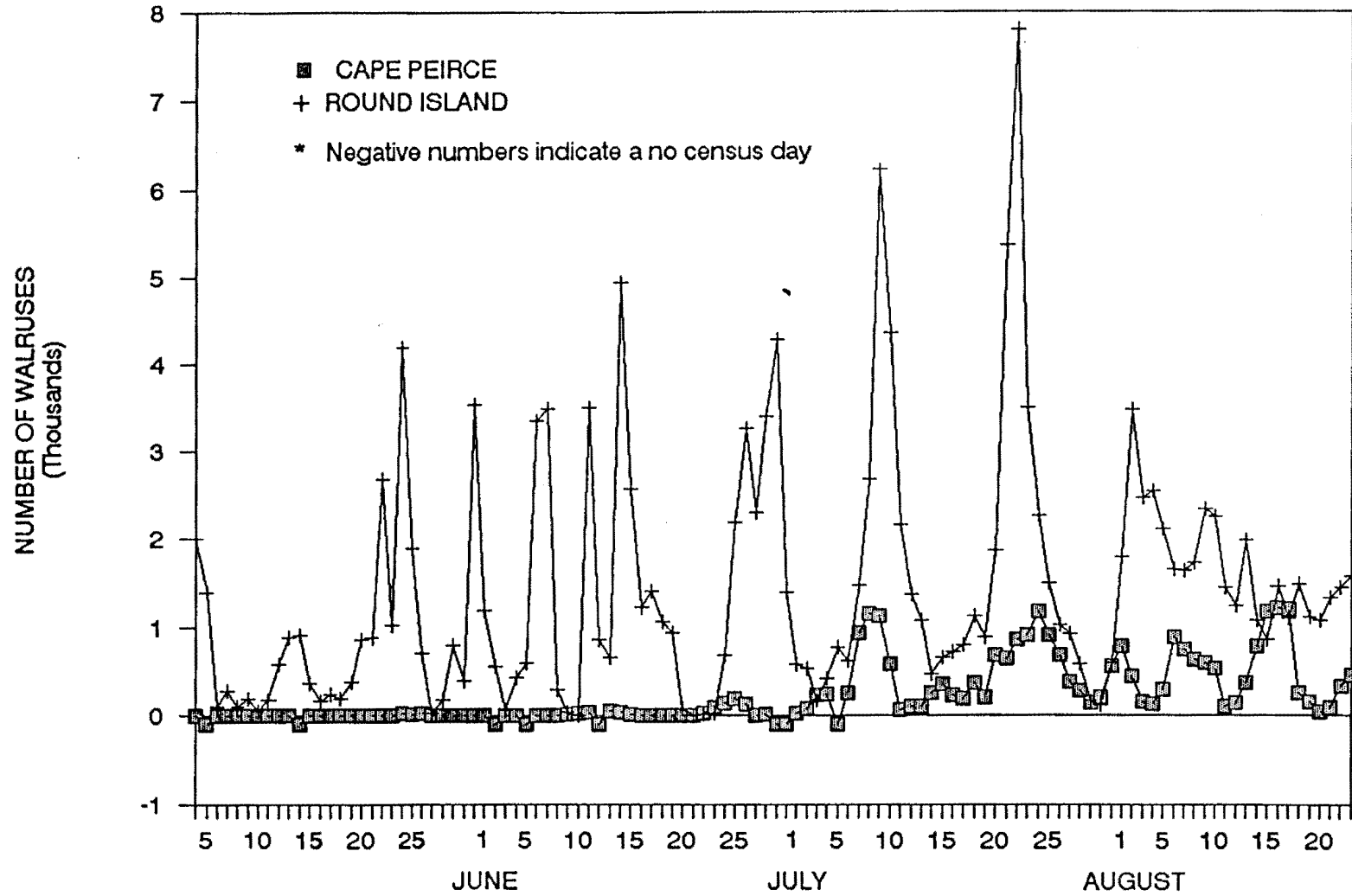


Figure 1. Chronology of pacific walrus (*Odobenus rosmarus*) numbers at both Cape Peirce and Round Island, Bristol Bay, Alaska, 1989.

FIGURE 4

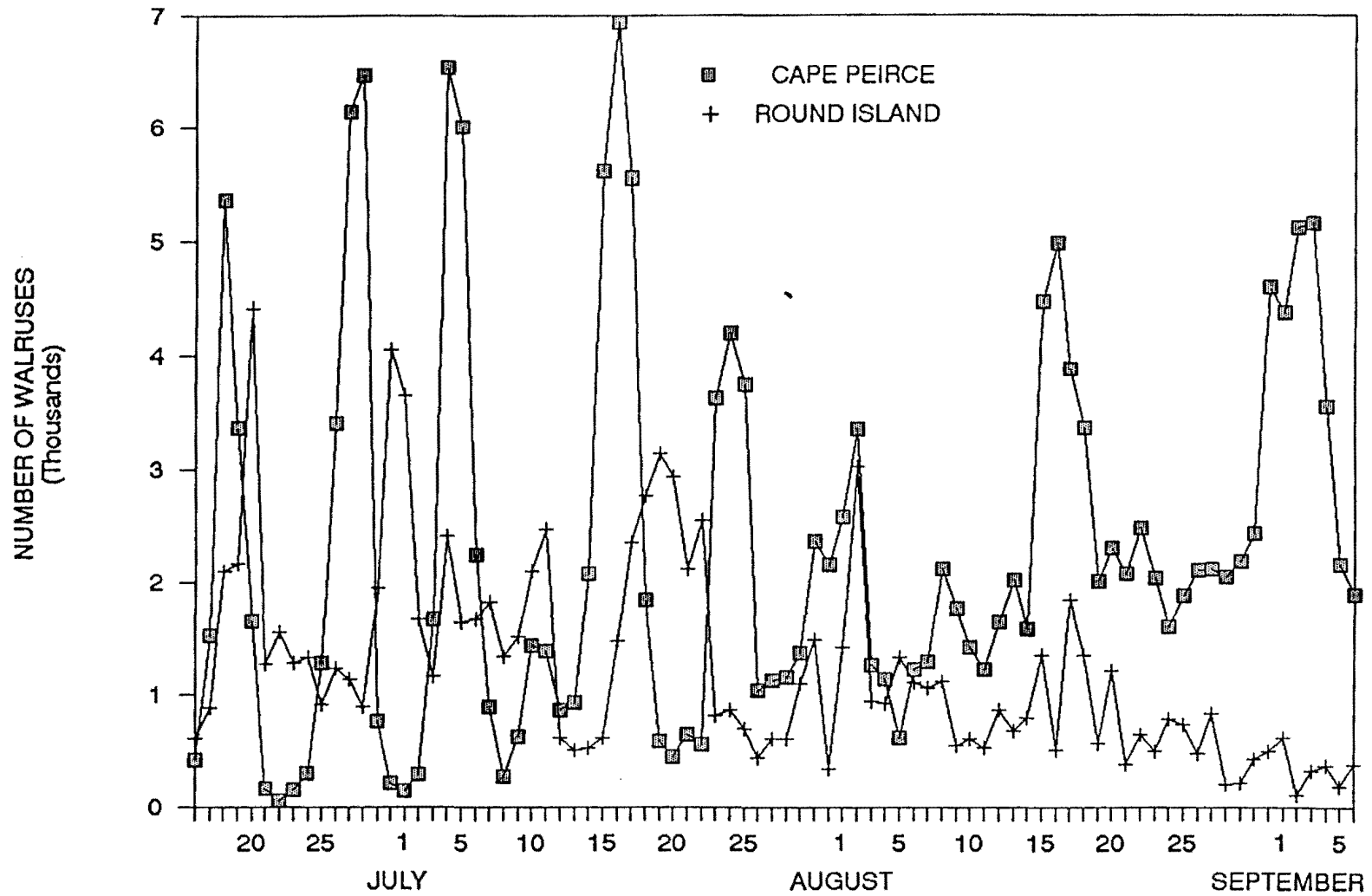


Figure 2. Chronology of pacific walrus (*Odobenus rosmarus*) numbers at both Cape Peirce and Round Island, Bristol Bay, Alaska, 1988.

FIGURE 5

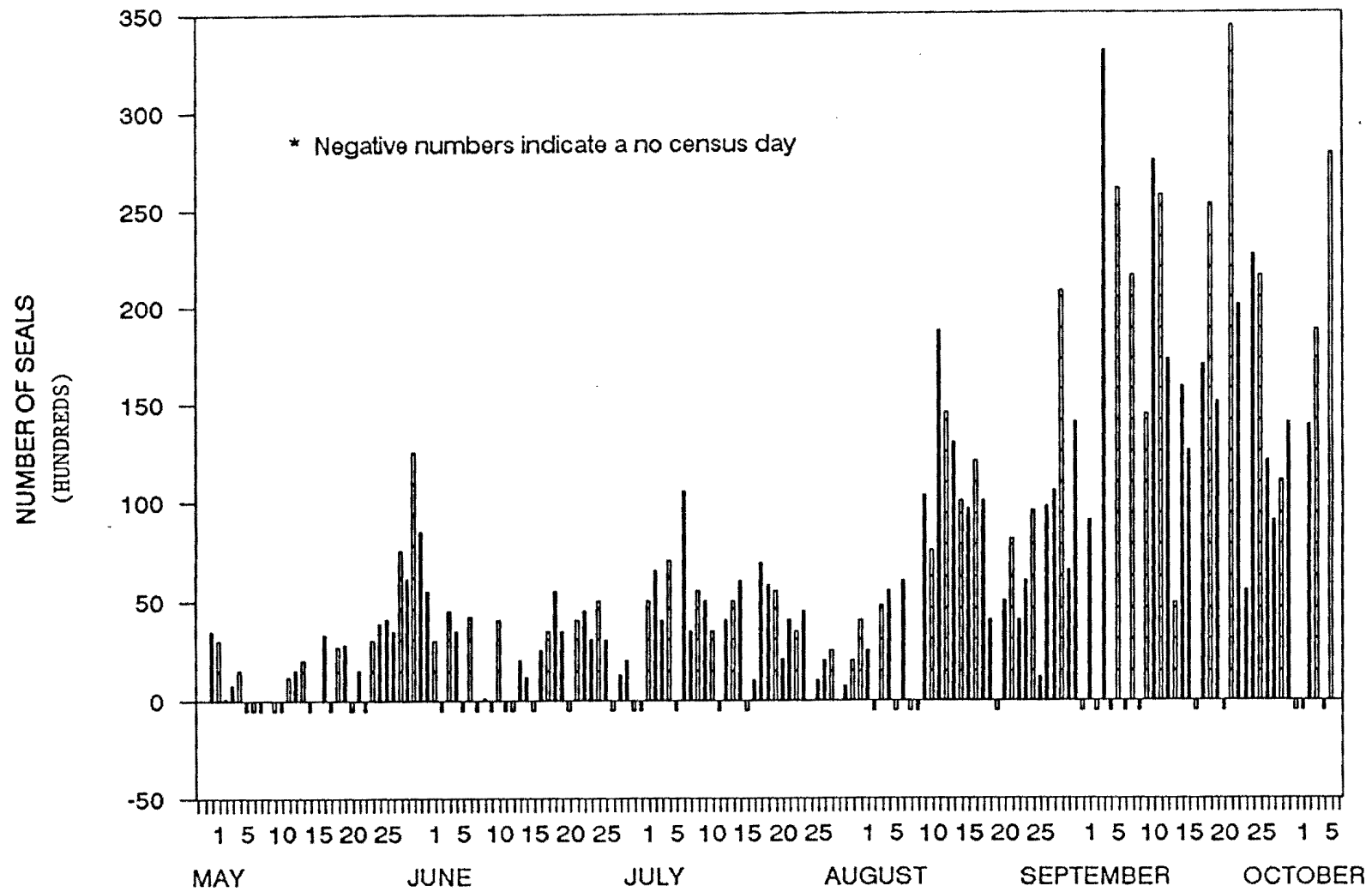


Figure . -- Chronology of seal numbers in Narvak Bay, Cape Peirce, Alaska, 1989

TABLE I

1989 IVORY COLLECTED FROM CAPE PEIRCE, ALASKA

USFWS (#)	TUSK LENGTH (INCHES)	TUSK GIRTH (INCHES)
	23.00	8.00
	23.00	7.75
	21.50	8.00
	14.00	8.00
	19.00	8.50
	19.00	8.75
	14.50	8.50
	13.00	8.00
	18.50	9.50
	9.50	9.25

LENGTH MEASURED FROM GUMLINE TO TIP

TABLE II

1989 WALRUS MORTALITIES
CAPE PEIRCE, ALASKA

LOCATION	DEATH	AGE	BODY LENGTH	PARTS TAKEN	DATE TAKEN	COMMENTS
N. FIREBOUGH	UNKNOWN	ADULT	N/A	NONE	05/25/89	CARCASS HAD HEAD REMOVED AFTER L. JEMISON SPOTTED SKIFFS IN THE AREA.
LEE LANDING	UNKNOWN	ADULT	N/A	NONE	08/14/89	WASHED ASHORE AT LEE'S LANDING.
MAGGY BEACH	UNKNOWN	ADULT	125"	2 TUSKS	10/01/89	BLUBBER WAS 5/8 INCH DEEP ON SIDE OF CARCASS.
MAGGY BEACH	UNKNOWN	ADULT	150"	2 TUSKS	10/01/89	BLUBBER WAS 3/4 INCH DEEP ON SIDE OF CARCASS.
MAGGY BEACH	UNKNOWN	ADULT	129"	2 TUSKS	10/01/89	BLUBBER AND SKIN TOGETHER WAS 3/4 INCH DEEP ON SIDE OF CARCASS.
MAGGY BEACH	UNKNOWN	ADULT	132"	2 TUSKS	10/01/89	HEALED 8" BY 1" GASH, 1.25" DEEP FOUND 12" FORWARD OF ANUS.
MAGGY BEACH	UNKNOWN	ADULT	121"	NOSE/CONE	10/01/89	CARCASS WASHED IN FROM N. FIREBOUGH.

APPENDIX I

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 1

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
04/27/89		L.HAGGBLOM,D.CAMBELL	AIRCRAFT		N/A		WHITE AND GREEN CHEROKEE, TRICYCLE GEAR. CUT IN FRONT OF SLUG, FLEW NW TOWARD NEWENHAM.
04/27/89		L.HAGGBLOM,D.CAMBELL	SNOWGOS	CABIN AREA	N/A		FRANK LOUGUSUK AND PAL CAME TO CABIN ON SNOWGOS, DROPPED OFF RED RUBBER RAFT THEN HEADED TOWARD CHAGVAN BAY.
05/02/89	1536	L.HAGGBLOM,D.CAMBELL	SNOWGOS	NORTH SPIT	N/A		TWO SNOWGOS ON N.SPIT, TWO MEN HUNTING WATERFOWL. SHOTS HEARD AND ONE MAN SEEN CARRYING GUN AND BIRD. SECOND MAN IN DUNES WATCHING A WOUNDED BIRD IN WATER. SUSPECT IT WAS F.LOUGUSUK AND PAL ON WAY BACK TO TOGIK.
05/04/89	1600	L.HAGGBLOM,D.CAMBELL	AIRCRAFT	NANVAK BAY	N/A		ORANGE AND WHITE CESSNA 185 ON FLOATS. ROD KING FROM ANCHORAGE DOING A WATERFOWL SURVEY OVER NANVAK BAY. LEFT AREA FLYING EAST TOWARD SHIAK ISLAND.
05/06/89		D.CAMBELL,L.HAGGBLOM	AIRCRAFT	MAGGY BEACH	N/A		PLANE N1398H, RED WINGS AND STRIPE, WHITE BODY, WHEELS. FLEW OVER MAGGY AND CABIN ABOUT 100', SURPRISED TO SEE US. FLEW OVER N.SPIT AND DEPARTED TOWARD TOGIK.
05/08/89	1615	L.HAGGBLOM,D.CAMBELL	AIRCRAFT		N/A		RED CUB ON FLOATS, RED UPPER AND WHITE LOWER WING, WHITE TAIL. FLEW HIGH OVER HILL, THEN OVER CABIN.
05/08/89	1700	L.HAGGBLOM,D.CAMBELL	AIRCRAFT		N/A		WHITE HELICOPTER FLYING ON EAST SIDE OF CAPE P., HEADED TOWARD TOGIK.
05/09/89	0900	D.CAMBELL,L.HAGGBLOM	AIRCRAFT		N/A		WHITE PLANE WITH BLUE STRIPES, ROUNDED TAIL, TIRES. FLEW HIGH OVER CABIN TOWARD NEWENHAM.
05/09/89	0930	L.HAGGBLOM,D.CAMBELL	AIRCRAFT		N/A		SILVER PLANE (BEAVER?) ON FLOATS. SEEN FLYING HIGH OVER TOWARD SLUG.
05/09/89	1130	D.CAMBELL,L.HAGGBLOM	AIRCRAFT		N/A		WHITE PLANE WITH RED STRIPE, RED UNDER WING, TRICYCLE GEAR. SEEN FLYING HIGH.
05/09/89	1210	D.CAMBELL,L.HAGGBLOM	AIRCRAFT		N/A		CESSNA TYPE PLANE, ORANGE WITH WHITE STRIPE, ORANGE UNDER WING, ON FLOATS.
05/09/89	1430	D.CAMBELL, L.HAGGBLOM	AIRCRAFT		N/A		WHITE AND YELLOW PLANE, SWEPT TAIL, TRICYCLE GEAR.
05/09/89	1430	D.CAMBELL,L.HAGGBLOM	AIRCRAFT		N/A		WHITE AND ORANGE PLANE ON FLOATS.

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 2

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
05/09/89	1500	D.CAMBELL,L.HAGGBLOM	AIRCRAFT		N/A		WHITE CESSNA WITH RED STRIPE, TAIL DRAGGER.
05/09/89	1610	D.CAMBELL,L.HAGGBLOM	AIRCRAFT		N/A		WHITE AMPHIBIOUS PLANE.
05/09/89	2006	L.HAGGBLOM,D.CAMBELL	AIRCRAFT		N/A		RED PLANE, WHITE STRIPE, ROUNDED WINGS, ON WHEELS.
05/09/89	1640	D.CAMBELL,L.HAGGBLOM	AIRCRAFT	NORTH SPIT	N/A		ORANGE PLANE WITH YELLOW TAIL AND WING STRIPES, TAIL DRAGGER, N560C. FLEW OVER N.SPIT DUNES.
05/09/89	1806	D.CAMBELL,L.HAGGBLOM	AIRCRAFT		N/A		WHITE PLANE WITH RED STRIPES, ROUNDED TAIL, WHEELS, TWO WING STRUTS.
05/09/89	1830	L.HAGGBLOM,D.CAMBELL	AIRCRAFT		N/A		PLANE:WHITE ABOVE, ORANGE BELOW, ORANGE WINGS, ON FLOATS.
05/09/89	1555	L.HAGGBLOM,D.CAMBELL	AIRCRAFT		N/A		WHITE WITH GREEN PLANE, TWO STRIPES ON UNDERSIDE OF TAIL, ROUNDED TAIL.
05/09/89	2120	D.CAMBELL,L.HAGGBLOM	AIRCRAFT		N/A		WHITE AND RED PLANE, SWEPT TAIL, ON FLOATS. PLANE SEEN FOUR TIMES BETWEEN 2120 AND 2144.
05/09/89	2151	D.CAMBELL,L.HAGGBLOM	AIRCRAFT		N/A		ORANGE AND WHITE PLANE, SWEPT TAIL, TRICYCLE GEAR. SEEN AT 2151 AND 2200.
05/10/89	0925	L.HAGGBLOM,D.CAMBELL	AIRCRAFT		N/A		YELLOW AND WHITE CESSNA ON WHEELS, N570C. FLEW LOW OVER CABIN. AT LEAST SEVEN OTHER PLANES FLEW OVER CAPE PEIRCE AREA TODAY BUT DESCRIPTIONS WERE NOT RECORDED.
05/11/89		L.JEMISON,D.CAMBELL			N/A		TOO MANY PLANES- GAVE UP TRYING TO KEEP TRACK OF THEM.
05/12/89	0827	D.CAMBELL,L.JEMISON	AIRCRAFT	MAGGY BEACH	N/A		WHITE CESSNA TYPE PLANE ON FLOATS. FLEW S TO N OVER MAGGY BEACH.
05/12/89	0834	L.JEMISON,D.CAMBELL	AIRCRAFT	LEE'S LAND.	N/A		WHITE PLANE WITH RED STRIPE, CESSNA TYPE ON AMPHIB FLOATS. FLEW FROM E, CIRCLED LEE'S LANDING, DEPARTED FLYING E.
05/12/89	0845	D.CAMBELL,L.JEMISON	AIRCRAFT	LEE'S LAND.	N/A		WHITE CESSNA WITH RED STRIPES, ON WHEELS, SCOUT OR SCOTT WRITTEN IN BLACK ON TAIL. FLEW OVER LEE'S LANDING FROM E TO W.
05/12/89	0900	L.JEMISON,D.CAMBELL	AIRCRAFT		N/A		BLACK HELICOPTER WITH RED AND YELLOW STRIPES. FLEW FROM SOUTH TO NORTH, CIRCLED AND DEPARTED FLYING

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 3

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
							SOUTH. GAVE UP COUNTS FOR THE DAY- TOO MUCH PLANE TRAFFIC.
05/13/89	1000	L.JEMISON,D.CAMBELL	AIRCRAFT		N/A		19 AIRCRAFT IN AREA TODAY- ALL FLYING LOW DUE TO POOR WEATHER CONDITIONS. DESCRIPTIONS NOT RECORDED.
05/16/89	0920	L.JEMISON,D.CAMBELL	AIRCRAFT	MAGGY BEACH	N/A		CESSNA TYPE PLANE WITH DARK TRIM ON TAIL, ON FLOATS. FLYING HIGH, PLANE MADE A LOOP AROUND MAGGY BEACH, FLEW TOWARD NEWENHAM, THEN DEPARTED TO THE E.
05/16/89	1011	L.JEMISON,D.CAMBELL	AIRCRAFT	LEE'S LAND.	N/A		WHITE PLANE WITH BLUE TRIM, TWO WING STRUTS, TAIL DRAGGER, ROUNDED TAIL AND WING TIPS. CAME FROM SE, MADE LOW PASS OVER LEE'S LANDING, DEPARTED TOWARD NEWENHAM. FLEW OVER MAGGY BEACH AT 1059 AND HEADED SE.
05/16/89	1203	D.CAMBELL,L.JEMISON	AIRCRAFT	CABIN	N/A		WHITE CESSNA TYPE PLANE WITH ORANGE STRIPES. FLEW OVER CABIN.
05/16/89	1434	L.JEMISON,D.CAMBELL	AIRCRAFT	ODOBENUS	LOW	1	WHITISH PLANE WITH RED STRIPES ON TAIL, ROUNDED TAIL AND WING TIPS, TWO STRUTS, WHEELS. BUZZED ODOBENUS TWICE, SCARING LONE WALRUS INTO WATER.
05/18/89	1202	L.JEMISON,D.CAMBELL	AIRCRAFT		N/A		WHITE PLANE WITH YELLOW STRIPE, FLYING N TO S.
05/18/89	1211	D.CAMBELL,L.JEMISON	AIRCRAFT	NANVAK BAY	N/A		HELICOPTER FLYING N TO S OVER NANVAK BAY FLUSHED HUNDREDS OF WATERFOWL.
05/24/89	2100	L.JEMISON,D.CAMBELL	BOAT	MAGGY BEACH	N/A		RED AND SILVER LUND SKIFF, 15' WITH SMALL MOTOR . 4 OR 5 PEOPLE ON BOARD, SKIFF FOLLOWED SHORELINE CLOSE TO MAGGY BEACH, TURNED AND HEADED SW.
05/24/89	2135	L.JEMISON,D.CAMBELL	AIRCRAFT	NANVAK BAY	N/A		WHITE HELICOPTER FLEW VERY LOW E TO W OVER NANVAK BAY.
05/25/89	1112	L.JEMISON	BOAT	ODOBENUS	LOW	100	MAROON LUND SKIFF WITH GRAY 70 HP YAMAHA OUTBOARD. 4 NATIVE MEN ON BOARD: 2 WITH SHORT HAIR AND LIGHT GRAY JACKETS, 1 WITH SUNGLASSES AND LONG HAIR, 1 WITH GLASSES. BOAT TRAVELLING S TO N, ABOUT 20' OFFSHORE, ENTERED ODOBENUS COVE, TURNED OFF MOTOR

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 4

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
							AND SAT IN BOAT WATCHING THE 20 WALRUS HAULED OUT ON THE N END OF THE BEACH. 1115 MOTOR TURNED ON AND BOAT SLOWLY MOVED TOWARD BEACH, APPROACHED TILL ABOUT 50' FROM THE WALRUS, THEN THE MOTOR WAS SHUT OFF. MEN POINTED AT WALRUS AND MADE GESTURES TO L.J. AND LAUGHED. 1120 THE WALRUS SUDDENLY SPOOKED AND QUICKLY MOVED INTO THE WATER, AT WHICH POINT THE MOTOR WAS TURNED ON AGAIN, THE MEN LAUGHING, TURNED THE BOAT AND SPEEDILY DEPARTED OUT OF THE COVE, AND AROUND CAPE P. POINT. BOAT DEPARTURE FLUSHED NUMEROUS SEABIRDS FROM BOTH THE CLIFFS AND THE WATER. SEVERAL WALRUS REMAINED IN COVE CLOSE TO CLIFFS, OTHERS SWAM OUT OF COVE TO EITHER THE N OR S.
05/29/89	1618	L.HAGGBLOM,L.JEMISON	AIRCRAFT		N/A		YELLOW AND WHITE CESSNA TYPE PLANE WITH WHITE TAIL AND WING TIPS, ON WHEELS, TAIL DRAGGER, YELLOW LETTERS ON TAIL: N2572S. FLEW LOW OVER CLIFFS FROM CAPE PEIRCE POINT TO MAGGY BEACH, CIRCLED OVER CABIN AND HEADED TO N.SPIT WHERE IT POSSIBLY LANDED.
05/30/89	1442	L.JEMISON,L.HAGGBLOM	AIRCRAFT	SLUG MT	N/A		RED PLANE WITH WHITE STRIPE, THREE WING STRUTS, ON WHEELS. FLEW N TO S FROM SECURITY COVE AREA PAST SLUG MT.
05/31/89	1730	L.JEMISON,L.HAGGBLOM	BOAT	OFFSHORE	N/A		SMALL BOAT TRAVELLING FROM KUSKOKWIM BAY TOWARD TOGIAK, OFFSHORE.
05/31/89	1730	L.HAGGBLOM,L.JEMISON	BOAT	OFFSHORE	N/A		PROCESSOR/TRAWLER TYPE BOAT MOVING FROM KUSKOKWIM BAY SE TOWARD TOGIAK, OFFSHORE.
06/01/89	0820	L.HAGGBLOM,L.JEMISON	AIRCRAFT	NANVAK BAY	N/A		RED AND WHITE CUB WITH RED AND WHITE STRIPES ON NOSE AND BODY, WHEELS, N354C, TOM SCHLAGEL FROM D-HAM. CIRCLED NANVAK BAY SEVERAL TIMES, LANDED ON N.SPIT AND GOT OUT TO WALK AROUND. SAND WAS SOFT ON N.SPIT, SO FLEW OVER AND LANDED AT LEE'S LANDING. CAMPED IN DUNES TWO NIGHTS, FISHED IN CHANNEL.DEPARTED 06/03/89, BUT LEFT SOME GEAR ON BEACH.

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 5

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
06/01/89	1339	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		BLUE CUB WITH YELLOW STRIPES, TIRES. RICK GRANT'S PLANE, LANDED AT LEE'S LANDING, LEFT LATER IN EVENING. RETURNED 06/02/89, CAMPED IN DUNES AND FISHED WITH T. SCHLAGEL, DEPARTED 06/03/89, LEAVING GEAR ON BEACH.
06/01/89	1310	L.JEMISON,L.HAGGBLOM	BOAT	OFFSHORE	N/A		FAR OFFSHORE A TUG PULLING A BARGE, TRAVELLING N TO S.
06/01/89	1603	L.JEMISON, L.HAGGBLOM	BOAT	CLIFFS	N/A		SMALL SKIFF, RED ABOVE AND SILVER BELOW, N:54250. CAME AROUND CAPE P. POINT TRAVELLING N ALONG CLIFFS. DEPARTED AT 1620, TRAVELLING S AROUND CAPE P. POINT. 4 NATIVES ON BOARD.
06/03/89	1355	L.JEMISON, L.HAGGBLOM	AIRCRAFT	MAGGY BEACH	N/A		WHITE CUB TYPE PLANE WITH RED STRIPE, LANDED ON MAGGY BEACH. JOE AND MAGGY WILSON OF BETHEL (AND PEGGY THE DEAF SPANIEL) CAME UP TO CABIN TO CHAT. HOPED TO RETURN LATER IN SUMMER WHEN WALRUS ARE HAULED OUT.
06/05/89	1900	L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		R.GRANT AND T.SCHLAGEL LANDED AT LEE'S LANDING (SAME PLANES AS ON 06/01/89), TOOK GEAR ON BEACH AND DEPARTED.
06/05/89	1700	L.HAGGBLOM	BOAT	OFFSHORE	N/A		TENDER TRAVELLING OFFSHORE, HEADED TOWARDS TOGIK.
06/06/89	1400	L.HAGGBLOM	BOAT	OFFSHORE	N/A		FISHING BOAT TRAVELLING AROUND NEWENHAM TOWARD TOGIK.
06/07/89	1300	L.HAGGBLOM	BOAT	OFFSHORE	N/A		TENDER, LARGE FISHING BOAT AND TUG PULLING BARGE SEEN TRAVELLING AROUND NEWENHAM TOWARD TOGIK. ONE TUG PULLING A BARGE SEEN TRAVELLING E TO W.
06/08/89	1800	L.HAGGBLOM	BOAT	OFFSHORE	N/A		ONE SMALL NATIVE BOAT AND ONE LARGE FISHING BOAT TRAVELLING FROM KUSKOKWIM BAY TOWARD TOGIK.
06/10/89	1900	L.HAGGBLOM	BOAT	OFFSHORE	N/A		TENDER TRAVELLING FROM KUSKOKWIM BAY TOWARD TOGIK.
06/12/89	1530	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		YELLOW AND WHITE CESSNA 185, N25325, MISSION LODGE PLANE. R.GRANT AND CAM (ANOTHER MISSION LODGE GUIDE) LANDED AT LEE'S LANDING, DID SOME FISHING IN THE CHANNEL.
06/13/89	1650	L.HAGGBLOM,L.JEMISON	BOAT	OFFSHORE	N/A		26' GRAY AND WHITE NATIVE FISHING BOAT N:3412 TRAILING A SKIFF. TRAVELLING FROM KUSKOKWIM BAY

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 6

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
06/13/89	1345	L.HAGGBLOM,L.JEMISON	AIRCRAFT		N/A		TOWARD TOGIK. LIGHT AND DARK BLUE BEAVER FROM MISSION LODGE. FLEW OVER BAY AND CIRCLED CABIN, BUZZED MAGGY (NO WALRUS), THEN LANDED GOING SOUTH IN THE BAY. HEARD IT TAKE OFF AT 1600 (WE WERE AT ODOBENUS COVE), LATER SAW 2-3 SETS OF FOOTPRINTS ON THE BEACH.
06/14/89	1505	L.JEMISON,L.HAGGBLOM	BOAT	NANVAK BAY	N/A		26' SILVER BOAT N:55587 "MISS NICKY". ANCHORED IN NANVAK BAY JUST WEST OF LEE'S LANDING. 4 MALES ON BOARD (3 NATIVES, 1 WHITE), HIKED UP TO ODOBENUS TO SEE THE WALRUS.
06/14/89	1515	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		WHITE CUB WITH RED STRIPES, N8993Y. FLEW OVER BAY, CIRCLED LOWER CLIFFS, LANDED AT LEE'S L. R.GRANT HAD BEEN UP BY THE SLUG RIVER AND NOTICED HIS TIRE WAS GOING FLAT, CALLED MISSION LODGE VIA BETHEL.
06/14/89	1700	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		WHITE CESSNA 185 WITH RUST AND BROWN STRIPES, N93283. LANDED AT LEE'S L. JIMMY AND JIM FROM MISSION LODGE BROUGHT OUT A NEW TIRE TO FIX R.GRANT'S FLAT. TIRE WAS CHANGED AND BOTH PLANES DEPARTED.
06/16/89	1120	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		BLUE CUB, YELLOW AND WHITE STRIPES, R.GRANT FROM MISSION LODGE LANDED AT LEE'S L. BILL AND GRANT HIKED UP CLIFFS TO SEE WALRUS.
06/16/89	1115	L.HAGGBLOM,L.JEMISON	AIRCRAFT	LEE'S LAND.	N/A		WHITE CUB WITH RED STRIPES N8993Y, BILL FROM MISSION LODGE LANDED AT LEE'S L.
06/17/89	1130	L.JEMISON,L.HAGGBLOM	AIRCRAFT	NANVAK BAY	N/A		LIGHT COLORED BEAVER (MISSION LODGE) WITH A BOAT LASHED TO ONE OF THE FLOATS, LANDED IN UPPER BAY.
06/18/89	1415	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		WHITE CUB WITH RED STRIPES, N8993Y. JIMMY AND R.GRANT FROM MISSION LODGE LANDED AT LEE'S L. HAD CLIENTS FISHING UP NEAR (OR ON) SLUG RIVER. STOPPED BY CABIN TO SAY HI.
06/19/89	1215	L.HAGGBLOM,L.JEMISON	AIRCRAFT	MAGGY BEACH	N/A		WHITE WITH RED CUB, N8993Y. R.GRANT LANDED ON MAGGY BEACH. MISSION LODGE HAD BEAVER IN UPPER BAY AND CLIENTS FISHING ON SLUG RIVER.
06/23/89	1700	L.HAGGBLOM,L.JEMISON	AIRCRAFT	LEE'S LAND.	N/A		BLUE CUB WITH YELLOW AND WHITE STRIPES. R.GRANT LANDED AT LEE'S L., MISSION LODGE CLIENTS ARE FISHING UP NEAR SLUG.
06/26/89	1800	L.HAGGBLOM,L.JEMISON	AIRCRAFT	ODOBENUS	NONE		YELLOW AND WHITE CESSNA ON WHEELS, N25325. MISSION

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 7

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
							LODGE PLANE, FLEW HIGH OVER CLIFFS TO SEE WALRUS ON ODOBENUS, THEN FLEW BACK OVER CABIN, WING WAG AND DEPARTED.
06/27/89	1815	L.HAGGBLOM,R.BUDELSKY	AIRCRAFT	LEE'S LAND.	N/A		YELLOW AND WHITE CESSNA, N25325, LANDED AT LEE'S LANDING, MISSION LODGE PLANE. R.GRANT AND TWO WOMEN CAME TO CABIN, SPOKE WITH R.BUDELSKY. LOOKED AT WILDFLOWERS, DEPARTED AT 2000.
06/29/89	1900	L.HAGGBLOM,R.BUDELSKY	AIRCRAFT	MAGGY BEACH	N/A		YELLOW AND WHITE CESSNA, N25325. MISSION LODGE PLANE TOUCHED DOWN ON MAGGY, PULLED UP AND FLEW N TO N.SPIT (POSSIBLE LANDING ON N.SPIT).
07/01/89	1800	L.HAGGBLOM,L.JEMISON	AIRCRAFT	ODOBENUS	UNKNOWN		WHITE CUB TYPE PLANE WITH RED STRIPE, TIRES. FLEW FROM BAY AREA S TOWARD CAPE P.POINT. FLEW ABOUT 300' OVER ODOBENUS, POSSIBLY SPOOKING THE 21 WALRUS HAULED OUT.
07/01/89	1903	L.JEMISON,L.HAGGBLOM	AIRCRAFT	HANVAK BAY	N/A		YELLOW AND WHITE CESSNA. CIRCLED BAY, THEN FLEW E 15 MINUTES LATER SEEN CIRCLING UPPER BAY. POSSIBLY MISSION LODGE PLANE TRYING TO PICK UP CLIENTS FISHING ON SLUG RIVER.
07/02/89	1040	L.JEMISON,L.HAGGBLOM	AIRCRAFT	MAGGY/CLIFF	N/A		WHITE CUB, RED WINGS AND STRIPE, ON WHEELS, N6959K. FLEW OVER MAGGY TOWARD SLUG, CIRCLED TO N, CIRCLED LOW (100') OVER MAGGY AND LOWER CLIFFS AND MAGGY AGAIN THEN FLEW OVER N.SPIT, TURNED AND FLEW EVEN LOWER OVER MAGGY AND CLIFFS (ABOUT 75'), FLUSHING THE SEABIRDS.
07/03/89	1502	L.HAGGBLOM,L.JEMISON	AIRCRAFT	LEE'S LAND.	N/A		YELLOW AND WHITE CESSNA N25325. MISSION LODGE PLANE FLEW AROUND UPPER BAY, AT 1910 LANDED AT LEE'S L.
07/03/89	1522	L.JEMISON,L.HAGGBLOM	AIRCRAFT	HANVAK BAY	N/A		BLUE BEAVER, MISSION LODGE HAD CLIENTS FISHING ON SLUG RIVER, PLANE WAS SEEN PARKED ON PENINSULA HALF WAY UP BAY, PEOPLE WERE SEEN WALKING AROUND.
07/09/89	1530	L.JEMISON,L.HAGGBLOM	AIRCRAFT	CLIFFS	NONE		TWIN PROP NAVAJO TYPE, LOW WING STRUCTURE, CREAM COLORED WITH BROWN TAIL STRIPE. FLEW LOW OVER THE WATER, (75'-100') ABOUT A THIRD MILE OFF SHORE.

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 8

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
07/10/89	1555	L.JEMISON,L.HAGGBLOM	AIRCRAFT	CABIN	N/A		CIRCLED AND AGAIN FLEW CLOSE TO WATER- POSSIBLY TRYING TO GET CLOSE TO WALRUS IN THE WATER. YELLOW AND WHITE CESSNA, N25325. FLEW OVER N.SPIT, BUZZED CABIN.
07/16/89	1235	L.JEMISON,L.HAGGBLOM	AIRCRAFT	CLIFF/N.SPT	NONE		WHITE CUB WITH BLUE STRIPE, WHEELS, N83672. FLEW FROM RUGGED POINT AREA OVER TO FIREBAUGH, FLEW 200' ABOVE CLIFFS TO N.SPIT, FLUSHED HUNDREDS OF SEABIRDS. LANDED HALF WAY UP N.SPIT, DEPARTED AT 1246.
07/25/89	1323	L.JEMISON,L.HAGGBLOM	AIRCRAFT	NANVAK BAY	N/A		BLUE BEAVER ON FLOATS (MISSION LODGE). FROM E FLEW OVER BAY, AROUND NEWENHAM CLOSE TO THE CLIFFS.
07/26/89	1338	L.JEMISON, L.HAGGBLOM	AIRCRAFT	MAGGY BEACH	N/A		YELLOW CUB, WHEELS, N1419D?. FLEW 300' OVER MAGGY, N OVER N.SPIT, CIRCLED THEN FLEW ACROSS TO CHAGVAN MT. AND DEPARTED TO THE NE.
07/26/89	1430	L.HAGGBLOM,L.JEMISON	AIRCRAFT	MAGGY BEACH	N/A		BLUE CUB, YELLOW AND WHITE STRIPES, WHEELS. R.GRANT FLEW N OVER TUNDRA , LANDED ON MAGGY, LEFT A NOTE AT CABIN. PLANE SEEN AGAIN AT 1815 WHEN IT FLEW OVER CABIN, WING WAG.
07/27/89	1527	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		WHITE CUB, RED STRIPE, WHEELS, N8993Y. JIMMY (OF MISSION LODGE) AND TRINA LANDED AT LEE'S L. AND WALKED UP TO FIREBAUGH TO SEE WALRUS. DEPARTED AT 1800 FLYING N OVER BAY.
07/31/89	1830	L.JEMISON,L.HAGGBLOM	BOAT	OFFSHORE	N/A		GREY 26' NATIVE BOAT, DARK LETTERS AND TRIM, SUZUKI MOTOR, N:36617, ORANGE LIFESAVER ON TOP, WHITE BOUY ON BOW. ONE MAN DRIVING AND YOUNGER MAN LOOKING OUT TOP. TRAVELLED FROM CAPE P. POINT AROUND CAPE NEWENHAM.
08/12/89	1555	L.HAGGBLOM,L.JEMISON	AIRCRAFT	MAGGY/CLIFF	UNKNOWN		WHITE PLANE, BLUE STRIPE AND NOSE, STRAIGHT TAIL, TRICYCLE GEAR. CAME FROM NE, FLEW 150' OVER LEE'S L AND MAGGY, FLEW OVER CLIFFS, TURNED AND CIRCLED OVER DUNES. TWO PEOPLE IN PLANE, SEABIRDS FLUSHED FROM CLIFFS.
08/13/89	2020	L.HAGGBLOM,L.JEMISON	AIRCRAFT	CABIN	N/A		WHITE CUB?, RUST AND BROWN STRIPES. FLEW FROM N.SPIT ALMOST DIRECTLY OVER CABIN 100' ABOVE THE GROUND. TURNED NE JUST BEFORE CABIN AND FLEW TOWARD THE TWINS. MISSION LODGE PLANE?

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 9

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
08/13/89	2050	L.HAGGBLOM,L.JEMISON	AIRCRAFT	SLUG MT	N/A		WHITE CESSNA TYPE PLANE, RED STRIPE, SWEEP TAIL, WHEELS. FLEW NE ALONG SLUG.
08/14/89	1833	L.JEMISON,L.HAGGBLOM	AIRCRAFT	MAGGY BEACH	SEVERE	1250	CESSNA TYPE(?) DARK GREEN LOWER AND WHITE UPPER BODY OF PLANE, 2 GREEN AND 2 WHITE STRIPES ON BODY, GREEN STRIPE ON TAIL, 2 WING STRUTS, WHEELS, TAIL DRAGGER, MALE PILOT.FLEW FROM SLUG W OVER TUNDRA TO CLIFFS, FLEW N OVER CLIFFS AND MAGGY AT 1-2 THOUSAND FEET. FLEW OVER BAY AND N.SPIT AND THEN DROPPED LOW, FLEW LOW OVER NANVAK CHANNEL, AND DUNES TO NE. CIRCLED AROUND AT WATCHPOINT DUNE, FLEW 50' OVER LEE'S L., FOLLOWED BEACH TO S AND TURNED NE JUST BEFORE REACHING THE WALRUS THAT WERE HAULED OUT ON S END OF MAGGY BEACH. DEPARTED TO THE N. ALL WALRUS (250) MOVED OFF MAGGY.
08/15/89	1615	L.JEMISON,L.HAGGBLOM	AIRCRAFT	MAGGY BEACH	SEVERE	1120	CESSNA 185, N735EA. SUPPLY FLIGHT FROM D-HAM. FLEW OVER BAY, CIRCLED LEE'S L. ONCE AND CHANNEL ONCE, THEN LANDED IN BAY NEAR LEE'S L. 320 WALRUS WERE ON MAGGY BEACH: 120 RAISED HEADS, WERE ALERT, BUT EVENTUALLY SETTLED BACK DOWN, 200 WALRUS MOVED OFF THE BEACH.
08/16/89	1318	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	NONE		WHITE CUB, RED STRIPE, N9993Y. CAME FROM N, LANDED AT LEE'S L. R.GRANT TOOK SOME PHOTOS OF WALRUS ON MAGGY BEACH, STOPPED AT CABIN TO SAY HI. DEPARTED 1445 TO E. CIRCLED TUNDRA BY TWINS THEN LEFT.
08/20/89	1450	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		WHITE CUB, RED STRIPE, N8993Y. R.GRANT AND CLIENT RICHARD FROM L.A. (FORMERLY OF ME. AND CONCORD MA.). GRANT LANDED AT LEE'S L., CAME TO CABIN VIA SLOUGH TRAIL. CAME TO SEE WALRUS BUT NONE ON MAGGY. DEPARTED 1537.
08/21/89	1540	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	N/A		WHITE CUB, RED STRIPE, N8993Y. R.GRANT LANDED AT LEE'S L. WITH MISSION LODGE CLIENT FRANK FROM FLA. THEY HIKE UP TO FIREBAUGH TO SEE THE WALRUS. DEPARTED 1740.

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 10

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
08/22/89	2129	L.HAGGBLOM,L.JEMISON	AIRCRAFT	MAGGY/CLIFF	UNKNOWN		WHITE 206 OR 207, RED AND ORANGE STRIPE, TRICYCLE GEAR, 1 WING STRUT, N33211. CAME FROM N, FLYING 250' OVER CLIFFS, CIRCLED ABOVE CLIFFS, CONTINUED N, TOUCHED DOWN THEN PULLED UP ON MAGGY. CIRCLED MAGGY THEN DEPARTED TO THE N. PLANE CHARTERED BY SAM LABUDDE, A BIOLOGIST(?) FROM CAL WHO HOPED TO FILM WALRUS CARCASSES ON MAGGY.
08/23/89	1156	L.JEMISON,L.HAGGBLOM	AIRCRAFT		UNKNOWN		WHITE 206 OR 207, N33211 (SAME PLANE SEEN ON 08/22/89). CAME FROM N, FLEW OVER BAY AND DUNES, UP SLOUGH AREA E TOWARD SLUG. CIRCLED PENINSULA TILL 1215, PROBABLY CHECKING OUT THE WALRUS/CARCASS SITUATION.
08/24/89	1040	L.JEMISON,L.HAGGBLOM	AIRCRAFT	S.FIREBAUGH	MODERATE	830	LOW JET FLEW S TO N ALONG THE CLIFFS, DISTURBING THE 270 WALRUS ON FIREBAUGH. ALL RAISED THEIR HEADS AND MOVED TOWARD THE WATER, EVENTUALLY SETTTLING BACK DOWN. 10 ENTERED THE WATER.
08/24/89	1029	L.JEMISON,L.HAGGBLOM	AIRCRAFT		SEVERE	1646	PLANE FLYING E TO W OVER MAGGY AND S ALONG CLIFFS. CEILING 900', VISIBILITY 6 MILES. PLANE LOUD AND LOW BUT ABOVE THE CEILING (AND THEREFORE NOT SEEN). 118 OF THE 130 WALRUS HAULED OUT ON MAGGY WERE SCARED OFF THE BEACH, THE REMAINING 12 MOVED DOWN TO WATERLINE. 150 WALRUS WERE SCARED OFF S.FIREBAUGH WHILE 270 WALRUS RAISED THEIR HEADS AND WERE ALERT, BUT EVENTUALLY SETTLED BACK DOWN AND REMAINED HAULED OUT. PLANE WAS VERY LOUD AND SO PROBABLY NOT A CUB OR CESSNA.
08/26/89	1713	L.HAGGBLOM,L.JEMISON	AIRCRAFT	MAGGY BEACH	MODERATE	401	MIKE HARDER IN WIDGEON FLEW E TO W MIDWAY OVER MAGGY BEACH. ALL 81 WALRUS HAULED OUT NEXT TO CLIFF AT SOUTH END OF MAGGY BEACH LOOKED UP AND STARTED MOVING TO WATER. 1720: 4 WALRUS ENTER WATER. 1723: 21 WALRUS REACH WATER, 1726: ABOUT 25 MORE WALRUS ENTER WATER, 1739: 19 WALRUS REMAIN ON BEACH. L.J., M.HARDER, AND DANIEL E. ZATZ ARE ON MAGGY BEACH. D.ZATZ IS VIDEO TAPING THE WALRUS CARCASSES FOR SAM LABUDDE WHO HAS SOMEHOW RELATED THE MAGGY BEACH WALRUS CARCASSES WITH THE DRUGS FOR IVORY TRADE(!). OUR PRESENCE ON THE BEACH SCARED 10 OF THE REMAINING 12 WALRUS INTO THE

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 11

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
							WATER, THE 2 REMAINING WALRUS WERE HAULED OUT ABOUT 20' FROM THE WATER'S EDGE.
09/01/89	1729	L.JEMISON,L.HAGGBLOM	AIRCRAFT	CABIN	UNKNOWN		WHITE HELICOPTER, MAROON AND BROWN FRONT AND STRIPES, 2 MEN ON BOARD. FLEW N ALONG CLIFFS AND LANDED JUST NORTH OF CABIN BY CABIN POND. PILOT CAME TO CABIN TO EXPLAIN THAT THEY ARE DOING NATIVE ALLOTMENT SURVEYS FOR BLM AND WILL BE IN THE AREA FOR A DAY OR TWO. DEPARTED TO N TO SURVEY N.SPIT.
09/05/89	1101	L.JEMISON,L.HAGGBLOM	AIRCRAFT	S.FIREBAUGH	MODERATE	412	COAST GUARD C130, TWIN ENGINE ON EACH WING, ORANGE AND WHITE. FLEW W OVER PENINSULA AT 3000', HIGH BUT LOUD. ALL 412 WALRUS ON S.FIREBAUGH RAISED HEAD, LOOKED AROUND; SETTLED BACK DOWN WITHIN A FEW MINUTES.
09/11/89	1630	L.HAGGBLOM,L.JEMISON	AIRCRAFT	MAGGY BEACH	MODERATE	387	CESSNA 185, WHITE WITH RED AND BROWN STRIPES, N93283. R.GRANT LANDED AT LEE'S L., 4 WALRUS AT WATER EDGE MOVED INTO WATER. GRANT PHOTOGRAPHED WALRUS ON MAGGY. DEPARTED AT 1750; THE 352 WALRUS ON THE BEACH RAISED THEIR HEADS, THEN SETTLED BACK DOWN, 3 WALRUS AT WATER LINE MOVED INTO THE WATER.
09/14/89	1740	L.JEMISON,L.HAGGBLOM	AIRCRAFT	MAGGY BEACH	MODERATE	200	WHITER CUB, RED STRIPE AND NUMBERS, TUNDRA TIRES. FLEW N ALONG CLIFFS FROM CAPE P. POINT, LOW OVER MAGGY, ABOUT 100' ABOVE THE 200 WALRUS HAULED OUT. ALL WALRUS LOOKED UP AND WERE ALERT; SETTLED DOWN SOON AFTER PLANE PASSED. PLANE DEPARTED TO THE N. NOISE LEVEL OF PLANE WAS VERY LOW.
09/14/89	1258	L.JEMISON,L.HAGGBLOM	BOAT	E. CAPE	N/A		ONE SKIFF AND ONE FISHING BOAT TOWING A SKIFF WERE SEEN AT SHIAK ISLAND, POSSIBLY THE SKIFF WAS LOGGED ON THE SAND BAR. AT LEAST ONE PERSON WAS ON THE SKIFF AND AT LEAST TWO ON THE FISHING BOAT. 3-4 GUNSHOTS WERE HEARD, 5 MINUTES LATER BOATS CONTINUED SW AROUND CAPE P. POINT WHERE A THIRD BOAT JOINED THE FIRST TWO AND ALL THREE WENT NW AND AROUND CAPE NEWENHAM.

1989 PLANE/BOAT SIGHTINGS - CAPE PEIRCE, ALASKA

Page No. 12

11/01/89

DATE	TIME	OBSERVER	TYPE	LOCATION	DISTURBNCE	INDEX	DESCRIPTION
09/15/89	1300	L.JEMISON,L.HAGGBLOM	AIRCRAFT	MAGGY BEACH	MODERATE	526	CESSNA 735EA ON A SUPPLY FLIGHT. AS GARY DEPARTED, 442 WALRUS ON MAGGY BEACH WERE ALERT, LOOKED AROUND. 12 WALRUS SLOWLY ENTERED THE WATER, AND 8 WALRUS MOVED DOWN TO THE WATER'S EDGE.
09/26/89	1450	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	NONE		BLUE CUB WITH YELLOW AND WHITE STRIPES, R.GRANT. FROM BAY AREA, CIRCLED UPPER BAY SEVERAL TIMES, FLEW E THEN LANDED AT LEE'S L. TIED HIS GOLDEN RETRIEVER TO PLANE AND WALKED UP TO MAGGY TO SEE WALRUS. DEPARTED AT 1645 TAKING OFF TO THE E THEN TURNED AND FLEW N TO UPPER BAY.
09/26/89	1451	L.JEMISON,L.HAGGBLOM	AIRCRAFT	LEE'S LAND.	NONE		RED CUB WITH WHITE STRIPE ON TOP OF WING AND SIDE. JIMMY FROM MISSION LODGE, PATTI AND HEATHER GRANT WERE ON PLANE. AFTER CIRCLING UPPER BAY SEVERAL TIMES, JIMMY LANDED BEHIND R.GRANT AT LEE'S L. THE THREE JOINED R.GRANT AND WALKED UP TO SEE WALRUS ON MAGGY BEACH. DEPARTED AT 1645 FLYING E THEN TURNED N AND HEADING TOWARD UPPER BAY.
09/26/89	1145	L.JEMISON,L.HAGGBLOM	AIRCRAFT	MAGGY BEACH	SEVERE	1820	CESSNA 185, N735EA, SUPPLY FLIGHT. GARY FLEW IN AND CIRCLED OVER CHANNEL, LANDED IN CHANNEL, CUT MOTOR AND DRIFTED TO SHORE. THE 380 WALRUS ON MAGGY LOOKED UP AND BEGAN MOVING TOWARD THE WATER. N735EA DEPARTED AT 1230, WHEN L.J AND L.H WALKED BACK TO CABIN ALONG BEACH, 280 WALRUS HAD ENTERED THE WATER, 60 WERE MOVING INTO THE WATER, AND 40 REMAINED HAULED OUT NEAR THE WATER LINE.
09/26/89	1430	L.HAGGBLOM,L.JEMISON	AIRCRAFT	MAGGY BEACH	UNKNOWN		WHITE 207, DARK STRIPE AND TAIL FLAG, A MARK AIR PLANE. CAME FROM CHAGVAN AREA, S OVER N.SPIT AND THEN 400' OVER MAGGY BEACH, POSSIBLY DISTURBING THE 60 WALRUS HAULED OUT.

APPENDIX II. 1989 daily counts of walrus. Cape Peirce, Alaska.

DATE	START TIME	STOP TIME	MAGGY LAND	WATER	PARLIERS LAND	WATER	N. FIREBOUGH LAND	WATER	S. FIREBOUGH LAND	WATER	ODEBENUS LAND	WATER	SUBTOTAL LAND	WATER	TOTAL
21-Apr	1000		0	0	0	0	0	0	85	0	0	0	85	0	85
22-Apr	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
23-Apr	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
24-Apr	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
25-Apr	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
26-Apr	1000		0	0	0	0	0	0	0	0	0	0	0	0	0
27-Apr	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
28-Apr	1530		0	0	0	0	0	0	0	0	0	0	0	0	0
29-Apr	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
30-Apr	1500		0	0	0	0	0	0	0	0	0	0	0	0	0
01-May	1500		0	0	0	0	0	0	0	0	0	0	0	0	0
02-May	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
03-May	1130	1600	0	0	0	0	0	0	0	0	0	0	0	0	0
04-May	1245	1430	0	0	0	0	0	0	0	0	0	0	0	0	0
05-May	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
06-May	1220	1400	0	0	0	0	0	0	0	0	0	0	0	0	0
07-May	1354	1500	0	0	0	0	0	0	0	0	0	0	0	0	0
08-May	1230	1400	0	0	0	0	0	0	0	0	0	0	0	0	0
09-May	1400	1615	0	0	0	0	0	0	0	0	0	0	0	0	0
10-May	1300	1515	0	0	0	0	0	0	0	0	0	0	0	0	0
11-May	1100	1300	0	0	0	0	0	0	0	0	0	0	0	0	0
12-May	1215	1400	0	0	0	0	0	0	0	0	0	0	0	0	0
13-May	1315	1500	0	0	0	0	0	0	0	0	0	0	0	0	0
14-May	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
15-May	1715		0	0	0	0	0	0	0	0	1	0	1	0	1
16-May	1000		0	0	0	0	0	0	0	0	1	3	1	3	4
17-May	1600	1700	0	0	0	0	0	0	0	0	0	0	0	0	0
18-May	1930	2030	0	0	0	0	0	0	0	0	0	0	0	0	0
19-May	1530	1740	0	0	0	0	0	0	0	0	0	6	0	6	6
20-May	1330	1430	0	0	0	0	0	0	0	0	0	0	0	0	0
21-May	1100	1300	0	0	0	0	0	0	0	0	0	0	0	0	0
22-May	1830	2000	0	0	0	0	0	0	0	0	2	2	2	2	4
23-May	930	1230	0	0	0	0	0	0	0	0	1	0	1	0	1
24-May	1305	1815	0	0	0	0	1	3	0	17	11	0	12	20	32
25-May	930	1150	0	0	0	0	0	0	0	0	20	0	20	0	20
26-May	1530	1645	0	0	0	0	0	0	0	0	26	0	26	0	26
27-May	1500	1815	0	0	0	0	0	0	0	0	0	0	0	0	0
28-May	1100	1330	0	0	0	0	0	0	0	0	0	0	0	0	0
29-May	1530	1800	0	0	0	0	0	1	0	1	0	0	0	2	2
30-May	1515	1900	0	6	0	0	0	0	0	0	0	0	0	6	6
31-May	920	1025	0	0	0	0	0	0	0	0	0	5	0	5	5
01-Jun	1300	1510	0	2	0	0	0	0	0	0	0	6	0	8	8
02-Jun	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
03-Jun	1830	2110	0	4	0	0	0	0	0	0	0	0	0	4	4
04-Jun	1830	2000	0	0	0	0	0	0	9	0	0	0	9	0	9
05-Jun	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
06-Jun	1105	1534	0	0	0	0	0	0	0	0	10	0	10	0	10
07-Jun	1148	1550	0	0	0	0	0	0	0	0	3	0	3	0	3
08-Jun	1600	1800	0	0	0	0	0	0	0	0	0	0	0	0	0
09-Jun	1330	1800	0	0	0	0	0	2	0	5	2	6	2	13	15
10-Jun	1440	2007	0	0	0	0	0	0	0	0	37	0	37	0	37
11-Jun	1430	2000	0	0	0	0	0	0	0	1	42	0	42	1	43
12-Jun	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C

DATE	START TIME	STOP TIME	MAGGY LAND	WATER	PARLIERS LAND	WATER	N. FIREBOUGH LAND	WATER	S. FIREBOUGH LAND	WATER	ODEBENUS LAND	WATER	SUBTOTAL LAND	WATER	TOTAL
13-Jun	1139	1800	0	2	0	0	0	0	2	5	47	3	49	10	59
14-Jun	900	1250	0	0	0	0	0	0	0	0	44	0	44	0	44
15-Jun	1430	1515	0	0	0	0	0	0	0	0	23	0	23	0	23
16-Jun	1330	2315	0	4	0	0	0	0	0	0	6	0	6	4	10
17-Jun	1900	2150	0	0	0	0	0	0	0	0	0	0	0	0	0
18-Jun	815	1215	0	0	0	0	0	0	0	0	0	0	0	0	0
19-Jun	1200	1600	0	0	0	0	0	0	0	0	0	0	0	0	0
20-Jun	1830	2030	0	0	0	0	0	0	0	0	0	0	0	0	0
21-Jun	830	1130	0	0	0	0	0	0	0	0	0	0	0	0	0
22-Jun	1900	2200	0	0	0	0	14	2	6	14	2	16	22	38	
23-Jun	1700	2100	0	0	0	0	0	0	0	0	90	2	90	2	92
24-Jun	1400	1830	0	0	0	0	0	0	0	0	141	0	141	0	141
25-Jun	1930	2115	0	0	0	0	0	0	0	0	196	2	196	2	198
26-Jun	1040	1155	0	0	0	0	0	0	0	0	134	2	134	2	136
27-Jun	1000	1658	0	2	0	0	0	2	0	1	5	3	5	8	13
28-Jun	1321	1501	0	0	0	8	0	3	1	0	5	0	6	11	17
29-Jun	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
30-Jun	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
01-Jul	1600	1800	0	0	0	0	0	0	0	0	21	3	21	3	24
02-Jul	1404	1851	0	0	0	0	0	2	0	2	76	1	76	5	81
03-Jul	1605	1912	0	0	0	0	0	0	0	2	225	4	225	6	231
04-Jul	1109	1330	0	0	0	0	0	0	0	0	241	7	241	7	248
05-Jul	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
06-Jul	1802	1955	0	25	0	2	0	3	0	0	224	5	224	35	259
07-Jul	1510	1850	0	10	0	6	0	6	0	12	906	5	906	39	945
08-Jul	1230	1715	0	8	0	3	0	0	266	21	857	5	1123	37	1160
09-Jul	1217	1445	0	0	0	5	0	2	502	23	579	21	1081	49	1130
10-Jul	1844	2020	0	0	0	0	0	2	326	8	253	6	579	16	595
11-Jul	1802	1950	0	0	0	0	0	0	0	1	27	45	27	46	73
12-Jul	1430	1550	0	0	0	0	0	0	0	0	107	1	107	1	108
13-Jul	1300	1430	0	0	0	0	0	0	0	0	107	5	107	5	112
14-Jul	1420	1630	0	0	0	3	0	2	0	10	233	4	233	19	252
15-Jul	945	1117	0	0	0	0	0	7	0	7	330	10	331	24	355
16-Jul	1015	1135	0	0	0	0	0	0	1	1	223	9	224	10	234
17-Jul	915	1045	0	2	0	2	0	0	0	2	171	22	171	28	199
18-Jul	1350	1516	0	0	0	0	0	0	0	13	345	10	345	23	368
19-Jul	1010	1145	0	4	0	1	0	0	6	0	191	9	197	14	211
20-Jul	1450	1640	0	0	0	0	0	0	237	2	444	8	681	10	691
21-Jul	1331	1730	0	0	0	0	0	0	313	0	334	2	647	2	649
22-Jul	1840	2101	0	12	0	2	0	6	478	11	370	13	848	24	872
23-Jul	1210	1440	0	10	0	6	0	8	526	14	335	25	862	53	915
24-Jul	920	1132	0	0	1	2	0	1	690	25	424	34	1115	62	1177
25-Jul	1030	1230	0	0	0	0	0	1	568	10	332	8	900	19	919
26-Jul	1800	2000	0	0	0	3	0	0	669	12	0	3	669	18	687
27-Jul	1640	1820	0	0	0	0	0	0	385	4	0	0	385	4	389
28-Jul	1200	1340	0	0	0	0	0	0	277	14	0	0	277	14	291
29-Jul	1840	2000	0	0	0	0	0	0	143	2	0	0	143	2	145
30-Jul	1800	2000	1	0	0	0	0	0	206	5	0	0	207	5	212
31-Jul	1400	1800	1	0	0	0	0	0	450	9	100	0	551	9	560
01-Aug	1440	1540	0	0	0	0	0	0	268	4	522	2	790	6	796
02-Aug	1045	1230	0	0	0	0	0	2	265	9	170	6	435	17	452
03-Aug	1040	1220	0	0	0	0	0	0	115	2	41	0	156	2	158
04-Aug	1045	1319	0	0	0	0	0	0	124	1	1	5	125	6	131

DATE	START TIME	STOP TIME	MAGGY LAND	WATER	PARLIERS LAND	WATER	N. FIREBOUGH LAND	WATER	S. FIREBOUGH LAND	WATER	ODEBENUS LAND	WATER	SUBTOTAL LAND	WATER	TOTAL
05-Aug	1124	1300	0	0	0	0	0	0	289	3	0	2	289	5	294
06-Aug	1740	1850	0	1	0	1	0	1	870	16	0	0	870	19	889
07-Aug	1105	1330	85	25	0	4	0	0	616	23	0	4	701	56	757
08-Aug	1200	1342	225	17	0	25	0	1	278	87	0	0	503	130	633
09-Aug	940	1310	0	0	0	3	0	0	582	13	0	0	582	15	597
10-Aug	1300	1400	0	0	0	0	0	0	528	6	0	0	528	6	534
11-Aug	1010	1200	0	0	0	0	0	0	102	4	0	0	102	4	106
12-Aug	1000	1115	1	0	0	0	0	0	139	4	0	0	140	4	144
13-Aug	1033	1259	0	0	0	3	0	0	359	8	0	0	359	11	370
14-Aug	825	1130	415	14	0	1	0	2	348	7	0	0	763	24	787
15-Aug	1906	2100	120	0	0	5	0	15	942	95	0	2	1062	117	1179
16-Aug	948	1130	637	0	0	0	0	3	550	27	0	0	1187	30	1217
17-Aug	1032	1240	709	9	0	11	0	4	431	45	0	5	1140	69	1209
18-Aug	830	940	0	0	0	0	0	1	231	20	0	0	231	21	252
19-Aug	1000	1115	0	0	0	0	0	0	160	4	0	0	160	4	164
20-Aug	1810	1855	0	0	0	5	0	0	36	5	0	0	36	10	46
21-Aug	900	1040	0	0	0	0	0	0	88	2	0	0	88	2	90
22-Aug	1800	1923	0	2	0	0	0	0	334	3	0	0	334	5	339
23-Aug	1210	1330	0	0	0	0	0	0	439	15	0	0	439	15	454
24-Aug	920	1135	130	0	0	0	0	4	271	60	0	0	401	64	465
25-Aug	1400	1450	30	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	30
26-Aug	1124	1133	107	0	0	0	0	0	316	10	0	0	423	10	433
27-Aug	1710	1800	0	0	0	0	0	0	338	5	0	0	338	5	343
28-Aug	1000	1046	0	0	0	0	0	0	362	25	0	0	362	25	387
29-Aug	1500	1610	40	0	0	0	0	0	553	4	0	0	593	4	597
30-Aug	1442	1745	63	0	0	0	0	0	494	4	0	0	557	4	661
31-Aug	1245	1248	49	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	49
01-Sep	1030	1100	0	0	0	0	0	0	44	4	0	0	44	4	48
02-Sep	1200	1245	0	0	0	0	0	0	0	3	0	0	1	3	4
03-Sep	1100	1135	0	0	0	0	1	4	2	1	3	2	5	7	12
04-Sep	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
05-Sep	1005	1100	0	0	2	0	0	0	412	0	0	0	414	0	414
06-Sep	1100	1149	1	0	0	0	0	0	780	5	0	0	781	5	786
07-Sep	945	1037	1	0	0	0	0	2	503	16	0	0	504	18	522
08-Sep	900	1020	1	0	1	0	0	3	549	21	0	0	551	24	575
09-Sep	1150	1255	1	0	0	0	0	0	337	7	0	0	338	7	345
10-Sep	1059	1153	70	0	0	0	0	3	337	28	0	0	407	21	428
11-Sep	950	1055	352	0	0	0	0	6	411	10	0	0	763	16	779
12-Sep	924	1150	676	2	0	0	0	0	323	9	0	0	999	11	1010
13-Sep	1015	1055	672	19	0	0	0	0	425	0	0	0	1097	19	1118
14-Sep	1116	1420	398	6	0	0	0	0	556	34	0	0	954	40	994
15-Sep	1000	1045	462	3	0	0	0	0	475	12	0	0	937	15	952
16-Sep	1435	1501	3	0	0	0	0	0	150	3	0	0	153	3	156
17-Sep	1040	1105	1	0	0	0	0	0	119	2	0	0	120	2	122
18-Sep	935	1055	1	0	0	1	0	0	88	5	0	0	89	6	95
19-Sep	1630	1715	1	0	0	0	0	0	42	0	0	0	43	0	43
20-Sep	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
21-Sep	1020	1142	1	0	0	0	0	3	0	11	0	0	1	14	15
22-Sep	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C
23-Sep	1115	1300	1	0	0	0	0	0	486	12	0	0	487	12	499
24-Sep	1135	1320	275	0	0	0	0	3	262	9	0	0	537	12	549
25-Sep	1310	1600	250	2	0	0	0	0	195	7	0	3	445	12	457
26-Sep	840	925	380	12	0	2	0	1	292	4	0	0	672	19	691

DATE	START TIME	STOP TIME	MAGGY LAND	WATER	PARLIERS LAND	WATER	N. FIREBOUGH LAND	WATER	S. FIREBOUGH LAND	WATER	ODEBENUS LAND	WATER	SUBTOTAL LAND	WATER	TOTAL
27-Sep	1120	1559	475	0	0	0	0	0	789	11	0	0	1264	11	1275
28-Sep	1003	1340	1235	3	1	0	0	0	652	14	0	3	1888	23	1911
29-Sep	1348	1451	1866	1	0	0	0	0	559	10	0	0	2425	11	2436
30-Sep	955		75	0	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	N/C	75
01-Oct	930	1112	16	1	0	0	0	0	265	5	0	0	281	6	287
02-Oct	1100		1	0	0	0	0	0	315	3	0	0	316	3	319
03-Oct	1000	1055	1	0	0	2	0	0	108	3	0	0	109	5	114
04-Oct	1010	1125	1	0	0	2	0	0	220	1	0	0	221	3	224
05-Oct	1010	1210	1	0	0	0	0	0	375	1	0	0	376	1	377

APPENDIX III. 1989 daily counts of harbor seals. Nanvak Bay, Cape Peirce, Alaska.

DATE	NUMBERS	DATE	NUMBERS	DATE	NUMBERS
April 29	0	22	45	16	120
30	35	23	31	17	100
May 1	30	24	50	18	40
2	1	25	30	19	N/C
3	8	26	N/C	20	50
4	15	27	13	21	81
5	N/C	28	20	22	40
6	N/C	29	N/C	23	60
7	N/C	30	N/C	24	95
8	0	July 1	50	25	12
9	N/C	2	65	26	97
10	N/C	3	40	27	105
11	12	4	70	28	207
12	15	5	N/C	29	65
13	20	6	105	30	140
14	N/C	7	35	31	N/C
15	0	8	55	September 1	90
16	33	9	50	2	N/C
17	N/C	10	35	3	331
18	27	11	N/C	4	N/C
19	28	12	40	5	260
20	N/C	13	50	6	N/C
21	15	14	60	7	215
22	N/C	15	N/C	8	N/C
23	30	16	10	9	144
24	39	17	69	10	275
25	41	18	58	11	257
26	35	19	55	12	172
27	75	20	21	13	49
28	61	21	40	14	158
29	125	22	35	15	125
30	85	23	45	16	N/C
31	55	24	0	17	169
June 1	30	25	10	18	252
2	N/C	26	20	19	150
3	45	27	25	20	N/C
4	35	28	0	21	343
5	N/C	29	7	22	200
6	42	30	20	23	55
7	N/C	31	40	24	226
8	1	August 1	25	25	215
9	N/C	2	N/C	26	120
10	40	3	48	27	90
11	N/C	4	55	28	110
12	N/C	5	N/C	29	139
13	20	6	60	30	N/C
14	12	7	N/C	October 1	N/C
15	N/C	8	N/C	2	138
16	25	9	103	3	187
17	35	10	75	4	N/C
18	55	11	187	5	278
19	35	12	145		
20	N/C	13	130		
21	40	14	100		
		15	96		