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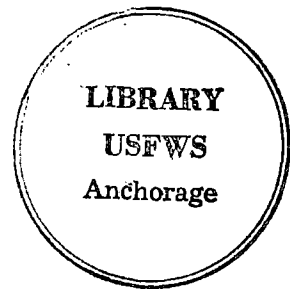
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Census of Seabirds Nesting on The Triplets Islands, June 1985

BY

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Key Words: Kodiak Island, The Triplets Islands, Abundance,
Tufted Puffin, Fork-tailed Storm-Petrel, Leach's
Storm-Petrel, Ancient Murrelet, Gulls, Subsistence

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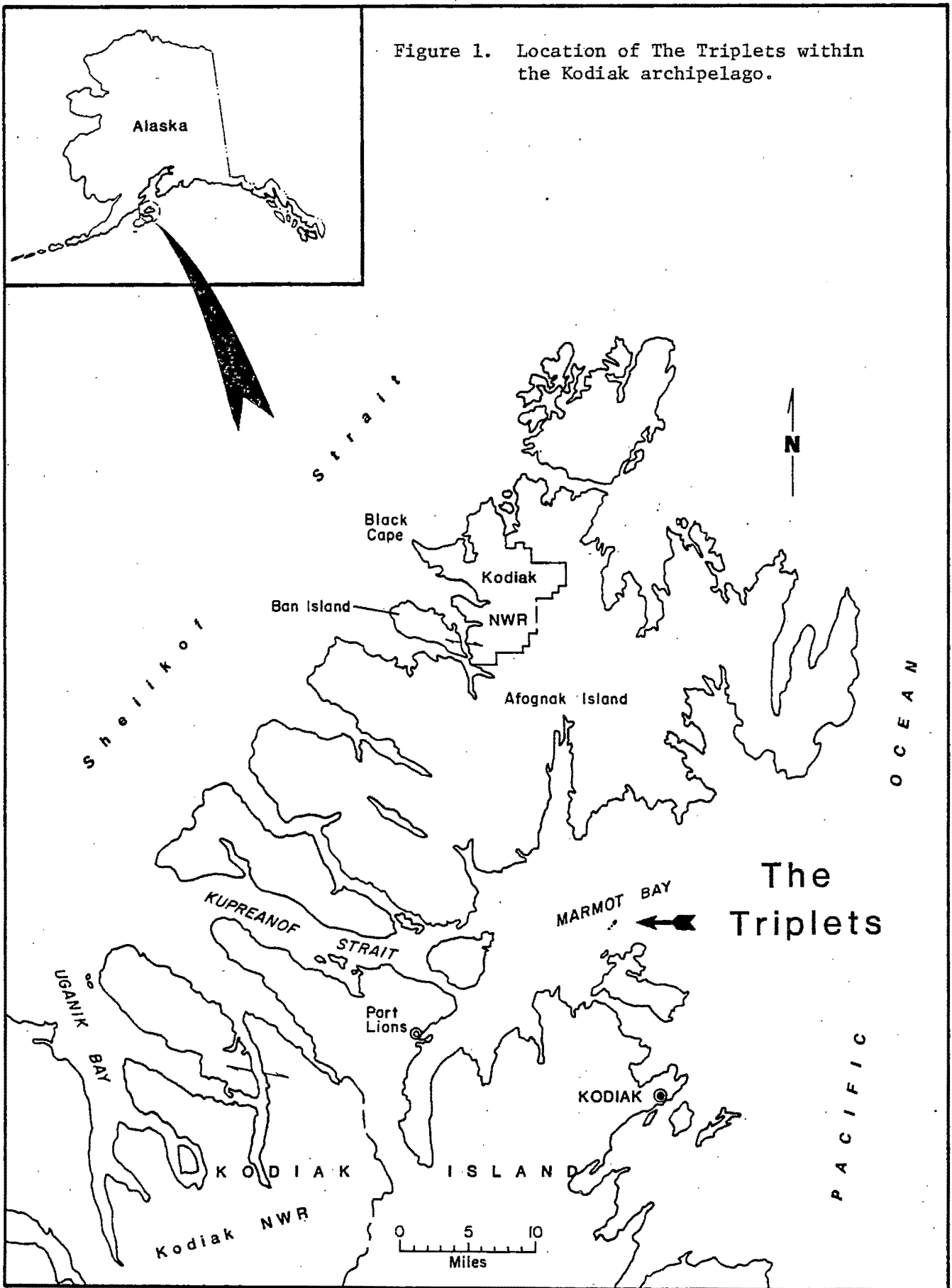
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INTRODUCTION

The Triplets Islands is the largest seabird rookery in the Kodiak archipelago (Figure 1). These islands were surveyed by boat in 1975 by Matt Dick and in 1977 by John Trapp, Matt Dick, Doug Forsell, and Eric Holberg. We surveyed the Triplet Islands in late June, 1985, accompanied by Richard MacIntosh and Tony DeGange. This was the first survey conducted on land and the first nocturnal surveys. The purpose of this trip was to accurately assess the seabird resources of The Triplets and determine their value for acquisition by the U.S. Fish and Wildlife Service. This acquisition would be part of a land exchange proposal at Ugashik Narrows on the Alaska Peninsula NWR.

Table 1. Itinerary of The Triplets Islands Survey, 1985.

DATE	ACTIVITY
June 21	Doug Forsell, Cathy Berg, Ken Emmel, and Rich MacIntosh departed Kodiak, for The Triplets, aboard a 13-foot Zodiac and a 16-foot whaler. Route followed Woody I. Channel, northwest around Spruce Cape, through Narrow Strait, and then north to The Triplets. Base camp was set in Pineapple Cove, south of Zapadni Point, on Spruce Island.
June 22	Conducted puffin plots on "Middle" and "South" Islands. Conducted nocturnal survey on "South Island".
June 23	Circumnavigated all three islands conducting coastal surveys. Wind and rain all day and night. Did one puffin plot on Taliudek Island. Conducted nocturnal survey on "Middle Island".
June 24	Weather deteriorated. Returned to Kodiak via Narrow Strait.
June 25	Poor weather. Remained in Kodiak, cleaning and repairing camp gear.
June 26	Forsell flew to Marmot Island to survey damage of wild boars at request of Alaska Department of Fish and Game.
June 27	Forsell, Berg, Emmel, and Anthony DeGange (AOFWR) departed Kodiak, for The Triplets, via Narrow Strait, aboard 22.5-foot refuge whaler. Conducted puffin plots and nocturnal survey on Taliudek Island.
June 28	Returned to Kodiak via Anton-Larsen Bay.



METHODS

The survey methods used generally conformed to those described by Nysewander, et al. 1982. The number of Tufted Puffins breeding was estimated by counting all burrows in 10 meter strips extending from the top to the bottom of the habitat. Strips were located at 50 meter intervals around the circumference of "South" and "Middle" Islands and at 90 meter intervals around Taliudek Island. The number of breeding Tufted Puffins was extrapolated from the estimate of burrows assuming 65 per cent of the burrows are occupied by breeding pairs. Presence of nocturnal seabirds was determined at night by identification of calls, and numbers were estimated by Forsell.

RESULTS

Tufted Puffins were the most abundant seabird estimated at over 67,000 breeding birds (Table 2). Three nocturnal species were found to be present; Fork-tailed Storm-Petrel, Leach's Storm-Petrel, and Ancient Murrelet. Prior to this survey only Fork-tailed Storm-Petrels were known to nest on The Triplets.

ISLAND DESCRIPTIONS

Taliudek Island

Taliudek Island is the largest and northern-most island in The Triplets. It has an area of approximately 16.2 hectares (40 acres) and a circumference of approximately 1,800 meters. Vertical rock and grass-covered cliffs rise to a height of 80-90 meters around most of the island, while steep, grassy slopes make up portions of the western and southeastern shorelines. The interior of the island consists of steep to rolling hills with several small valleys. Access to Taliudek is somewhat difficult and can be gained in two or possibly three locations (Figure 2). The first is an easy beach landing in a protected cove at the northern end of the island. From the beach one must climb a steep rockslide of loose, sharp shale about 35 m high. A rope was used to ascend this slope. A steep rock outcrop on the west side of Taliudek is accessible by boat only in calm conditions. This landing leads to an easy climb up a steep, grassy slope. High westerly winds and a high tide can make access at this location almost impossible. A possible third access point is located in a small protected cove on the south end of the island. A beach landing here is followed by what appears would be a difficult climb up a steep, grass-covered, rock slope. Access was not attempted by our party at this point.

Vegetation on Taliudek is a mixed grass-umbel community with Heracleum and Angelica representing a major portion of the herbacious plants. A Poa/Elymus-umbel community vegetates the steep, coastal slopes and cliffs, and several interior-facing slopes. This comprises the majority of the puffin habitat. A Calamagrostis-umbel community covers the slopes and valleys of the island's interior.

Table 2. Populations of Seabirds on the Triplets Islands, 22 - 29 June 1985.

Species	"South Island"	"Middle Island"	Taliudek Island	Comments
Fork-tailed Storm-Petrel	5,000 E	8,000 E	25,000 E	
Leach's Storm-Petrel	100 E	300 E	500 E	
Double-crested Cormorant	0	0	P	
Pelagic Cormorant	6 C	32 C	42 C	
Red-faced Cormorant	P	P	P	
Red-breasted Merganser	6 c	0	0	
Bald Eagle	4 C	0	6 C	No nests; foraging
Black Oystercatcher	3 C	0	0	
Glaucous-winged Gull	287 C	66 C	307 C	Roosting; No eggs
Murre spp.			1000-2000 E	On water
Common Murre			P	
Thick-billed Murre			P	
Pigeon Guillemot	P	P	P	
Ancient Murrelet	100 G	P	200 G	
Cassin's Auklet			P	
Tufted Puffin (Burrows)	5, 627 C	10,102 C	36,166 C	
Tufted Puffin (Breeder)*	7,314 c	13,134 c	47,016 c	
Horned Puffin	20 e	20 e	40 e	
Common Raven			1 C	
Winter Wren	2+C	P	2+C	
Hermit Thrush	1 C	0	2 C	
Gray-crowned Rosy Finch	0	1 C	4 C	
Pine Siskin	0	0	2 C	
Savannah Sparrow	2 c	0	P	
Fox Sparrow	2+c	12+c	P	
Song Sparrow	8+c	12 c	4 C	
Total # Birds	12,856	21,576	74,126	
Sea Otter		2 C		
Steller's Sea Lion		2 C		
Harbor Seal		1 C		

C = actual count of birds or nests;

c = counts adjusted as explained in methods or from sample plots;

E = estimate probably within 25 percent;

e = estimate probably within 50 percent;

G = guess - presence confirmed, but numbers are very subjective;

P = probably present;

* Tufted Puffins breeding on island if 65% of burrows are assumed to be occupied by breeding pairs.

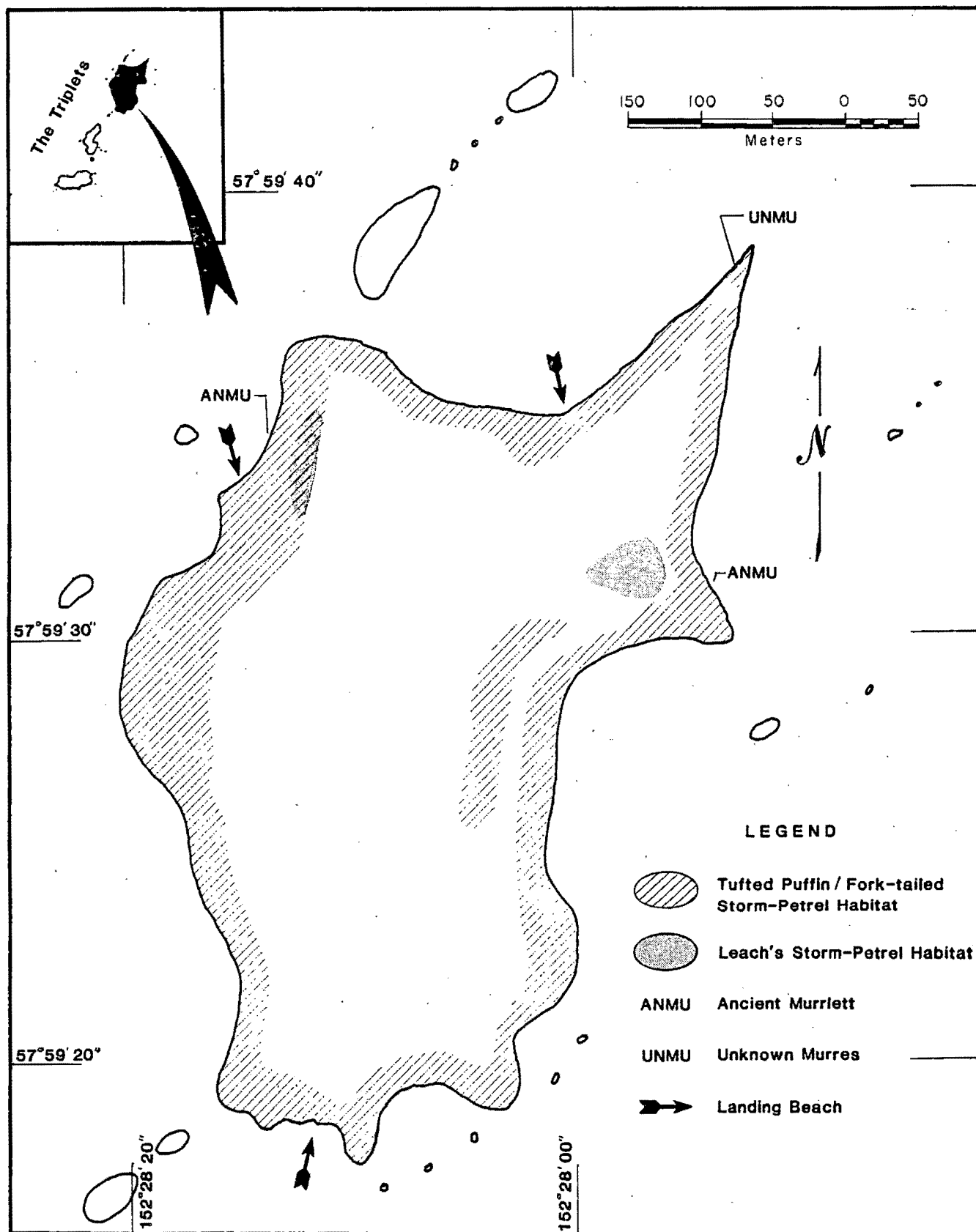


Figure 2. Distribution of seabirds on Taliudek Island, 1985.

Taliudek Island supports the largest Tufted Puffin colony of The Triplets with an estimate of 47,016 breeding birds (Table 2). Puffin burrows were found on the long, steep, grassy slopes and cliffs around the entire island perimeter and on several interior-facing slopes. Habitat width ranged from 15 meters on the southeast to 120 meters on the west side of the island (Appendix 1). Mean habitat width was 59 meters and mean burrow density was 0.5 burrows per square meter. Storm-petrels were numerous with estimates of 25,000 Fork-tailed Storm-Petrels, and 500 Leach's Storm-Petrels. The Fork-tailed's were concentrated over the steeper slopes and cliffs, and Leach's were most numerous on the interior-facing slopes along the island perimeter. No birds were heard calling in the central-most portion of the island. Ancient Murrelets were heard calling from the water off the northern and northwestern shorelines. Numbers were estimated at about 200 birds.

Three hundred seven (307) Glaucous-winged Gulls were counted roosting on the island but no nests were found. Less than 20 unidentified murres were observed perching on cliffs along the northeast peninsula of Taliudek, but a large raft of 1,000-2,000 murres were seen on the water about a quarter mile northeast of Taliudek. This was evidently a failed nesting season for both murres and Glaucous-winged Gulls. Five immature and one adult Bald Eagle were counted on, and hovering over the island. No eagle nests were found. The presence of the unusually high number of eagles may have contributed to the nesting failure of the Glaucous-winged Gulls and the murres. Pelagic Cormorants were observed nesting on cliffs along the northern and eastern shorelines; 21 nests were counted. Double-crested, and Red-faced Cormorants were observed in the area but were not nesting. The presence of various passerines was noted on Taliudek during surveys; species included Common Raven, Winter Wren, Hermit Thrush, Gray-Crowned Rosy Finch, Pine Siskin, and Song Sparrow.

"Middle Island"

"Middle Island" has an area of 3.9 hectares (10 acres) and a circumference of 1,030 meters. Vertical rock and grass-covered cliffs rise to approximately 35 meters on the northeast shore. From here the island rolls and slopes gently to the south where an eight meter vertical rock cliff makes access difficult from this island's only boat landing (Figure 3). This rocky beach, on the southernmost tip, has a good boat landing except when southerly winds exceed 20 knots.

Vegetation on "Middle Island" is a mixed grass-umbel community. The puffin habitat, found around the entire island perimeter, is dominated by a mixed Poa/Elymus-umbel community with Heracleum and Angelica representing the major herbacious species. Large areas of Calamagrostis cover the central portions of the island.

Tufted Puffin burrows were found around the entire perimeter of "Middle Island"; 10,102 burrows were estimated, yielding an estimate of 13,004 breeding birds (Table 2). The mean width of puffin habitat was 26 meters and exceeded 40 meters along the western slopes (Figure 3, Appendix 2). The mean burrow density within "Middle Island" was approximately 0.5 burrows per square meter. Fork-tailed and Leach's Storm-Petrels were also abundant over most of

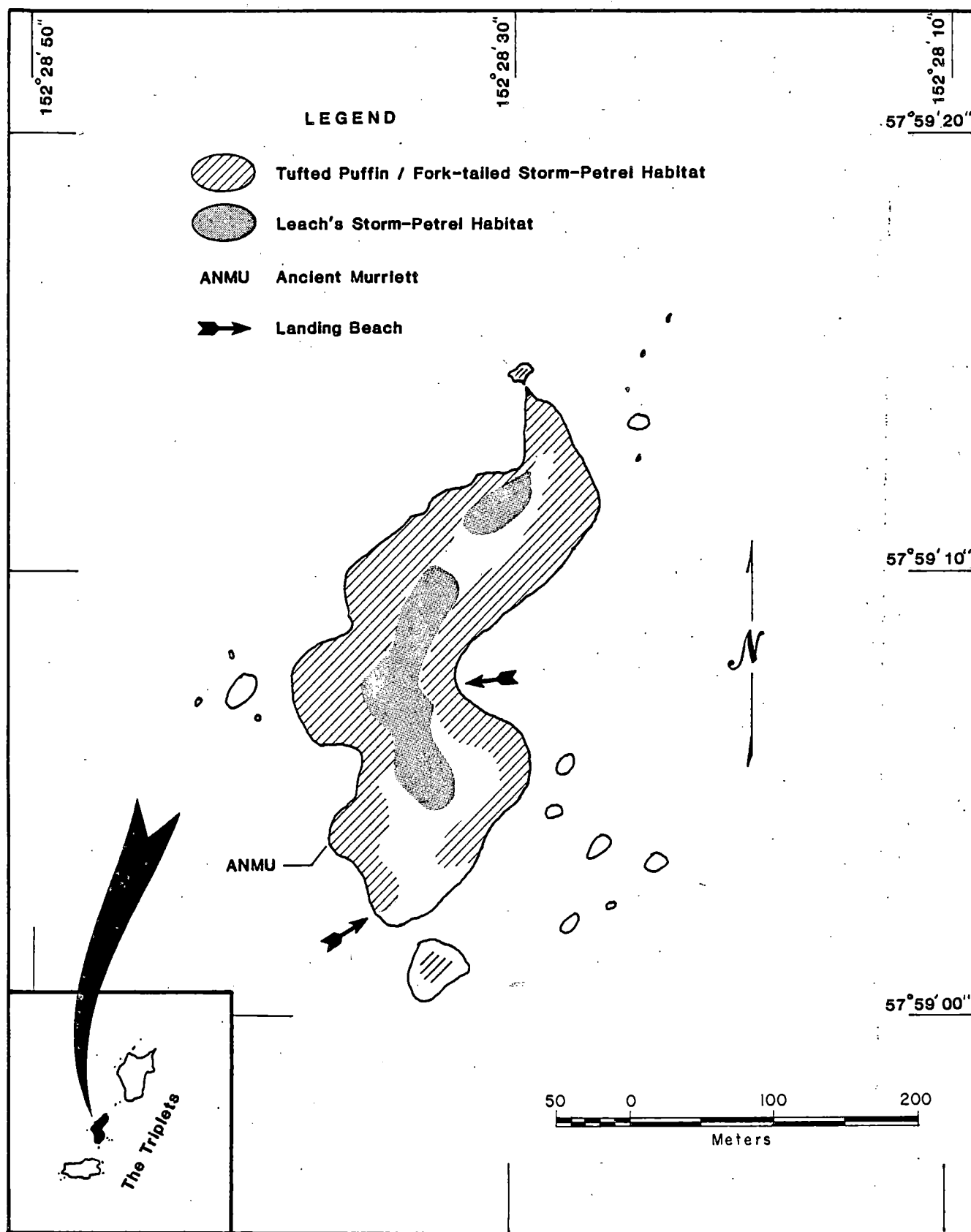


Figure 3. Distribution of seabirds on "middle" island, 1985.

the island. Fork-taileds were concentrated along the shorelines, and Leach's Storm-Petrels were heard more often throughout the island's interior. We estimated at least 8,000 Fork-tailed Storm-Petrels, and over 300 Leach's Storm-Petrels. Ancient Murrelets were heard calling from the water off the south shore and may nest on the island.

Sixty-six Glaucous-winged Gulls were observed roosting on the island. This was evidently a failed nesting season for gulls, as all the nests had been abandoned. Pelagic Cormorants were present in small numbers, and 16 nests were counted on cliffs along the northwestern shoreline. Passerine species noted on this island included Song Sparrow, Gray-crowned Rosy Finch, and Fox Sparrow.

"South Island"

"South Island" has an area of approximately 5.7 hectares (14 acres) and a circumference of approximately 1,230 meters. The island is easily accessible from a beach at its westernmost point (Figure 4). This area is protected by several intertidal rocks. From here the island quickly rises to an elevation of about 40 meters on the northeast side. Most of the island's terrain consists of rolling to steep hills. Vertical rock and grass-covered cliffs make up the northern and southeastern shorelines; the remaining shoreline is composed of steep, grassy slopes.

"South Island's" vegetation is a mixed grass-umbel community. Elymus and Poa are dominant grasses along the steep, coastal perimeter with Heracleum and Angelica comprising the more prominent herbaceous plants. Puffin burrows are concentrated within this plant community. The island's interior valley and long western slope are covered with a Calamagrostis-umbel community. Five Sitka Spruce trees (Picea sitchensis) are also located on the western slope.

"South Island" hosts the smallest population of Tufted Puffins on The Triplets with estimates of 5,627 burrows and 7,315 breeding birds (Table 2). Habitat was found along the northern, eastern, and southern shorelines but was lacking at the low, west end of the island. The widest band of habitat, located on a steep, grassy slope along the south side, measured 50 meters (Appendix 3). The mean habitat width was 23 meters and mean burrow density was 0.4 burrows per square meter (Figure 4). Fork-tailed Storm-Petrels were abundant with the highest concentrations over the steep slopes of the eastern and southern shorelines. It is estimated that at least 5,000 birds were nesting on the island. Leach's Storm-Petrels were heard calling throughout the interior of the island with higher concentrations toward the southeastern end. Numbers of Leach's were estimated at over 100 birds. Ancient Murrelets were heard calling from the water along the northwestern and eastern shorelines and were estimated at 100 breeding birds.

Three Black Oystercatchers were observed on a large intertidal rock at the southwestern tip of the island at what appeared to be a territorial boundary. No nest was found, but as many as 260 Glaucous-winged Gulls were counted at one time roosting on this rock. Counts yielded a total of 287 Glaucous-winged Gulls roosting on the island. No gull nests were found.

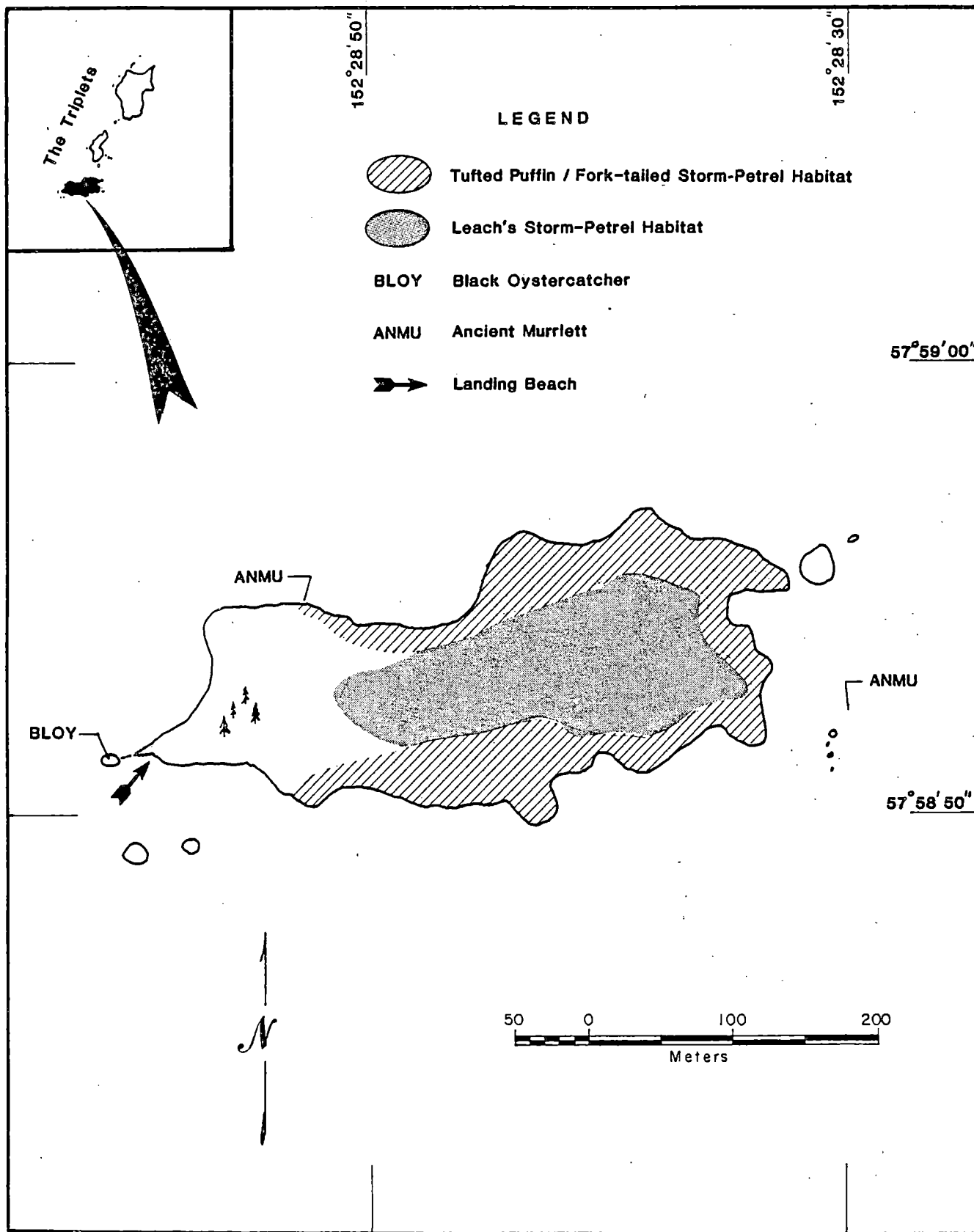


Figure 4. Distribution of seabirds on "south" island, 1985.

Double-crested and Red-faced Cormorants were observed flying, and on the water near "South Island" and 3 nests of Pelagic Cormorants were counted on cliffs along the eastern shoreline. Other species observed on "South Island" included Red-breasted Merganser, Winter Wren, Hermit Thrush, Savannah Sparrow, Fox Sparrow, and Song Sparrow.

ACCOUNTS OF MAJOR SPECIES

Fork-tailed Storm-Petrels (Oceanodroma furcata) were the second most abundant species found nesting here with an estimate of 38,000 breeding birds. The largest number (25,000) was estimated on Taliudek Island. The greatest concentrations occurred over the cliffs at the east end of "South Island", over the steeper cliffs on Taliudek, and around the entire perimeter of "Middle Island". Concentrations, for the most part, coincided with habitat of Tufted Puffins.

Leach's Storm-Petrels (Oceanodroma leucorhoa) were heard calling on all three of the islands but occurred in very low numbers. Approximately 900 breeding birds were estimated but numbers may be considerably higher. Calls were heard over the flatter, inland portions of the islands. There were no significant areas of concentration.

Pelagic Cormorants (Phalacrocorax pelagicus) were the only species of cormorant nesting on The Triplets. Forty nests were counted on Taliudek and "Middle" Islands. The 1977 survey yielded 102 nests (Appendix 5), but cormorants are not philopatric from year to year and low numbers do not necessarily indicate failed nesting.

Red-breasted Merganser (Mergus serrator). Three females were flushed from thick vegetation during puffin surveys on "South Island". They were also observed with males, flying over this same area, during coastal surveys. This species undoubtedly nests on "South Island", however, no nests were located.

Bald Eagles (Haliaeetus leucocephalus) were seen hovering over, and perching on The Triplets during our entire stay. Seven immatures and three adults were counted but no nests were present. It was apparent that the eagles were using the islands for foraging, as puffin and petrel remains were common within our puffin plots. The disturbance caused by the unusually large number of eagles foraging over the islands may have contributed to the apparent nesting failure of murres and Glaucous-winged Gulls. No birds were observed during the 1977 surveys.

Black Oystercatcher (Haematopus bachmani). Three birds were observed displaying on a large intertidal rock at the west end of "South Island" at what appeared to be a territorial boundary. No nest was found, however, as many as 260 Glaucous-winged Gulls were also counted at one time roosting on this rock.

Glaucous-winged Gulls (Larus glaucescens) were observed roosting on all three islands with counts of 307 on Taliudek, 66 on "Middle", and 287 on "South" Islands. Very few nests and only one egg were found; all nests had been abandoned. This was apparently a failed nesting season for the gulls. Approximately 600 gull eggs are taken yearly from "South" and "Middle" Islands

by the residents of Ouzinkie, but eggs were not collected in 1985 due to consistently bad weather (Theodore Squirtzof, pers. comm.). Mr. Squirtzof also explained that eggs were taken early in the year for a seven to ten day period. The eggs are collected in 6 to 12 one-hour trips; each person is able to collect approximately 20-30 eggs. If three eggs were present in the nest they were not collected; if one or two eggs were present they would remove one egg.

Common and Thick-billed Murres (Uria aalge and U. lomvia) Less than 20 murres were observed perched on cliffs along the northeast peninsula of Taliudek, and a raft of 1,000-2,000 was observed on the water about one-quarter mile northeast of the island. No nests were found; this was apparently a failed nesting season for murres. In June of 1977, over 1,200 murres were counted on the cliffs of all three of the islands (Appendix 5). Richard MacIntosh (pers. comm.) found approximately 1,200 Common Murres and 100 Thick-billed Murres on the islands in 1984.

Pigion Guillemots (Cepphus columba) were seen on the water in the vicinity of The Triplets and it is probable they nest on the islands.

Ancient Murrelets (Synthliboramphus antiquus) were heard calling from the water around Taliudek and "South" Islands at night. Best guess estimates yield about 300 breeding birds.

Tufted Puffins (Fratercula cirrhata) were the most abundant bird on The Triplets numbering over 67,000 breeding birds; 7,300 on "South Island", 13,000 on "Middle Island", and 47,000 on Taliudek. This is the largest colony of Tufted Puffins in the Kodiak archipelago.

Horned Puffins (Fratercula corniculata) were estimated at about 80 breeding birds. Birds were observed on Taliudek and "Middle" Islands and were seen circling over "South Island". It is probable that they nest on all three of the islands.

RECOMMENDATIONS

The Triplets is the largest seabird colony in the Kodiak archipelago. Although the islands are relatively inaccessible and are presently not threatened, should anyone take an interest in them for grazing, or furbearer farming, populations of Tufted Puffins and nocturnal species would be devastated. The only present consumptive use is the taking of Glaucous-winged Gull eggs on "South Island". We recommend that The Triplets be included in the Alaska Maritime National Wildlife Refuge through acquisition or land trade. If this does not occur, then cooperative agreements should be implemented to protect this colony.

ACKNOWLEDGMENTS

We wish to thank Jay Bellinger and the staff of the Kodiak NWR for the use of their boats and facilities. The staff is always extremely helpful, and a credit to cooperation within the Service. We are very grateful to Richard MacIntosh for the use of his personal boat and his excellent help in the field. We also wish to thank Tony DeGange for help with the census of Taliudek Island.

LITERATURE CITED

- Nysewander, D.R., D.J. Forsell, P.A. Baird, D.J. Shields, G.J. Weiler, and J.H. Kogan. 1982. Marine bird and mammal survey of the Eastern Aleutian Islands, summers of 1980-1981. U.S. Fish and Wildlife Service, Anchorage, Alaska. unpublished report. pp. 134.
- Trapp, J.L., D.J. Forsell, M.H. Dick, and E.P. Hoberg. 1977. Colony Status Record, Area No. 034. U.S. Fish and Wildlife Service, Anchorage, Alaska.

Appendix 1. Results of plots of Tufted Puffin burrows on Taliudek Island of The Triplets Islands, 28 June 1985.

Plot Number	Distance From Start (m)	Width (m)	Puffin Burrows	Comments
1	0-10	72	638	
2	100-110	120	481	
3	200-210	68	192	
4	300-310	17	181	
5	400-410	84	555	
6	500-510	109	203	
7	600-610	15	103	
8	700-710	54	104	
9	800-810	79	266	
10	900-910	39	118	
11	1000-1010	45	232	
12	1100-1110	43	177	
13	1200-1210	24	183	
14	1300-1310	63	250	50 m to first plot
Total		832	3,723	
Mean		59	266	

Appendix 2. Results of plots of Tufted Puffin burrows on "Middle Island" of The Triplets Islands, 22 June 1985.

Plot Number	Distance From Start (m)	Width (m)	Puffin Burrows	Comments
1	50-60	24	73	
2	110-120	30	157	
3	170-180	41	103	
4	230-240	42	129	
5	290-300	31	93	
6	350-360	34	160	
7	410-420	33	113	north end of island
8	470-480	7	56	
9	530-540	11	87	
10	590-600	25	114	
11	650-660	32	172	
12	710-720	16	149	
13	770-780	10	55	10 m habitat remaining
Total		366	1,461	
Mean		26	112	

Appendix 3. Results of plots of Tufted Puffin burrows on "South Island" of The Triplets Islands, 22 June 1985.

Plot Number	Distance From Start (m)	Width (m)	Puffin Burrows	Comments
1	210-220	13	12	160 m non-habitat from boat landing
2	270-280	11	81	
3	330-340	34	115	
4	390-400	10	73	
5	450-460	15	66	east end of island at 490 m
6	510-520	21	50	
7	570-580	49	137	
8	630-640	50	160	
9	690-700	15	89	
10	750-760	38	95	
11	810-820	11	32	
12	870-880	3	15	10 m habitat, 82 m non-habitat
Total		270	925	
Mean		23	77	

Appendix 4. Call counts conducted on The Triplets Islands 22, 23, and 28 June 1985.

Time	Duration in Minutes	Fork-tailed Storm-Petrel	Leach's Storm-Petrel	Ancient Murrelet	Comments
Taliudek Island - 28 June 1985; no overcast, S wind 25k					
0225	3	36	2	1	N end of W shore above cliff; high winds
0235	3	0	0	0	interior valley; FTSP
0255	3	54	1 after	0	valley above cliff; NW corner
0310	3	79	2	2	tall cliffs; NE corner
"Middle Island" - 23 June 1985; heavy rain, S wind 25k					
0135	3	98	0	0	W SW cliffs
0200	3	0	0	0	mid-island; birds flying; no calls
0215	3	88	0	0	NW shore above cliff
0230	3	0	0	0	FTSP and LESP flying but very few calls Wind 25k, rain constant
"South Island" - 22 June 1985; light rain, S wind 15k					
0145	3	36	0	0	2 ANMU heard before NW shore above cliff
0200	3	83	0	0	mid-NW shore above cliff
0220	3	93	3	1	NE cliff; rain
0225	3	too many to count	?	?	rock cliff SE Shore
0235	3	72	0	0	mid-S shore above cliff
0250	3	132	2	0	top of hills mid-S shore

Appendix 5. Populations of Seabirds on The Triplets Islands.

Species	"South Island"	"Middle Island"	Taliudek Island	Total
Fork-tailed Storm-Petrel	5,000 e	8,000 e	25,000 e	38,000 e
Leach's Storm-Petrel	100 e	300 e	500 e	900 e
Double-crested Cormorant	6 C*	0 C*	20 C*	26 C*
Pelagic Cormorant	60 C*	0 C*	144 C*	204 C*
Red-faced Cormorant	6 C*	0 C*	148 C*	154 C*
Red-breasted Merganser	6 c	0	0	6 C
Bald Eagle	4 C	0	6 C	10 C
Black Oystercatcher	3 C	0	0	3 C
Glaucous-winged Gull	350 E*	250 E*	100+E*	700+E*
Murre spp. @	112 c*	81 c*	1,558 c*	1,751 c*
Common Murre	83 c*	60 c*	1,054 c*	1,197 C*
Thick-billed Murre	0	0	100 c**	100 c**
Pigeon Guillemot	0	0	4 c*	4 *
Ancient Murrelet	100 G	P	200 G	300 G
Tufted Puffin (Burrows)	5,627 c	10,102 c	36,166 c	51,895 c
Tufted Puffin (Breeder's) #	7,315 c	13,133 c	47,016 c	67,464 c
Horned Puffin	20 e	20 e	40 e	80 e
Common Raven	0	0	1 C	1 C
Winter Wren	2+C	P	2+C	4+C
Hermit Thrush	1 C	0	2 C	3 C
Gray-crowned Rosy Finch	0	1 C	4 C	5 C
Pine Siskin	0	0	2 C	2 C
Savannah Sparrow	2 C	0	P	2 C
Fox Sparrow	2+C	12+C	P	14+C
Song Sparrow	8+C	12 C	4 C	24+C
Total # Birds	13,097	21,809	74,751	109,657 c
Sea Otter		2 C		2 C
Steller's Sea Lion		2 C		2 C
Harbor Seal		1 C		1 C

C = actual count of birds or nests;

c = counts adjusted as explained in methods or from sample plots;

E = estimate probably within 25 percent;

e = estimate probably within 50 percent;

G = guess - presence confirmed, but numbers are very subjective;

P = probably present;

= Tufted Puffins breeding on island if 65% of burrows are assumed to be occupied by breeding pairs.

@ = Number assumes 65% of population present.

* = Data from 1977 surveys.

** = Data from 1984 observation by Richard MacIntosh.

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