ALASKA DEPARTMENT OF FISH AND GAME

JUNEAU, ALASKA

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OCCURRENCE OF WILDLIFE ON THE CORONATION AND SPANISH ISLANDS. ALASKA

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Petersburg Area Report No. 84-1
1984

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SUMMARY

During the period of February to August 1983, a project was initiated to determine the status of the wildlife populations of Coronation Island. Hunting and trapping seasons have been closed for many years and deer and furbearer populations were of primary concern. Our studies indicate that the deer population is high and opening the season is recommended. There appeared to be numerous mink and river otters, and again, opening the season is advised.

Forty-eight species of birds were identified during the study. Fourteen species were identified as known or probable nesters.

No evidence of wolves was found on the island, although there was a transplant in the 1960's. Terrestrial mammals observed included Sitka black-tailed deer, mink, river otter, Sitka deer mouse, Coronation Island vole, and vagrant shrew. Sea otters were commonly observed and harbor seals and Steller sea lions were numerous. Humpback whales were seen in Aats Bay and Egg Harbor as well as offshore.

OBJECTIVES

To determine whether wolves occur on Coronation Island as a result of the 1960 and 1963 transplant by the Alaska Department of Fish and Game.

To estimate the deer population on Coronation Island as compared to other locations in Units 3 and 4 and make recommendations on seasons and bag limits.

To determine species of furbearers present on the island and make recommendations on seasons and bag limits.

To determine small mammal species present and to prepare study skins of representative individuals.

To determine bird species inhabiting the island and adjacent waters.

To record sea otter and other marine mammal sightings in the vicinity of the island.

BACKGROUND

Coronation Island, in spite of its remoteness, has been the site of several wildlife studies. Klein (1963, 1965) compared the physiological parameters of deer on good range with predators (Woronkofski Island) with those of deer on poor range with no predators (Coronation) from 1959-1961. In the early 1960's a project was initiated by the Alaska Department of Fish and Game to study the effect of placing a group of wolves (Canis lupus) on the island (Merriam 1964). At that time there was an overpopulation of Sitka black-tailed deer (Odocoileus hemionus sitkensis); and little hunting pressure (Klein 1960).

STUDY AREA

Coronation Island was discovered by Captain George Vancouver on September 22, 1783 and named in honor of the anniversary of the coronation of King George III. Since that time there has been little obvious disturbance or use by man. Fishing boats take shelter in the bays and occasional tourists visit the island by small boat. The island has been thoroughly prospected and limited mining activity has occurred in Egg Harbor and on Needle Peak. There is no current mining activity. Coronation and the Spanish Islands were designated a Wilderness Area by the Alaska National Interest Lands Conservation Act of 1980 (ANILCA) and is administered by the U.S. Forest Service, Tongass National Forest.

Coronation Island and the associated Spanish Islands are located at 134°15' W longitude, 55°55' N latitude on the western edge of the Alexander Archipelago in Southeastern Alaska (Fig. 1.). Coronation Island is roughly triangular in shape with approximately 62 kilometers of shoreline and several deeply indented bays and coves. The south and west coasts are directly exposed to the Pacific Ocean, the north coast faces Kuiu Island across Chatham Strait, and the east faces Prince of Wales Island across Iphigenia Bay. Coronation lies 76 miles southwest of Petersburg.

There are 14 peaks 300 meters or higher, with Needle Peak being the highest point at 597 meters. The total area of the island is 9,117 hectares with 80% being under 300 meters in altitude. The terrain is irregular with much karst topography of mostly Paleozoic limestone with some Cretaceous and Jurassic intrusions (Geologic map of Alaska, 1954). There are small areas of muskeg on the eastern end and limited areas of alpine vegetation on Needle Peak.

The exposure of Coronation Island to the Pacific Ocean creates heavy tide rips and frequent breakers. There are few days when water conditions permit the use of a skiff. Swells from the Pacific and high winds are normal for the area.

Mature Sitka spruce (Picea sitchensis), western hemlock (Tsuga heterophylla) associations predominate with some scattered stands of "yellow cedar" or Alaska cypress (Chamaecyparis nootkatensis)

and lodgepole pine (Pinus contorta). Very old to recent areas of windthrown timber are common throughout the island. Huckleberries (Vaccinium ovalifolium, V. parvifolium, and V. membranaceum) and salmonberry (Rubus spectabilis) are abundant in areas opened by recent blowdown or slides, while bunchberry (Cornus canadensis) is widely distributed and abundant. Alder (Alnus spp.) is mostly limited to narrow stands on the small creek banks and to the beach fringe. Klein (1965) also includes alpine blueberry (Vaccinium uliginosom), rusty menziesia (Menziesia ferruginea), devil's club (Oplopanax horridus), single delight (Moneses uniflora), trailing bramble (Rubus pedatus), gold thread (Coptis aspleniifolia), redberry elder (Sambucus racemosa), dagger fern (Polystichum munitum), deer cabbage (Fauria crista-galli), yellow skunk cabbage (Lysichitum americanum), copper flower (Cladothamnus pyroliflorus), marsh marigold (Caltha biflora), lyngbye sedge (Carex lyngbyaei), gmelin saltweed (Atriplex gmelini), seabeach sandwort (Honckenya peploides), seaside arrowgrass (Triglochin maritimum), lyme grass (Elymus arenarius), cow parsnip (Heracleum lanatum), and Sitka sweet cicely (Osmorrhiza purpurea).

We also found salal (Gaultheria shallon) and false hellebore (Veratum viride). Deer are known to eat salal in other areas of the Pacific coast and were observed commonly eating the inflorescence of false hellebore on Coronation. Is is likely that these were very rare during the period of Klein's (1965) study. Other plants now occur which were probably inconspicuous during the overgrazed conditions, including crowberry (Empetrum nigrum),

bog cranberry (Vaccinium oxycoccus) and lingonberry (Vaccinium vitis-idea).

The moderating effect of the Pacific Ocean causes Coronation summers to be relatively cooler and the winters to be relatively warmer than the more easterly land areas of the Alexander Archipelago. That there is less precipitation compared to other nearby locations is also evident. This can probably be attributed to the comparatively low topographic relief of Coronation. The closest weather recording station at Cape Decision (6.4 km NE) receives approximately 193 cm of precipitation a year; while Little Port Walter, 56 km northwest of Coronation on Baranof Island, averages 635 cm a year (Klein 1965). Klein (1965) gave the average growing season on Coronation as 219 days.

PROCEDURES

Field studies were conducted intermittently between 26 February and 4 August 1983 after a preliminary trip to the island from 2-6 December 1981. Available literature was searched for references to Coronation Island and/or Spanish Islands wildlife.

Sea otters and other mammals were counted opportunistically and age classes recorded when known.

Seabirds, waterfowl and terrestrial bird species were recorded on a daily basis. Counts were made from a skiff and on foot. Species and common names follow Armstrong (1980).

Small mammals were sampled with snap traps and live traps and keyed to species (Hall and Kelson 1959). Representative individuals were prepared as museum specimens.

Deer use was measured through the use of 570 contiguous 1 x 10 m plots in which pellet groups were counted.

Wolf use was determined through searches for scat, hair, and tracks during deer pellet-group surveys; searches for tracks on beaches at low tide; and searches for denning sites. All elevations were surveyed for evidence of wolf presence.

RESULTS AND DISCUSSION

Wolf

An initial release of four wolves, 2 males and 2 females, was made in October of 1960 by the Alaska Department of Fish and Game (Merriam 1966). An additional female was released in April 1963, after both original females were killed by a fisherman. By the end of 1964 a population of 12 wolves was estimated, but by 1970 the population was much reduced (Burris and McKnight 1973). One fresh track was seen on the beach in August 1971 (Merriam, unpubl.).

We searched for wolves and evidence of wolves throughout the study period. Systematic transects (Fig. 1.) to collect deer pellet group data were also searched for wolf droppings, tracks, or hair. Caves and overhangs were checked for evidence of denning, and beaches were searched for tracks. We found no evidence of wolves on Coronation or the Spanish Islands.

Deer

The Sitka blacktail deer is currently abundant on Coronation and the largest of the Spanish Islands. Although no attempt was made to directly census the population or to observe deer, 25 deer were seen during the study period (8 males, 10 females, 6 fawns, and 1 undetermined). Most deer appeared in good physical condition, but antler development of bucks appeared poor. Three males, all 1 year of age or older, were seen together on June 27

and showed virtually no antler growth, while on June 12 another male in the same area had small forked antlers. Deer were seen above and below 300 meters elevation in mid-February. It appears that weather conditions did not restrict deer use of upper elevations in 1983 and probably rarely do so.

Only 1 recent deer mortality was observed. It was an adult female and cause of death could not be determined. Most bones were in their proper relative position except the lower jaw which could not be found. The scattered bones of an adult were found at another site, but no part of the skull was found and all the bones were badly weathered.

We found the skeletal remains of 2 fawns at each of 2 small caves. Each cave contained mussel and crab shells, chiton plates and very old river otter (Lutra canadensis) scat. No adult deer bones were found, and the fawn bones could have been there several years. Some of the bones were partially embedded in the substrate. These caves were large enough to allow wolf entry but there were no scats or other wolf sign.

Tracks, pellet groups, and hedging of preferred browse species indicate that deer are using all of the available territory. The largest of the islands in the Spanish Island group was surveyed, and it showed about the same intensity of deer use as Coronation. Klein (1963) estimated a Coronation population of about 300 deer in 1960. Merriam (unpubl.) emphasized the overuse of the

available forage species prior to the introduction of predators. He said the entire island was "park-like" with virtually no preferred browse available and "spruce seedlings were being browsed, which is rarely seen". We found that well-used deer trails are common, but saw no indication of overuse of forage species. Subjective observations of vegetation use were made during the course of the spring pellet group surveys. The "park-like" appearance associated with over-use was not evident and dense undergrowth occurred where light penetrated the forest canopy. Using a 6 month deposition period and persistence rate for pellet groups, a Population Index of 14.8 deer per km^2 (Young 1983) was developed. This is over 4 times greater than estimated in 1960 (Klein 1963) through subjective observation. Bunnell (1979) reported that on wet sites on Vancouver Island the number of pellet groups counted represent between 100 and 200 percent of the actual number deposited during the previous year. Our data should not be used in extrapolating total deer numbers for the entire island, but provides a basis for determining population trends.

Furbearers and small mammals

Mink (Mustela vison) and river otters are abundant. Several mink were seen during the study, and 2 were live-trapped and released. There were well-defined furbearer trails in the beach fringes around Egg Harbor, Alikula Bay, Aats Bay, Windy Bay, and numerous other sites. No land otters were seen, but tracks were seen in several places, and a partial carcass was found on a beach.

Small mammals taken in snap traps were identified from skull characters and dentition. Sitka deer mice (Peromyscus sitkensis sitkensis), Coronation voles (Microtus coronarius) and a shrew (Sorex vagrans malitiosus) were collected. Each of these small mammals is a unique form with a limited distribution. Peromyscus sitkensis sitkensis is known only on Baranof, Chichagof, Coronation, Warren, and Duke Island; Sorex vagrans maliotiosus has been found only on Coronation and Warren Island while Microtus coronarius is found on Coronation, Warren, and Forrester Islands (Hall and Kelson 1959). Klein (1965) found a single tick which he believed to be either Dermacentor or Ixodes when examining 31 deer collected during his two year study. We did not collect parasites from deer, but collected ticks and other ectoparasites from mice, voles, and shrews. Parasites from the rodents included a tick, Ixodes angustus, and a chigger, Neotrombicula alaskensis. Parasites were identified by the U. S. Livestock Insects Laboratory in Kerrville, Texas.

Although there are numerous limestones caves and hollow trees, no bats were observed on the island during the study period. Red squirrels were not observed and no middens were seen.

Marine mammals

Sea otters (Enhydra lutris) were endemic to southeast Alaska at the time of the arrival of the white man, but were exterminated by 1900 (Schneider 1975). The Alaska Department of Fish and Game transplanted 403 otters to southeast Alaska between 1965 and

1969 (Burris and McKnight 1973). Coronation Island did not receive transplanted animals, although it was originally scheduled for a release (Greenley 1969). Otters moved in from other release sites, however, and in 1973 over 30 otters were documented in the vicinity of the Spanish Islands (Schneider 1978). Schneider (1978) reported that a survey in 1975 resulted in a count of 65 otters (Fig. 2.).

Sea otters are residents of the close inshore waters of Coronation (Fig. 1.). Channel Island, a rocky islet near Gish Bay, is a popular hauling ground. Sightings during the study period indicate a population of at least 100 adults (Table 3). The largest aggregation was seen on 10 June and comprised 39 adults with 14 pups.

Sea otters were observed feeding on sea urchins (Strongylocentrotus sp.) and in the areas used by otters there were accumulations of chiton plates (Polyplacophora) and mussel shells (Mytilus sp.) at the high tide line that were not as pronounced elsewhere. Glaucous-winged gulls (Larus glaucescens) were sometimes seen feeding on scraps dropped by otters. We saw 8 otters in Egg Harbor in December 1981, and harrassment by gulls was observed. No dead otters were found, and no harrassment by other animals was seen.

Humpback whales (Megaptera novaengliae) were observed feeding in Aats Bay and others were seen off the Spanish Islands, Cora Point, and in Egg Harbor. Sea lions (Eumetopias jubata) were seen in

Egg Harbor, Aats Bay, and about 2 km north of Egg Harbor; harbor seals (Phoca vitulina) were seen regularly in Egg Harbor, Windy Bay, Gish Bay, and China Cove. The Hazy Islands National Wildlife Refuge to the west and Cape Ommaney to the northwest are known sea lion rookeries (LeResche and Hinman 1973).

During a bird and marine mammal survey by skiff on 6 July 1984, we recorded more than 20 sea otters, 3 harbor seals, 1 sea lion, and 1 humpback whale. Water conditions were turbulent and made marine mammal observations difficult, and the survey was terminated before a circuit of the island could be completed.

BIRDS

Table 1 lists each bird species identified during the study and the month in which they were seen. Sowls et al (1982) recorded 8 species as known or probable breeders on Coronation (Appendix). These were the pelagic cormorant (Phalacrocorax pelagicus), American bald eagle (Haliaeetus leucocephalus), black oystercatcher (Haematopus bachmani) glaucous-winged gull, common murre (Uria aalge), pigeon guillemot (Cephus columba), horned puffin (Fratercula corniculata), tufted puffin (Lundaacirrhata), and peregrine falcon (Falco peregrinus). To this we would add the black-legged kittiwake (Rissa tridactyla) as a probable breeder, since many immatures were seen on both the north and south coastal areas.

The marbled murrelet (Brachyramphus marmoratum) should also be listed as a probable breeder. On 22 June at approximately 100 m in elevation on the south side of Windy Bay, we found the partially eaten carcass of an adult marbled murrelet. This was about 1.4 km from Windy Bay in the mature spruce-hemlock forest. The head, legs and internal organs were missing, but the carcass was not plucked as raptors often do. According to Nelson (1979) this murrelet nests high in cedar and other large trees, in the coastal forests, while Armstrong (1980) mentions a nest found high in a Douglas fir in California and another found on the ground in the Barren Islands of Alaska. Further search in this area could possibly reveal one or more nest sites.

Observed nesters include blue grouse (Dendragapus obscurus), winter wren (Troglodytes troglodytes), Steller's jay (Cyanocitta stelleri), and varied thrush (Ixoreus naevius). Probable breeders include the northwestern crow (Corvus caurinus), common raven (C. corax) chestnut-backed chickadee (Parus rufescens), downy woodpecker (Picoides pubescens pubescens) hairy woodpecker, (P. villosus), northern three-toed woodpecker (P. tridactylus), yellow-bellied sapsucker (Sphyrapicus varus), rufous hummingbird (Selasphorus rufus) and belted kingfisher (Megaceryle alcyon).

Three eagle nests were noted (Fig.1.). Two were checked closely and one of these was in use in 1983 and the other, active in 1982, was not. Several juvenile eagles were seen in the vicinity of the active nest, but no young were in the nest when it was

checked. The third nest was seen from the skiff and could not be checked because of the surf.

At least 3 peregrine falcons were observed. Two falcons were seen together chasing eagles in the same area on separate occasions but we could not locate a nest. The falcons were too distant for any size difference to be apparent, but they cooperated in the eagle harrassment and then flew out of sight together. It is probable that they were a mated pair and were nesting in the area. A third falcon was seen about 3 km down the coast from the pair. This falcon also chased an eagle briefly and then flew out of sight into some broken cliffs. We observed 2 peregrines together in Egg Harbor in December 1981.

On 1 July 1984, a bird and marine mammal survey was made in a counter-clockwise direction from Egg Harbor around Coronation Island to the Spanish Islands (Table 2). At this point, high winds and rough water made it prudent to terminate the survey. A gull nesting colony, principally glaucous-winged gulls, was observed at Helm Point. A concentration of pelagic cormorants on the cliffs of the southeast side of the island might indicate a nesting area for that species. Sowl et al (1978) reported a cormorant nesting colony on the southwest shore. Both tufted and horned puffins were seen flying into some large sea caves close to Helm Point, but the rough water conditions did not allow a safe approach to confirm nesting activity.

RECOMMENDATIONS

Both hunting and trapping seasons should be opened on Coronation and the Spanish Islands. The deer population would probably benefit from the removal of a portion of the population.

Many ticks and other ectoparasites were collected from rodents, and an effort should be made to see if the deer are infested with ticks.

Opening the area to trapping would allow use of this resource without serious risk of depleting the stock. It is probable that hunters or fishermen would trap in conjunction with their primary activities.

Sowls et al (1981) says of Coronation, "Need further surveying - this may be one of the largest seabird colonies in S.E. Alaska". We recommend further seabird breeding season studies. The marbled murrelet carcass we found might indicate that the species nests on the island. The literature mentions only 8 nests (J. Hughe pers. comm.) reported for this species and a proper search of the area during the nesting season is recommended.

ACKNOWLEDGEMENTS

Those who assisted with the field surveys included Nate Johnson, Chris Smith, and John Land. The crew of the R.V. Steller, commanded by Captain Oliver Hofstad, transported equipment and supplies which established the Egg Harbor base of operations. Fish and Wildlife Protection Officer Lew Brantley provided transport for equipment and personnel on board the P.V. Beacon. Without the assistance of these people, sometimes against their better judgement, the project could not have been accomplished. Dr. Don McKnight provided encouragement and helped minimize the red tape involved in developing a volunteer project.

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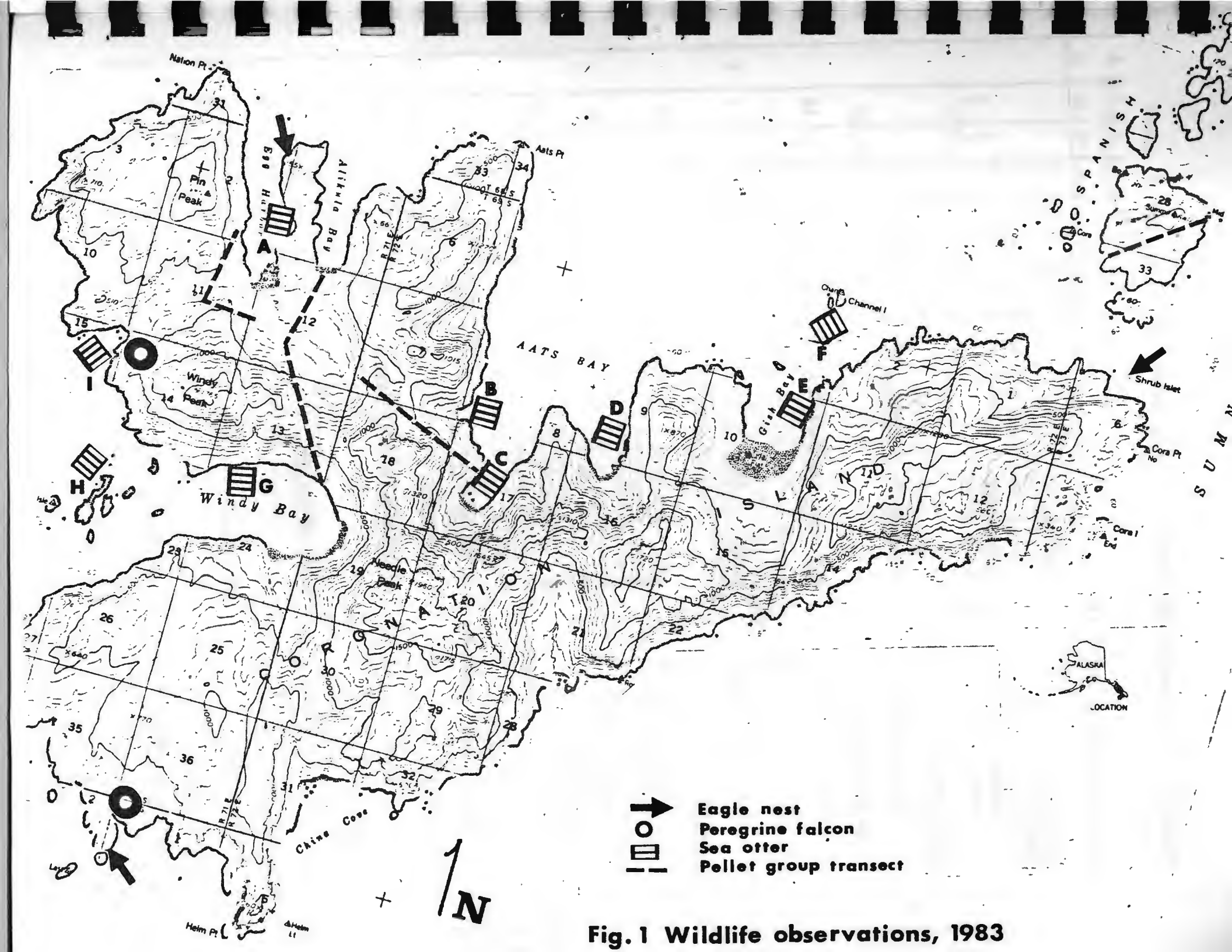

Fig. 1 Wildlife observations, 1983

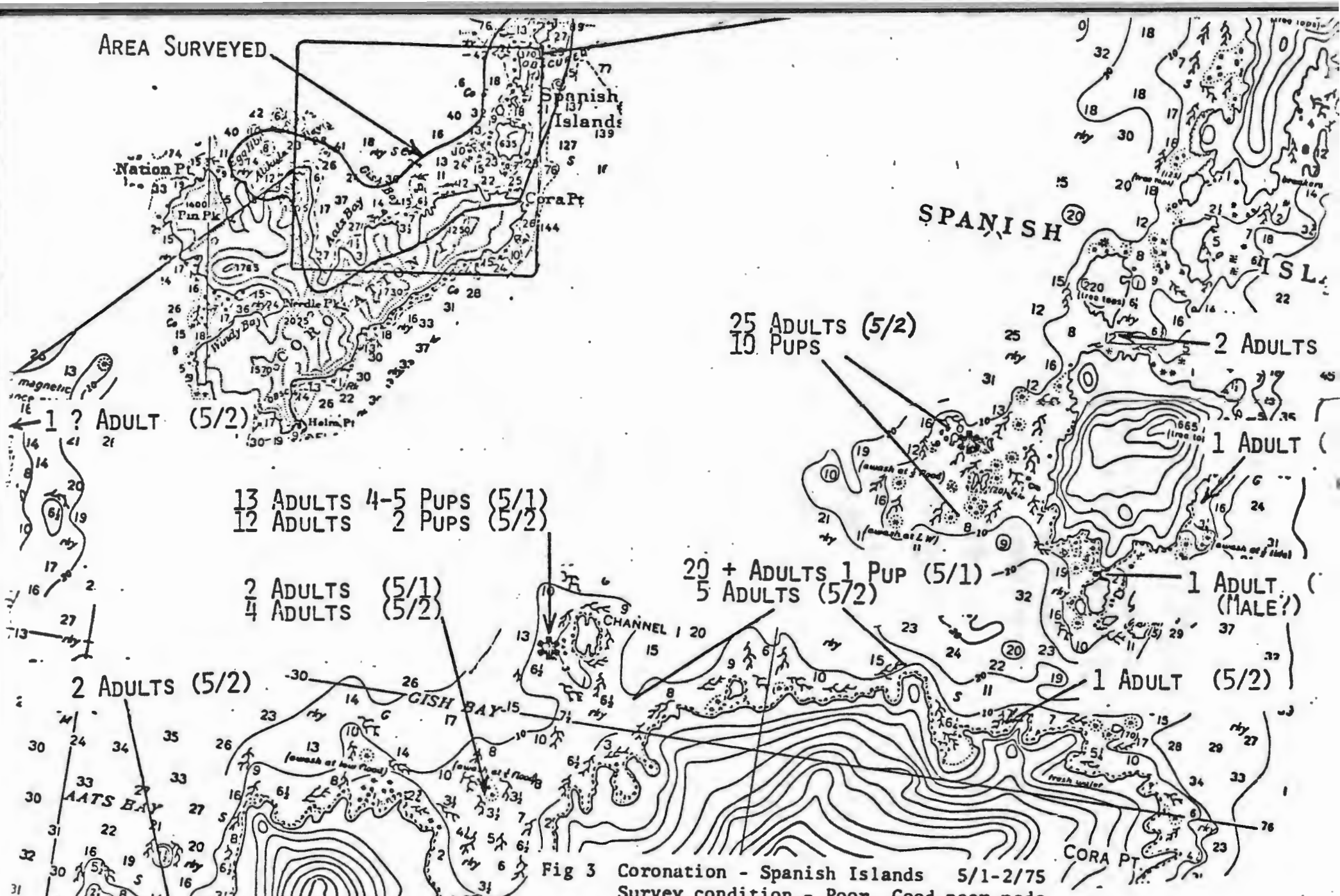

Fig 3 Coronation - Spanish Islands 5/1-2/75
Survey condition - Poor, Good near pods
Minimum Count 53 Adults
12 Pups
65 Total

= Pods

Fig. 2 Sea otter counts in 19
(taken from ch id 197

Table 1. Bird observations, February through August 1983.

Family / Species	F	M	A	M	J	J	A
Number of Observer Days	4	10	5	0	18	14	2
GAVIIDAE							
Common Loon — Gavia immer	3	3	2		3	5	
Arctic Loon — Gavia artica					1	1	
PODICIPEDIDAE							
Western Grebe — Aechmophorus occidentalis		1					
PHALACROCORACIDAE							
Pelagic Cormorant — Phalacrocorax pelagicus	2	5	2		9	14	
ARDEIDAE							
Great Blue Heron — Ardea herodias			1		7	4	1
ANATIDAE							
Trumpeter Swan — Olor buccinator		1					
Canada Goose — Branta canadensis		1					
Mallard — Anas platyrhynchos	3		1				
Common Goldeneye — Bucephala clangula		1	1				
Bufflehead — Bucephala albeola	3	4	4				
Oldsquaw — Clangula hyemalis	1	4					
Harlequin — Histrionicus histrionicus	3	4	3			2	
White-winged Scoter — Melanitta deglandi		1					
Surf Scoter — Melanitta perspicillata	3	4	1				
Black Scoter — Melanitta nigra		1					
Red-Breasted Merganser — Mergus serrator	2	3					
ACCIPITRIDAE							
Bald Eagle — Haliaeetus leucocephalus	3	4	4		17	15	1
FALCONIDAE							
Peregrine Falcon — Falco peregrinus					1	2	
TETRAONIDAE							
Blue Grouse — Dendragapos obscurus		2	1		1		
HAEMATOPODIDAE							
Black Oystercatcher — Haematopus bachmani		3			2		

		F	M	A	M	J	J	A
Number of Observer Days		4	10	5	0	18	14	2
SCOLOPACIDAE								
Lesser Yellowlegs	Tringa flavipes						1	1
Spotted Sandpiper	Actitis macularia		1					
Northern Phalarope	Phalaropus lobatus					1	2	
Short-billed Dowitcher	Limnodromus griseus					1		
Least Sandpiper	Calidris minutilla						1	
LARIDAE								
Glaucous-winged Gull	Larus glaucescens	3	7	3		16	16	1
Black-legged Kittiwake	Rissa tridactyla						3	
ALCIDAE								
Common Murre	Uria aalge		2	1		3	10	
Pigeon Guillemot	Cepphus columba			3		14	12	1
Marbled Murrelet	Brachyramphus marmoratus		2	1		3	9	
Ancient Murrelet	Synthliboramphus antiquus					1		
Rhinoceros Auklet	Cerorhinca monocerata						4	
Horned Puffin	Fratercula corniculata						7	
Tufted Puffin	Lunda cirrhata						4	
TROCHILIDAE								
Rufous Hummingbird	Selasphorus rufus					4	2	
ALCEDINIDAE								
Belted Kingfisher	Megaceryle alcyon	2	1				1	1
PICIDAE								
Yellow-bellied Sapsucker	Sphyrapicus varius		1					
Hairy Woodpecker	Picoides villosus						1	
Downy Woodpecker	Picoides pubescens					2	1	
Northern Three-toed Woodpecker	Picoides tridactylus		1					
CORVIDAE								
Steller's Jay	Cyanocitta stelleri		2	1		7	8	
Common Raven	Corvus corax	1	1			10	11	
Northwestern Crow	Corrus caurinus	2	4	1		11	9	
PARIDAE								
Chestnut-backed Chickadee	Parus rufescens	1	2					
TROGLODYTIDAE								
Winter Wren	Troglodytes troglodytes		1			7	5	

		F	M	A	M	J	J	A
Number of Observer Days		4	10	5	0	18	14	2
TURDIDAE								
American Robin	Turdus migratorius		2			1		
Varied thrush	Ixoreus naevius		2			1		
MOTACILLIDAE								
Water Pipit	Anthus spinoletta		1					

*Number of days observed

Table 2. Birds Observed at Coronation Island on July 6, 1983.

Common Name	Scientific Name	Number Seen
Common murre	Uria aalge	1,253
Unidentified large gulls	Larus spp.	627
Pelagic cormorants	Phalacrocorax pelagicus	381
Marbled murrelet	Brachyramphus marmoratum	233
Glaucous-winged gull	Larus glaucescens	222
Peregrine falcon	Falco peregrinus pealei	3
Pigeon guillemot	Cepphus columba	111
Rhinoceros auklet	Cerorhinca monocerata	111
Tufted puffin	Lunda cirrhata	60
Black-legged kittiwake	Rissa tridactyla	40
American bald eagle	Haliaeetus leucocephalus	29
Horned puffin	Fratercula corniculata	21
Northern phalarope	Phalaropus lobatus	16
Northwestern crow	Corvus caurinus	7
Common loon	Gavia immer	6
Arctic loon	Gavia artica	3

Table 3. Sea otter sightings.

Date	Location	Site (Fig. 1.)	Sighting Conditions	Adults-Pups
2/16	Egg Harbor	A	Poor	1
2/17			Excellent	4
2/18			Good	2
3/6			Good	1
4/7			Good	1
6/8			Good	1
6/25			Good	1
6/26			Good	1
3/15	Windy Bay	G	Good	1 - 1
7/6		H	Poor	20 (est)*
3/16	Channel Islands	F	Good	7
3/20	Aats Bay	B	Good	1
4/5		C	Good	1
6/30		D	Good	6 - 4
7/5		D	Fair	23 -*present
7/5	Gish Bay	E	Fair	26 -*present
6/10	Cove on West Coast	I	Good	39 - 14
6/29		I	Good	30 -*present
7/8		I	Good	46 -*present

*No accurate count possible.

APPENDIX

Colony Status Record

U.S. Fish & Wildlife Service

Area Number 004 005 (to be assigned by office)

Colony Name Coronation Island (Windy Bay - China Cove) Field No. ____ Observer(s) Hodges, Nysewander, Schempf, Sowls

Map Craig (D7&8) Lat. 55°50' Long 134°17' Time ____ Date June 4, 1981

Species	No. Nests (use codes below[1])	No. Birds	Remarks (estimated minimum & maximum, egg & chick status, etc.)
Northern Fulmar			
Fork-tailed Storm Petrel		?	Offshore rocks @ Helm Pt. and approximately 1 mile
Leach's Storm Petrel		?	to the west may be good habitat for nocturnals.
Cormorant			
Double-crested Cormorant			Too early to census cormorants, estimate is
Pelagic Cormorant	E 400+		speculation. Counted over 750 cormorants, many
Red-faced Cormorant			~~in breeding plumage. Caves proabably important~~
Harlequin Duck			nesting areas.
Common Eider			
Bald Eagle	X	X	
Black Oystercatcher	E 1+	C 2	
Glaucous Gull			
Glaucous-winged Gull	E 500+	C 1100	
Mew Gull			
Black-legged Kittiwake			
Red-legged Kittiwake			
Arctic Tern			
Aleutian Tern			
Murre			Too early to census. At this time of year, murres
Common Murre	P	C 11,000	very irregular attendance patterns at colony site.
Thick-billed Murre			There may be many times this number.
Black Guillemot			
Pigeon Guillemot	X	C 116	Probably many times this number.
Ancient Murrelet		?	
Cassin's Auklet		?	
Parakeet Auklet			
Crested Auklet			
Least Auklet			
Whiskered Auklet			
Rhinoceros Auklet		?	
Horned Puffin	X	E 100+	Puffins coming off cliffs 1,000 feet high. Very
Tufted Puffin	X	E 100+	difficult to census. There may be much higher num
Peregrine Falcon	X	X	Several nests probably present.

Recommended Classification: Colony Complex ____ Colony ____ Sub-colony ____ Roost Area ____

[1] Use these abbreviations to describe numbers. Use C & E whenever possible, avoid P & X. C = count, E = estimate, P = probably present (state reason under remarks), X = present pr = pairs, b = breeding, nb = non-breeding

Regional Office
U. S. Fish & Wildlife Service

Coronation Island
Description of Colony

AREA NO. 004 005 June 4, 1981

Access Small boat is best way to view colony.

Vegetation & Physiographic Characteristics Coronation island is USFS wilderness area. Main nesting area is along SW side - Windy Bay to China Cove. Helm Pt. and area approximately 1 mile west is the best bird areas. One thousand foot nearly vertical cliffs are along much of this section of coast - see photos.

Human Activity Some fishing boats seen along W. side of island.

Mammalian Predators, Livestock, etc. Coronation has mink & deer. Surprising that mink haven't kept seabird off island more - perhaps all seabird nesting area on too steep of cliffs?

Marine Mammals Sea otters seen along N. shore of coronation and common in Spanish Islands just north. A few harbor seals seen.

Census Methods & Data Status Coronation needs much more censusing effort. We went along cliffs once in small boat under poor sea and weather conditions. Difficult colony to survey due to high cliffs and large number of birds.

Sample Plots Established

Photo Coverage B & W and color slides taken. Also B&W and color slides taken from air - July 10, 1981

Overall Evaluation of Colony Need further surveying - this may be one of the largest seabird colonies in S.E. Alaska.

Supplemental Material & Data Attached (list)

General Colony Sketch