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A SUMMARY OF KITTIWAKE OBSERVATIONS FROM CHISIK
ISLAND ,1973

by: Snarski, David

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David Smarski
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FWLB
1272

Dear Bob;

My most sincere apologies for not writing much sooner, I got tied up in some other things and really neglected my responsibilities to the Moose Range.

I'm enclosing a brief summary of my trip to Chisik last fall. I'm certainly indebted to you for having made that trip possible.

I'm planning to meet with Jim Bartonek to discuss what could be done as far as information gathering from Tuxedni and maybe I could even get him interested in doing something with the birds in that area. Anyway, I still do plan to make some recommendations for the area, even if it has to be part of my thesis.

Photographing the cliffs with a large format camera and recording on these the extent of use by various species from year to year might well be worth the effort. Any information you can get on sea birds would be a very worthwhile contribution to what is presently available.

I hope to be in touch with you in the not too distant future on this matter.

My sincerest thanks for your help over the past years.

Sincerely

David Smarski

Dave Smarski

not a published report

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Some tentative recommendations for monitoring the Black-legged Kittiwake populations on Tuxedni National Wildlife Refuge.

There exists a definite need for baseline information of any type on kittiwakes and sea birds in general. Any contribution of continuous data, no matter how minimal it may appear, would be a valuable contribution toward establishing baseline data on the Chisik island populations and on sea birds in general. I would recommend that as much monitoring of the Chisik sea bird populations as is feasibly possible be carried out annually. The bare minimum which should be established annually is whether or not successful reproduction took place and if possible some estimate of the degree of success.

Besides the many conditions which make access to the area difficult, the ability to carry out even the most basic monitoring with only a few short visits to Chisik will be further complicated by the widespread diversity in initiation of the breeding cycle which can normally be expected.

The following phenological data serves to illustrate the degree of diversity that can be expected:

	<u>1970</u>	<u>1971</u>	<u>1973</u> [*]
First egg	19 June	27 June	Prior to 30 May
First Hatching	18 July	26 July	Prior to 27 June

*Estimated from stage of development of young at the time of my visit in 1973.

The following times can be used as a guideline in assessing reproductive phenomena:

- Incubation time- About 28 days or roughly one month after first egg laying.
- Fledging period- About 42 days (time between hatching and final vacating of nest.)

As a minimum, I would recommend two flights to Chisik Island annually. The first flight should probably be made sometime around mid July and should involve a "foot" check of the main rookery (nest checks in the vicinity of the light tower at the S.E. tip of the Island are probably most feasible.) The progress of the nesting cycle should be noted --ie. eggs, young, relative abundance of these if possible... stage of development if young are observed (several good references would be of aid here and I will try to obtain the pertinent data and forward it to you). A second flight to the area should be made to the area just prior to fledging (which you will have estimated from the stage of young or eggs on the first visit. Although more information and a truer picture could be obtained from close observation, successful fledging then or in the near future could probably be "estimated" from close slow passes with aircraft. Young should be discernable by plumage characteristics. (see field guides).



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A Summary of Kittiwake Observations from Chisik Island, 1972.
by David Everett

On 7 August, 1972, I was flown to Sog Harbor on Chisik Island by Bob Michay of the Kenai National Moose Range. Observations of nesting black-legged Kittiwakes were made from that date until I was picked up on 10 August.

Successful Kittiwake reproduction became apparent before we reached the rookeries on Chisik and Duck Islands. Approximately 32 km north of Chisik Island we flew over a flock of 300-500 Kittiwakes congregated at the south of a small atland ($60^{\circ}32'N$, $152^{\circ}19'W$). An estimated 25% of these were in immature stage. Kittiwakes, including immatures, were frequently observed on the remainder of the flight to Sog Harbor.

A reconnaissance flight over the Chisik Island area revealed that all formerly used rookeries were inhabited by nesting Kittiwakes. On Duck Island, occasional nesting areas appeared to be more widespread than in 1971, approximating the nest distribution observed in 1970. A cliff 1.6 km north of the terminus of the main colony was visited on 9 August and 198 nests were counted there. Kroll (1966) referred to this as a "good size nesting colony", but only 85 nests were counted there in 1971.

Close examination of accessible nests revealed considerable diversity in the degree of development of the young. Fully or nearly fully feathered fledglings were most abundant, but several downy nestlings were also observed as well as a

gradient of intermediate stages of young. Several nests containing eggs were observed, one of which appeared to have a clutch of 2 eggs actively attended by an adult. Fully fledged young were commonly observed in the flocks of kittiwakes flying and loafing in the vicinity. As mentioned previously, young birds were observed at considerable distances from the nesting cliffs.

From observations made during my stay on Chisik Island, it appears that 1972 reproduction was very good. Broods of 2 young appeared to occur commonly. I estimated an average of 1.5 young per pair on one small headland at the southeast tip of Chisik Island. Young birds on these cliffs were observed moving around considerably on some of the nesting ledges and groups of nests were often so heavily trampled as to be unrecognizable for purposes of counting of the individual nests. Because of this and the undetermined number of young which had fledged, only a rough estimate of brood size was possible.

Although 1973 reproduction was good, a strong possibility exists that 1972 may have been another year of poor reproduction for the kittiwakes nesting on Chisik Island. When questioned, no one who was present at Snug Harbor during 1972 could recall having seen any young during their stay. One party who claimed to have repeatedly visited the area adjacent to the main Chisik Island rookery did not notice any young on the beaches.

Observations of injured and dead kittiwakes, the apparent victims of rockslides or falls, were made daily during my 4 day stay on Chisik Island. Six dead young, as well as numerous apparently healthy flightless young, were observed at the base of the main nesting cliff on 7 August. In several locations groups of these young had climbed up onto ledges a few feet above the beach. On 10 August I located a rockfall just inside the mouth of Foxeini Channel shortly after it had occurred. A rectangular slab of limestone approximately 3.5 m x 1.5 m and 1.0 m in thickness had slid 40-50 m down a near vertical cliff accompanied by several cubic meters of cliff-top debris and smaller rocks. Seven adult and 22 young kittiwakes and 1 horned puffin were dug from this debris. With the exception of one young kittiwake, all of the birds were dead or so badly injured that it was felt advisable to destroy them.

Several marked differences in the activity patterns and behavior of the Chisik Island kittiwakes between the nesting failure years of 1970 and 1971 and the past year (1973) were apparent. Flights out over Cook Inlet, presumably to gather food, were more continuous and more frequent than had been observed in the past. A near continuous movement of birds out over Cook Inlet and back was observed during daylight hours in 1973, while movements of equal magnitude were usually observed only as darkness approached in 1970 and 1971. Incidences of intraspecific strife appeared much reduced as did

the level of noise generated by kittiwakes on the cliffs. Kittiwakes perched on the ledges were noticeable more docile and approachable during my 1973 stay than I had ever seen them in 1970 or 1971.

A lack of time and resources ruled out any meaningful attempt at estimating population. Further complicating any such an attempt was the lack of knowledge of the number of breeding pairs and their fledglings which may have left the vicinity of the cliffs by the time of my arrival. Any kittiwakes hatched in 1970 and 1971 should have been recruited into the 1973 breeding population. In light of the nesting failure during those two breeding seasons and assuming some mortality of adults, it would seem probable, but not necessary, to expect a decrease in the number of breeding pairs on the rookeries. It was my impression that nesting may have been somewhat reduced on several cliffs, especially portions of the main rookery and on the east side of Chisik Island.

The temptation exists to call 1973 a "normal" reproductive year as opposed to the "abnormal" years of 1970 and 1971 which were failures in terms of kittiwake reproduction. The 4 day trip to Chisik Island in 1973 served to give me some insight into the typical breeding season which is described in various scientific works, but there is some question as to just how atypical or abnormal years like 1970 and 1971 really are. It is felt by some that years of nesting failure such as observed in 1970 and 1971 may not be entirely abnormal to kittiwakes and other sea birds. It appears that the Chisik Island kittiwake population could and did survive 2 or possibly 3 years of poor or no reproduction without drastic changes, at least so far. Long term continuing studies to gather information on such things as productivity, mortality, longevity of individuals and population fluctuations would be of great value to the understanding of sea birds. Such monitoring studies could provide baseline data necessary to evaluate the impact of human activities on sea birds and their environment.

Discussion

The reproductive success of kittiwakes on Chisik Island during the 1973 breeding season contrasts sharply with the failure of 1970 and 1971. Some of the obvious differences between these years are:

- (1) Earlier initiation of breeding in 1973. First observation of egg laying and first observation of hatching were, respectively, 19 June and 18 July, 1970; and 27 June and 26 July, 1971. Assuming a 28 day incubation period and an average fledging period of 42 days, [42.7 days, (Coulson and White, 1958); 41.6 days, (Maunier and Threlfall, 1972)] egg laying must have been initiated prior to 20 May and first hatching prior to 27 June, 1973.
- (2) Longer period of egg laying in 1973. The presence of all stages of development of kittiwakes from downy young and unhatched eggs to fully fledged birds indicates an egg laying period of at least 42 days for 1973. This widespread difference probably indicates some re-nesting, a phenomenon which was not observed in 1970 or 1971.
- (3) Probable larger clutch size. On the basis of the number of broods containing 2 young that were observed in 1973, it is probable that clutch size was as great or greater than that of 1970 (1.70) and definitely greater than 1971 (1.27).

(7)
Other Species

Limited time did not allow for the gathering of significant data on other animal species during 1973. However, the following limited information may be of interest:

Delia's cormorant-- Two nests of this species, both tended by adults, were observed at the southeast tip of Christ Island. This species nested on Christ in 1970 but was not present there in 1973.

Common Eider-- Apparent good reproduction by this species was reported to me by personnel at the cannery. "A lot of older ducks with young" were seen in the area by Barbara Firthrock prior to my visit.


Black Bear-- On 9 August, 1973, several persons at Sand Harbor watched a black bear swim Tuxedni Channel from the mainland. The bear came ashore at the cannery and immediately climbed the slope to the top of Christ.

Brown bear-- Two persons from the cannery reportedly observed a brown bear along the tractor trail above Sand Harbor during the summer of 1973. Bear sign was noted in this area previously (1971).

Literature Cited

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- Krohn, W.B. 1966. A brief survey of the Tuxedni National Wildlife Refuge. Unpublished mimeo. on file at Kenai National Moose Range Headquarters. 12 pp. plus map.
- Maunder, J.E., and W. Threlfall. 1972. The breeding biology of the black-legged kittiwake in Newfoundland. *Auk*, 89: 789-816.

Perhaps the times given are not the most suitable during "normal" years but not knowing how often years like 1970 and 1971 happen (in terms of kittiwake reproduction) may be the most adviseable times for visiting Chisik. If any conclusions can be drawn from my visit to Gull Rock out of Homer in 1971 when good reproduction was observed there and from Krohn's account of his visit to Chisik in 1966, I would say that the dates for 1973 are probably closer to the "normal!"



OBSERVATIONS OF BIRDS ON TUXEDNI NATIONAL WILDLIFE
REFUGE AND VICINITY

by

David J. Snarski

Observations of bird life on Tuxedni National Wildlife Refuge and vicinity were made from 25 May through 9 August, 1970, and 14 May through 8 September, 1971. Along the west side of Chisik Island, observations were made on a near daily basis, but other portions of Chisik Island and Duck Island were visited less regularly. Due to difficulty of access, I did not visit the alpine plateau at the summit of Chisik Island. During both summers, occasional visits were made to the adjacent mainland along Tuxedni Channel and Tuxedni Bay. Only two trips were made as far south as the mouth of Johnson River by boat, one in 1970, and one in 1971. One flight was made as far west as the head of Tuxedni Channel in 1971, and several flights were made over the mainland south of Chisik Island.

ANNOTATED LIST OF SPECIES

- Common Loon, Gavia immer. This species was observed on Tuxedni Channel on three occasions, 2 and 22 June, and 22 July, 1971.
- Arctic Loon, Gavia arctica. Two Arctic Loons were observed offshore at the north end of Chisik Island on 25 June, 1970. During 1971, this species was observed on or over Tuxedni Channel on 3 June, 22 June, 2 July, and 25 July.
- Red-throated Loon, Gavia stellata. Red-throated Loons were observed at the mouth of Johnson River south of Chisik Island in July of 1970 and again in August of 1971.
- Red-necked Grebe, Podiceps grisegena. During 1971, this species was seen on Tuxedni Channel on 18 May, 22 June, and 2 July.
- Horned Grebe, Podiceps auritus. Horned Grebes were observed on Tuxedni Channel on 20, 21, and 30 May, 1971.
- Double-crested Cormorant, Phalacrocorax auritus. This species is a common nester on Chisik Island. Noticeably fewer Double-crested Cormorants were present in the area in 1971 and no young were observed that summer.
- Pelagic Cormorant, Phalacrocorax pelagicus. This species was common in the area during the summer of 1970 but was very much less in evidence during 1971. In 1970 this was a fairly common nesting species on the cliffs of Chisik Island and the adjacent mainland, but in 1971 only one active nest was located on the mainland across Tuxedni Channel from Chisik Island and several active nests were observed on the cliffs between the entrance to Tuxedni Channel and the mouth of Johnson River.
- Whistling Swan, Olor columbianus and/or Trumpeter Swan, O. buccinator. Two adult swans and a nest containing several eggs were observed on a beaver pond near the head of Tuxedni Channel on 27 July, 1971. Pairs of swans were also observed on several lakes and ponds near Johnson River and Silver Salmon Creek during July and August of 1971.
- Canada Goose, Branta canadensis. One small flock of Canada Geese flew over Chisik Island on 21 June, 1970. Flocks were seen over Tuxedni Channel and on the flats in the vicinity of Rusty Mountain several times during the summer of 1971.
- Black Brant, Branta nigricans. On 6 June, 1971 a flock of approximately 20 Black Brant were observed near Dick

Island. One adult bird was present on Duck Island on 12 and 13 August, 1971, and I shot an adult male of this species near the mouth of Bear Creek on the mainland on 3 September, 1971.

White-fronted Goose, Anser albifrons. One flock of these birds was observed in flight over Chisik Island on 15 May, 1971.

Mallard, Anas platyrhynchos. Mallards commonly occur on the flats on the mainland side of Tuxedni Channel and were occasionally seen on the shores of Chisik Island.

Pintail, Anas acuta. This species is also common along Tuxedni Channel and was encountered on the beaches of Chisik Island quite commonly.

Green-winged Teal, Anas carolinensis. This species was observed several times on the flats across Tuxedni Channel from Chisik Island.

American Widgeon, Mareca americana. Baldpates were common on the flats in the Tuxedni area and were occasionally observed on Tuxedni Channel.

Shoveler, Spatula clypeata. Shovelers were observed in the area only once during August of 1971 when a dozen were encountered on the mainland along Tuxedni Channel.

Greater Scaup, Aythya marila. Flocks of Greater Scaup were present on Tuxedni Channel and Tuxedni Bay during the summers of 1970 and 1971.

Common Goldeneye, Bucephala clangula. One male Common Goldeneye was observed on Tuxedni Channel in May of 1971. Immature of this species and/or B. islandica were seen on ponds near the mouth of Johnson River in August 1971. Two immature Goldeneyes frequented the shores of Chisik Island near Snug Harbor during the second week of August of 1971, until one of them was caught and drowned in a beach net.

Oldsquaw, Clangula hyemalis. Many Oldsquaws were noted on Tuxedni Bay from 1 June through 6 June, 1971.

Harlequin Duck, Histrionicus histrionicus. Several pair of Harlequin Ducks were present in the area during both summers. They were regularly observed on Tuxedni Channel and near some of the streams on the mainland.

Common Eider, Somateria mollissima. This duck is a common nester on Chisik and Duck Islands. An estimated 100 to 150 hens nested on Chisik Island during 1971. Drakes were present in this area until July of 1971.

White-winged Scoter, Melanitta deglandi. This species was

commonly observed on Tuxedni Channel and Tuxedni Bay.

Surf Scoter, Melanitta perspicillata. Surf Scoters appeared to make up the majority of the large rafts of scoters which were frequently observed on Tuxedni Channel and Tuxedni Bay as well as on other bays south of Chisik Island.

Common Scoter, Oidemia nigra. This was the least commonly encountered scoter in the Tuxedni area.

Common Merganser, Mergus merganser. On 2 July, 1971, a Common Merganser was observed on Tuxedni Channel, just offshore from Snug Harbor.

Red-breasted Merganser, Mergus serrator. In 1970, this species was occasionally observed on Tuxedni Channel. In 1971 Red-breasted Mergansers were seen only in May.

Sharp-shinned Hawk, Accipiter striatus. Two of these birds were seen on Chisik Island in August of 1971.

Harlan's Hawk, Buteo harlani. Only one observation of this species was made. A single bird was seen over Chisik Island on 23 May, 1971.

Bald Eagle, Haliaeetus leucocephalus. Several mature and immature Bald Eagles were present in the Tuxedni area during 1970 and 1971. Two active nests were found on the mainland near Chisik Island.

Marsh Hawk, Circus cyaneus. A pair of Marsh Hawks were regularly observed atop Chisik Island during both summers.

Osprey, Pandion haliaetus. A single Osprey was seen soaring over Tuxedni Channel on 6 June, 1971.

Cyrfalcon, Falco rusticolus. Single Cyrfalcons were occasionally observed in the vicinity of the cliffs on Chisik Island.

Peregrine Falcon, Falco peregrinus. This species was also occasionally observed around the cliffs of Chisik Island. On several occasions, a pair was observed.

Pigeon Hawk, Falco columbarius. Two Pigeon Hawks were seen on Chisik Island in September, 1971. Several were observed along the southwest face of Slope Mountain on the mainland on 25 July, 1970, and single birds were seen at the mouth of Johnson River in July of 1970 and August of 1971.

Spruce Grouse, Cathartes canadensis. One Spruce Grouse was observed in a nest on the north end of Chisik Island on 27 May, 1971.

Willow Ptarmigan, Lagopus lagopus. This species was observed atop Chisik Island several times in 1970, and 1971.

White-tailed Ptarmigan, Lagopus leucurus. Four White-tailed Ptarmigan were observed atop Chisik Island near Snug Harbor on 15 and 16 May, 1971. Mr. Joe Munger, who has resided at Silver Salmon Creek, a few miles south of Chisik Island, for the past 35 years reports that this species is common in the area.

Sandhill Crane, Grus canadensis. On 29 May, 1971, a single Sandhill Crane was seen and heard as it circled over Tuxedni Channel.

Black Oystercatcher, Haematopus bachmani. At least 3 pair of these birds were present along the east shore of Chisik Island and on Duck Island in 1970 and 1971. One pair raised 3 young at the southeast tip of Chisik Island in 1971.

Semipalmated Plover, Charadrius semipalmatus. This bird was common along the beaches of Chisik Island during the spring migration. It was found to be common on the mainland adjacent to Tuxedni Channel during summer months.

Surfbird, Aphriza virgata. One was observed on Chisik Island on 24 July, 1970. In 1971 Surfbirds were occasionally observed along the shores of Chisik Island from May through August.

Black Turnstone, Arenaria melanocephala. A flock of about 25 of these birds were seen on Chisik Island from 25 through 28 August, 1971.

Common Snipe, Capella gallinago. Snipe were observed on a wet area on Chisik Island in 1970 and 1971.

Whimbrel, Numenius phaeopus. Although Whimbrels were never observed on Chisik Island, they were observed on the mainland along Tuxedni Channel on three occasions during 1971.

Spotted Sandpiper, Actitis macularia. Spotted Sandpipers were fairly common along the beaches of Chisik Island during both years.

Wandering Tattler, Heteroscolus incanum. During 1970 and 1971, Wandering Tattlers were regularly observed along the beaches of Chisik and Duck Islands.

Greater Yellowlegs, Potamus melanoleucus. Greater Yellowlegs were observed on Chisik Island on 3 and 18 July, 1970, and from 15 through 18 May, 1971. This bird occurs

- Baird's Sandpiper, Erolia bairdii. Baird's Sandpipers were quite common during the spring migration on Chisik Island. Most were observed between 14 May and 22 May, 1971.
- Least Sandpiper, Erolia minutilla. Least Sandpipers were common in the area from 15 to 24 May, 1971.
- Dunlin, Erolia alpina. One Dunlin was observed on Chisik Island on 23 May, 1971.
- Short-billed Dowitcher, Limnodromus griseus. During the spring of 1971, Short-billed Dowitchers were observed on mud flats along Chisik Island from 18 May to 25 May.
- Semipalmated Sandpiper, Ereunetes pusillus. A few Semipalmated Sandpipers were observed during the spring migration in 1971.
- Western Sandpiper, Ereunetes mauri. This common migrant was observed over the period of 14 May to 30 May, 1971. Many "peeps", some of which are probably this species, were observed on mud flats along Tuxedni Channel in mid-July of 1970 and 1971.
- Northern Phalarope, Lobipes lobatus. Northern Phalaropes were fairly common on Tuxedni Channel from May through August. Several large concentrations were noted in August of 1970 and 1971.
- Glaucus Gull, Larus hyperboreus. A large, all white gull was frequently observed perched on the cannery buildings at Snug Harbor in early June of 1970.
- Glaucus-winged Gull, Larus glaucescens. This species is a common clifftop nester on Chisik and Duck Islands. In 1970, large numbers of these birds concentrated in the vicinity of the cannery once it went into operation. salmon cannery was not operated in 1971 and Glaucus Gulls were less abundant than in 1970. Only a few young Glaucus Gulls were brought off in 1971.
- Mew Gull, Larus caurinus. Mew Gulls occur commonly on the flats along Tuxedni Channel and were occasionally observed at Snug Harbor.
- Franklin's Gull, Larus atricilla. An adult Franklin's Gull was observed at Snug Harbor from 14 May to 19 May, 1971. This bird was photographed and is believed to represent the first documented occurrence of this species in Alaska.
- Bonaparte's Gull, Larus philadelphia. Bonaparte's Gulls were occasionally observed along the west shore of Chisik Island. In 1971, 2 pair were regularly observed near Fossil Point on the mainland.
- Black-legged Kittiwake, Rissa tridactyla. Black-legged Kittiwakes were observed on the west shore of Chisik Island from 14 May to 19 May, 1971. This bird was photographed and is believed to represent the first documented occurrence of this species in Alaska.

- abundant bird species that nests in the area. Large nesting colonies occur on Chisik Island, Duck Island and on the mainland near the mouth of Tuxedni Channel.
- Arctic Tern, Sterna paradisaea. Only a few Arctic Terns were observed along Tuxedni Channel, all during the period of 18 May through 3 June, 1971.
- Common Murre, Uria aalge. Common Murres were second in abundance only to the Black-legged Kittiwake on Chisik Island. The largest concentrations of this species are found along the east side of Chisik Island and on Duck Island.
- Pigeon Guillemot, Cephus grylle. During the summer of 1970 Pigeon Guillemots were common on Chisik and Duck Islands, but were much less in evidence in the area in 1971.
- Marbled Murrelet, Brachyramphus marmoratus. In 1970, this species was reported to me by Tom Diaz, a free-lance photographer. During July and August of 1971 Marbled Murrelets were occasionally observed on Tuxedni Channel.
- Kittlitz's Murrelet, Brachyramphus brevirostris. This murrelet and the previous were observed in close proximity on Tuxedni Bay several times in August, 1971. Both were approached by boat and observed at close range.
- Parakeet Auklet, Cyclorhynchus psittacula. Four Parakeet Auklets were observed near Duck Island on 24 July, 1970. In July and August of 1971, 3 pair of these birds were present on Duck Island. On 17 August, one was discovered incubating an egg in a crevice.
- Rhinoceros Auklet, Cerorhinca monocerata. A pair of Rhinoceros Auklets were reported from Duck Island in 1970 by Tom Diaz. In 1970, another free-lance photographer, Robert Bright, reported seeing a pair on Duck Island, one of which entered a burrow.
- Horned Puffin, Fratercula corniculata. This species nests abundantly on Chisik and Duck Islands. Horned Puffins outnumber the following species about 5:1 - 7:1 in the vicinity. Many young of this species were observed in caves, crevices, burrows and between rocks on Duck Island, on 12 August, 1971.
- Tufted Puffin, Lunda cirrhata. This common nester occurs mainly on Duck Island and a few places along the cliffs at the Southeast end of Chisik Island.
- Great Horned Owl, Bubo virginianus. Although this species was never observed during my stay on Chisik Island, Joe Manger feels that it very likely does occur in the spruce stands at the north end of the island. He

informs me that Great Horned Owls are plentiful on the adjacent mainland.

Short-eared Owl, Asio flammeus. Short-eared Owls were commonly observed on top of Chisik Island over the period 14-28 May, 1971.

Downy Woodpecker, Dendrocopos pubescens. A dead Downy Woodpecker was picked up in the net loft at the cannery in May of 1971. A nest containing young was located in a spruce stub at the north end of Chisik Island in July of 1971, and 2 birds of this species were observed working dead alders atop the south tip of Chisik Island in August.

Northern Three-toed Woodpecker, Picoides tridactylus. One bird of this species was observed in a spruce stand at the north end of Chisik Island on 27 May, 1970.

Say's Phoebe, Sayornis saya. I observed this bird only on 4 September, 1971, on Chisik Island.

Traill's Flycatcher, Empidonax traillii. This flycatcher was commonly observed in the alders atop Chisik Island and to a lesser extent in the vicinity of the cliffs.

Violet-green Swallow, Tachycineta thalassina. This species was fairly commonly observed on Chisik Island.

Tree Swallow, Iridoprocne bicolor. Tree swallows nested around the cannery buildings and in nest boxes at a fish camp on Chisik Island.

Bank Swallow, Riparia riparia. This species was occasionally observed on Chisik Island.

Cliff Swallow, Petrochelidon pyrrhonota. Cliff Swallows were occasionally seen feeding over Chisik Island. A nesting colony was located on a rock near the mouth of Difficult Creek along Tuxedni Channel, and another along Johnson River south of Chisik.

Black-billed Magpie, Pica pica. A single magpie was occasionally observed near Snug Harbor in 1970. In 1971, 2 pair were present at Snug Harbor.

Common Raven, Corvus corax. Ravens were commonly observed in the Tuxedni Area. They were found nesting in two localities on Chisik Island in May, 1971.

Black-capped Chickadee, Parus atricapillus. Black-capped Chickadees were occasionally observed on Chisik Island only during August of 1971.

Brown Creeper, Certhia familiaris. Five Brown Creepers were observed at the north end of Chisik Island on 5 August of 1971, and 5 were seen to be nesting in the cannery on 4 September, 1971.

Dipper, Cinclus mexicanus. Dippers were present on several streams on Chisik Island and the adjacent mainland in 1970. In 1971, Dippers could only be found on 2 streams in the area.

Robin, Turdus migratorius. In 1970 a Robin nested atop Chisik Island near Snug Harbor. Robins were present in the area between 15 May and 5 June, 1971, and several young were seen on the Chisik Island beaches in mid-August.

Varied Thrush, Ixoreus naevius. Varied Thrushes were seen and heard throughout both summers, especially in cottonwood stands along the west side of Chisik.

Hermit Thrush, Hylocichla guttata. This bird was very common along the beaches and atop Chisik Island.

Swainson's Thrush, Hylocichla ustulata. In 1971, this species was noted along the beaches of Chisik Island from 29 May through 5 June.

Golden-crowned Kinglet, Regulus satrapa. This species was observed on Chisik Island only from 2 September to 7 September, 1971.

Ruby-crowned Kinglet, Regulus calendula. This species was present in the spruce stands at the north end of Chisik Island in 1970 and 1971.

Water Pipit, Anthus spinoletta. Water Pipits were present around the cliffs of Chisik Island throughout the summers of 1970 and 1971.

Bohemian Waxwing, Bombycilla garrula. Bohemian Waxwings were seen on Chisik Island on 25 May, 1970 and on 19 and 20 June, 1971.

Northern Shrike, Lanius excubitor. Joe Munger who has wintered at Snug Harbor in past years reports that this bird was present around the cannery buildings during some years.

Orange-crowned Warbler, Vermivora celata. This is a common warbler in the alders atop Chisik Island.

Yellow Warbler, Dendroica petechia. Yellow warblers occurred commonly in the Tuxedni area.

Myrtle Warbler, Dendroica coronata. Myrtle Warblers were occasionally observed along a creek above Snug Harbor and along the east side of Chisik Island in 1970 and 1971.

Northern Waterthrush, Seiurus aquaticus. In 1970 this species was occasionally observed along a creek above

Snug Harbor.

Wilson's Warbler, Wilsonia pusilla. This common warbler seemed to occur everywhere on Chisik Island.

Rusty Blackbird, Euphagus carolinus. Rusty Blackbirds were quite common on the flats near Bear Creek on the mainland in late August and early September of 1971. They were occasionally observed on Chisik Island during that period.

Pine Grosbeak, Pinicola enucleator. Pine Grosbeaks were occasionally observed throughout my stay in 1970, but were only observed on Chisik Island on 16-19 May and 2 September in 1971.

Common Redpoll, Acanthis flammea. This species is common on Chisik Island.

Gray-crowned Rosy Finch, Leucosticte tephrocotis. This species was not observed in 1970, but was fairly common in 1971. It was commonly observed in the vicinity of the tallus slopes on Chisik Island. It nested on Chisik and Duck Island in 1971.

White-winged Crossbill, Loxia leucoptera. This species was observed once in a spruce stand at the north end of Chisik in July, 1971.

Savannah Sparrow, Passerculus sandwichensis. Savannah sparrows were common around the cannery and along grassy portions of the beaches of Chisik Island during both summers.

Slate-colored Junco, Junco hyemalis. On 27 May, 1970, Juncos were observed at the north end of Chisik. During 1971, observations were made from 29 June until 5 July, and on 2 and 3 September at Snug Harbor.

White-crowned Sparrow, Zonotrichia leucophrys. White-crowned Sparrows were occasionally seen or heard along the north and west shores of Chisik Island in 1970, and were present at Snug Harbor in May of 1971.

Golden-crowned Sparrow, Zonotrichia atricapilla. This was probably the most abundant land bird on Chisik Island during the summers of 1970 and 1971.

Fox sparrow, Passerella iliaca. As a land bird, the Fox Sparrow was probably second in abundance only to the Golden-crowned Sparrow on Chisik Island.

Song Sparrow, Melospiza melodia. Song Sparrows were regularly observed on Chisik Island in 1970, 1971, and 1972.