

SUMMER BIRDS OF FORRESTER ISLAND, ALASKA.

BY GEORGE WILLETT.

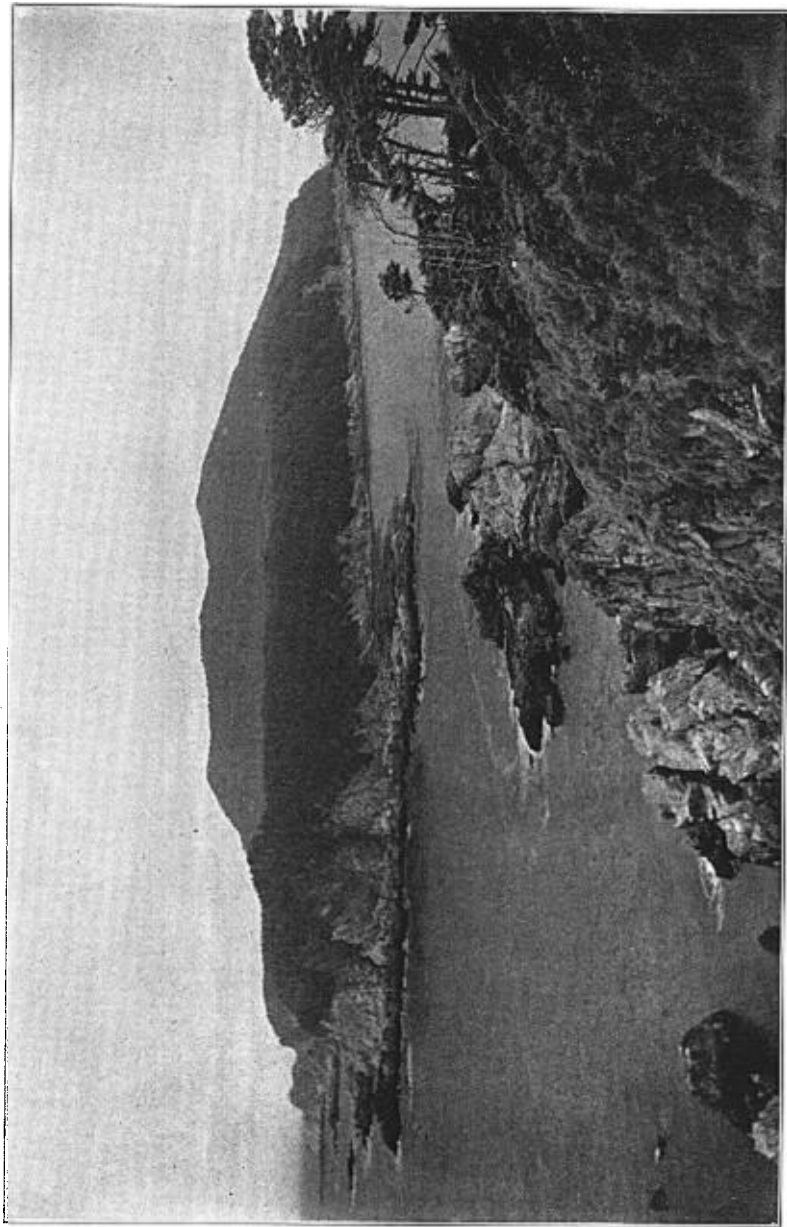
Plates XIX-XX.

DURING the period from May 23 to August 15, 1914, the writer was stationed on Forrester Island, Alaska, in the interests of the U. S. Biological Survey. What time could be spared from routine duties was occupied in study of the bird life in this most interesting section. The following account is taken from notes made at this time.

Forrester Island is of volcanic origin, and is between four and five miles long by one and a half miles wide at the widest part. It is heavily timbered with spruce, hemlock and squaw pine from the water's edge up to the top of the island, 1395 feet at the highest point. The island is situated in 54° 45' north latitude, being about 12 miles directly west of Dall Island and southwesterly from Prince of Wales Island, and only a short distance north of the Canadian boundary. There are several small islets lying a short distance off the main island, the most important of which are Petrel Island at the south end, and Cape Horn and Sea Lion Rocks, and Lowrie Island at the north end. Lowrie Island is low and well timbered, while Petrel Island is higher, more rocky and timbered only toward the top.

These are all included in the Forrester Island Bird Reservation, as is also Wolf Rock, a bare rocky islet lying about ten miles north of the north end of Forrester. With the exception of this latter locality, all parts of the reservation were visited by the writer, most of them several times. Practically all the time that could be spared to ornithological investigation was devoted to the study of the water birds, consequently the notes on land birds must be considered very incomplete. There were more land birds in this locality than I have ever noted in any other section of southeastern Alaska. As will be seen, however, the number of species is not great.

The climate is about the same as that of adjacent sections, being



FORRESTER ISLAND FROM THE WEST SIDE OF PETREL ISLAND.

exceedingly moist at all times, the rain fall probably closely approaching 100 inches annually. During the past summer there were only occasionally days of good weather, the major part of the season being rainy or windy, frequently both.

There was a camp of several hundred fishermen on the island. They were engaged in trolling for king salmon which were generally abundant.

The following is an annotated list of birds observed.

Gavia sp.?—Loons were noted at a distance several times during the summer, but I was never able to approach them closely enough to be positive as to the species. The Pacific Loon (*Gavia pacifica*) was common in the channel west of Prince of Wales Island, May 22, evidently on the northward migration.

Lunda cirrhata. TUFTED PUFFIN.—The most abundant of the Alcidae. Estimated numbers, 35,000 pairs. This species began to deposit the eggs about the second week in June. The principal colonies are on the west side of the main island, on Petrel Island and on Cape Horn Rocks.

The fishermen detest these birds because of their penchant for stealing the herring that is used as bait in trolling for salmon. After the fisherman has placed a fresh herring on the hook and lets the line out to trolling distance, the puffin will dive and neatly remove the bait from the hook. I have seen this done when the bird was forced to go down at least fifteen fathoms. Apparently a puffin will attach itself to a particular trolling boat and will follow it for hours. The fishermen attribute to the bird a surprising amount of cunning. One Norwegian assured me solemnly that the parrot would rise up on the crest of a wave and look into the boat in order to count the herring therein. Their eyesight is deficient at times, however, as they will sometimes dive after a spoon. Frequently the puffins will get all the herring the fisherman has and he will be obliged to cease fishing or have recourse to a spoon, which latter method is not nearly so successful as to results. As far as I was able to ascertain, this habit of stealing bait is confined to this species, the Horned Puffin apparently not having acquired it.

Fratercula corniculata. HORNED PUFFIN.—Nowhere very abundant but fairly well distributed along the shores of the main island, also on Petrel Island and Cape Horn Rocks. Probably 1000 to 1200 pairs in all. Generally nesting in small colonies of from five to twenty pairs each. No nests were seen in burrows, all those noted being in cavities in cliffs and in crevices in caves and under boulders, never more than a hundred feet (generally less than fifty feet) above the water. The nesting location is much more similar to that of the Pigeon Guillemot than to that of the Tufted Puffin. The nest is very frequently so far back in a cavity as to be impossible to approach closely. The nesting cavity is generally fairly well lined with

grass, frequently supplemented with a few feathers. The eggs are deposited during the last ten days in June. The first young were noted July 22, but some were probably out several days earlier. A few of the eggs of this species are quite heavily spotted with brown but the majority are indistinguishable from those of the last. The feeding habits of the Horned Puffin are very similar to those of the Tufted Puffin but, as a rule, they seem to feed closer to shore, frequently being seen in small flocks inside the kelp patches.

Cerorhinca monocerata. RHINOCEROS AUKLET.— Estimated number, about 20,000 pairs. The nesting colonies of this species seem to be confined to the eastern side of the main island. On all the slopes in this locality, where the ground is not too wet to burrow in, they are abundant from a few feet above the rocky beaches to four or five hundred feet on the hillsides among the timber. The burrows are generally from seven to nine feet in length, crooked, and often forked two or three times. The burrowing bird tears the earth loose with its bill and throws it backward with its feet. The shallow nest cavity is more or less sparsely lined with grasses and leaves, and additions are apparently made to the nest lining during the incubation period and even after the young is hatched. The egg laying begins the fourth week in May and probably continues far into June, as a bird was found incubating an egg as late as July 22.

The incubating birds are relieved by their mates at about 11 P. M. and 2 A. M., about three hours on the night shift and twenty-one on the day shift. It was, of course, impossible to ascertain whether or not the same bird continues to incubate during the day throughout the entire period, but in this country of long days and short nights, it seems improbable that such should be the case. The birds go considerable distances in search of food and evidently prefer the smooth water of the inside channels to the rougher water around Forrester Island. While they are rarely seen in the latter locality in the daytime, they are abundant in the channels between Prince of Wales Island and Dall and Suemez islands. They begin appearing in small flocks in the vicinity of Forrester Island about an hour before dusk and fly restlessly back and forth from then until dark. On one or two occasions while walking among the nesting colonies in the daytime, I was surprised to see an incubating bird leave the burrow and fly to sea. I do not consider this a regular occurrence, but believe rather that the bird heard my approach and was frightened into leaving the nest.

The Indians' favorite method of capturing these birds is to build a large fire in the nesting colony at the time of night when the birds are changing. They become bewildered by the light and are easily despatched with the aid of long spruce boughs. All auklets and murrelets are eaten by the Indians and are known to them as "little ducks."

Ptychoramphus aleuticus. CASSIN'S AUKLET.— The least common of the burrowing birds. Probably not more than 2000 pairs on the reservation, although this number is a pure guess, as it is impossible to differentiate, from outward appearances, the burrows of this species from those of the

next. Among the total number of burrows excavated, however, the percentage of the Cassin's Auklet was very small. They were found nesting on the east side of the main island and on Petrel Island. Eggs were noted occasionally from May 30 to June 9. On the latter date large young were common on Petrel Island, so the nesting season must have commenced in April. A bird incubating two eggs was found on this latter occasion. It seems probable that one of these was deposited by another bird.

Synthliboramphus antiquus. ANCIENT MURRELET.—Very abundant. Estimated number, 20,000 pairs. The principal nesting colonies of this bird are on the eastern slope of the main island where they mingle with the two species of auklets. They also nest in lesser numbers on Petrel Island among the petrel colonies. From observations it would seem that this murrelet seldom burrows in open ground but prefers locations among roots of trees and under logs and rocks. The nesting season evidently begins about May 1 and continues well into June, the most of the eggs, however, being deposited about May 10 to 15.

The newly hatched young has a greyish band across the chest and the abdomen is also shaded with grey. In two or three days this disappears, leaving the under parts pure white. The young leave the nest when about four days old and follow the parent bird to the water. This movement takes place generally between 11 P. M. and 1 A. M. At this time of night the calls of old and young murrelets may be heard in all directions. At the time of my arrival on the island, May 23, the young were already leaving the nests, and the latest noted was on the night of July 2. They were most plentiful June 1 to 10. The old bird precedes the young to the water, generally keeping from twenty to one hundred feet ahead of it. A continuous communication is maintained between the two, the frequent cheeps of the young being answered by the parent. By the aid of a lantern I was able to watch the progress of this movement. The chicks come tumbling down the hillsides, falling over rocks and logs and, directed by the adult, generally make their way to the bottom of the nearest ravine which they follow to the salt water. Arriving at the water's edge, in response to the anxious calls of the parent who is already some distance out on the water, the chick plunges in and swims boldly out through the surf and joins its parent. Whether or not both young generally leave the nest on the same night, I am unable to state but I know that this is not always the case, as in one or two instances a solitary young was found in a nest, the evidence showing that two birds had been hatched and that one had already left. The young murrelets are easily attracted by light and they often wandered into the tents of the fishermen where, rendered helpless by the glare of the light, they were easily captured.

The old bird with the young evidently proceeds immediately out to the open water as, even when hundreds took to the water at night, they could not be found anywhere in the vicinity of the island the next morning. During the entire summer not a single young murrelet was seen after it had

taken to the water. Like the Rhinoceros Auklets, the old birds were occasionally seen near the shore but in very small numbers compared to the total number nesting on the island. Their principal feeding ground is, seemingly, well out to sea.

Brachyramphus marmoratus. MARBLED MURRELET.—During the early part of the summer this species was not noted in the vicinity of the reservation and I am sure that it does not nest on the island. The first birds were seen July 25, when three adults were found feeding a little distance from shore. One bird taken at this time was an adult female which, according to the condition of the sexual organs, had nested some time previously. After this date the species was further noted on several occasions.

It was plentiful in the channels around Prince of Wales and Dall islands throughout the summer and evidently nests in these localities. Mr. W. D. McLeod, of Hówkan, informs me that during late May and the month of June he has observed Marbled Murrelets flying down from the mountains of Dall Island at dusk.

Cepphus columba. PIGEON GUILLEMOT.—Probably 300 pairs on the reservation. Generally distributed along rocky shores, the favorite feeding ground being around the kelp patches close in. This bird has a peculiar habit of sometimes carrying a small fish around in its bill for a considerable length of time before eating it. One bird noted carried the fish for a full two hours, the lower mandible being in the gill and the upper one on top of the fish's head. The nests of the sea pigeon were for the most part inaccessible, being far in the recesses of crevices in the roofs of caves. A nest containing one egg was found June 26. This egg was later destroyed by crows, which are very numerous around the sea bird colonies and prey especially on the eggs of the sea pigeon, cormorant and murre.

Uria troille californica. CALIFORNIA MURRE.—Probably 20,000 pairs nesting on the reservation. The principal rookeries are on the west side of Forrester Island, on Cape Horn Rocks and on Petrel Island. There seemed to be no nests at all on the easterly and more protected side of the island. These birds begin to deposit their eggs about July 20 and probably all the females had laid by August 5. Owing to the destruction of many of the eggs, however, fresh eggs may be found until late in August. This destruction of a considerable percentage of the eggs is due to two causes. First, the thieving crow who finds in the stupid murre an easy victim, and second in the clumsiness of the murre, themselves. Many of the eggs are laid on narrow ledges of cliffs and the clumsy birds when leaving or alighting on the nesting ledge frequently roll the egg over the side of the cliff. During several visits paid to the murre colonies, many eggs were seen thus destroyed. On one occasion an egg dropped seventy or eighty feet and struck on the back of a murre on a ledge below. The first young murre was noted August 13.

Stercorarius parasiticus. PARASITIC JAEGER.—Migrant. Several birds seen near Lowrie Island August 3.

Rissa tridactyla pollicaris. PACIFIC KITTIWAKE.— Common before June 10 and after August 10. Immature birds in the majority.

Larus glaucescens. GLAUCCOUS-WINGED GULL.— Estimated numbers. Nesting birds, 3000 pairs; immatures, 10,000 (this does not count young raised this year). This species was nesting scatteringly along nearly the whole coast of the main island and there were substantial colonies on Petrel Island and adjoining rocks and on Cape Horn and Sea Lion rocks. They began laying the first week in June and by the middle of the month the nesting season was at its height. On August 13 large young were the rule, although a few nests containing eggs were noted on that date. The young birds depend a great deal on protective coloration for concealment. On the approach of an intruder they lie absolutely motionless among the rocks and, so perfectly do their colors blend into the gray of the rocks, very frequently escape detection. One youngster, yet unable to fly, fell from a cliff into the water below. Here he was joined by one of his parents who guided him to a sloping rock and assisted him to land.

Larus argentatus. HERRING GULL.— Although this gull has not been previously reported from the reservation, it was found to be fairly common, especially around the rocks at the north end. The immature birds outnumbered the adults, however, at least ten to one. The only place the species was found nesting was on Cape Horn Rocks, where two nests, each containing two eggs, were noted on June 22, the birds being flushed and positively identified in both instances. A few days later these eggs had disappeared, probably having been taken by the natives. It was impossible to estimate the number of herring gulls breeding as their nests could not be differentiated with certainty from those of the last species. From the number of adults noted, the nesting birds probably number about twenty pairs. Immature birds estimated at 400. Total 440.

Diomedea nigripes. BLACK-FOOTED ALBATROSS.— One bird seen near Lowrie Island August 3. I was on a launch at the time and, heading directly toward the bird, succeeded in approaching within fifty feet before it took alarm and flew away, pursued for a short distance by two gulls.

Puffinus griseus. SOOTY SHEARWATER.— Seen occasionally throughout the summer, generally a half mile or more off shore but on one occasion between Forrester and Lowrie islands.

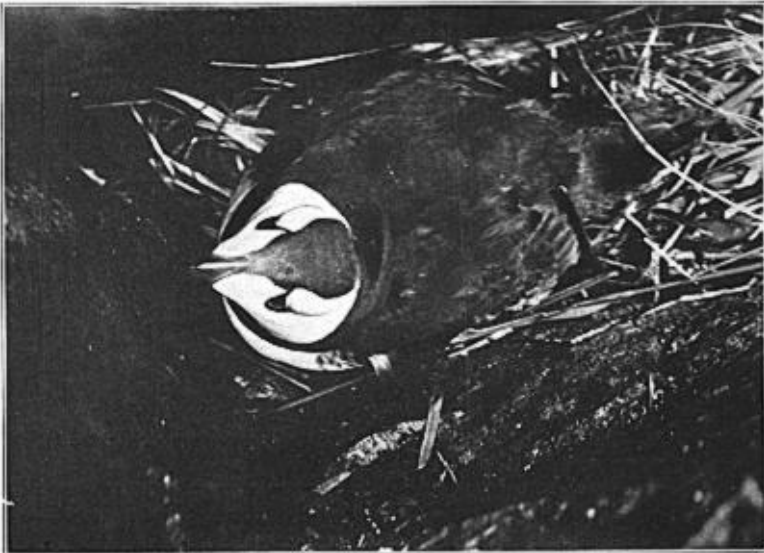
Fulmarus glacialis glupischa. PACIFIC FULMAR.— Frequently seen at a little distance from shore during late July and August. All birds noted were in dark plumage.

Oceanodroma furcata. FORKED-TAILED PETREL.— Probably 10,000 pairs nesting on Petrel Island, seemingly the only place on the reservation where petrels nest. *O. furcata* is outnumbered by the next species at least five to one. Their nesting localities are practically identical, though *furcata* seems slightly more partial to the grass covered slopes than to the more open ground among the timber. *O. furcata* also nests considerably earlier than the next, eggs being found most plentifully June 5 to 15.

The night of June 10 was spent on Petrel Island. From 10.30 P. M.



FORKED-TAILED PETREL ON NEST (EXCAVATED).



HORNED PUFFIN ON NEST.

until 2 A. M. the air swarmed with petrels of both species. There is a considerable difference in their notes while in the air, and the notes of the white-rumped bird were in a preponderance of about three to one. Many of this latter species were not in the air, however, but were in burrows and in crevices in the rocks in pairs, this being the height of their courting season. Their cooing love notes could be heard emanating from the ground during the entire night.

Oceanodroma leucorhoa kædingi. KÆDING'S PETREL.—The white-rumped petrel of Forrester Island is exactly the same as the bird that nests on St. Lazaria Island, Sitka Bay. In previous articles on the birds of that reservation (Bird-Lore, XIV, 1912, pp. 419-426; Condor, XVI, 1914, pp. 71-91), I referred this petrel to the form *O. beali* described by Emerson (Condor, VIII, 1906, p. 54).

Through the kindness of the authorities of the United States National Museum, I secured for comparison with St. Lazaria and Forrester Island birds a series of nine adult specimens of *O. leucorhoa leucorhoa* from the north Atlantic, six specimens from the Aleutian Islands and Bering Sea and four specimens from near Midway Island, Ter. Hawaii. Also through the courtesy of the Oregon State Game Commission, I obtained twelve breeding specimens of *O. leucorhoa kædingi* from Three Arch Rocks, off the Oregon coast. The following conclusions were arrived at by a careful study of the above mentioned material in comparison with series from St. Lazaria Island and Forrester Island.

Average measurements.	Wing.	Tail
Nine specimens, north Atlantic.....	6.24	3.45
Six specimens, Aleutians & Bering Sea.....	6.22	3.14
Twenty specimens, Sitka Bay.....	6.05	3.04
Twenty specimens, Forrester Island.....	6.03	3.05
Twelve specimens, Three Arch Rocks.....	5.98	3.01

From the above measurements it will be seen that the southeastern Alaska birds are much nearer *kædingi* than *leucorhoa*. The birds from Bering Sea and the Aleutian Islands are nearer *leucorhoa* but with a tendency toward *kædingi*. There are exceptional specimens from both St. Lazaria and Forrester Islands that measure nearly as large as the average of *leucorhoa*. For these two latter reasons it would seem that *kædingi* must be regarded as only subspecifically distinct from *leucorhoa*; therefore I have used the trinomial. The measurement of the forking of the tail which has been extensively used by some writers is very variable. The two races *O. beali* from Sitka Bay, and *O. beldingi* from Netarts Bay, Oregon, described by Emerson (l. c., p. 54) seem to be founded on characters too minute to be worthy of recognition. The birds from Sitka and Forrester Island possibly average slightly lighter on the back and darker on the under parts than specimens from the Oregon coast but in several specimens at hand these differences cannot be detected.

I estimated the number of these birds nesting on Petrel Island at 50,000 pairs. Their burrows were abundant both on the grassy hillsides and on top of the island among the timber. They began laying about June 20 and the nesting season was at its height June 29.

Phalacrocorax pelagicus pelagicus. PELAGIC CORMORANT.—About one hundred pairs of these birds nested on the reservation during the past season and there were probably as many more immature birds that did not nest. The principal nesting colony, consisting of about fifty pairs, was at the northeast end of the main island. Occasional nests were also noted at other points on the main island, on Petrel Island and on Cape Horn and Sea Lion Rocks. The birds were nest building during the entire month of June and the first eggs were noted June 26, on which date one nest contained three eggs, all other nests nearby being empty as yet. A week later nearly all the nests contained eggs. The first young were seen July 22.

At least two thirds of the eggs and young of the cormorants were destroyed by the crows, which were always most abundant in localities where the cormorants were nesting.

Nettion carolinense. GREEN-WINGED TEAL.—A bird of this species shot near camp August 13 and another seen the same day.

Histrionicus histrionicus. HARLEQUIN DUCK.—Occasional throughout the summer. Pair of adults in breeding plumage seen at Lowrie Island June 14. A search for a nest was unsuccessful.

Ardea herodias fannini. NORTHWEST COAST HERON.—One seen at north end of island July 28. Rather common on Dall and Prince of Wales Islands.

Lobipes lobatus. NORTHERN PHALAROPE.—Abundant on the ocean during late July and August.

Ereunetes mauri. WESTERN SANDPIPER.—Single bird seen at north end of island July 15. Common at south end of Dall Island during late August.

Numenius hudsonicus. HUDSONIAN CURLEW.—One seen at north-east end August 13.

Ægialitis semipalmata. SEMIPALMATED PLOVER.—Single bird appeared on the beach near camp the morning of July 31 and remained most of the day.

Hæmatopus bachmani. BLACK OYSTERCATCHER.—About fifty pairs nesting on reservation. Nest containing three eggs noted June 29. Three young about two days old seen the same day.

Summary of breeding water birds.

Lunda cirrhata. Tufted Puffin.....	70,000
Fratercula corniculata. Horned Puffin.....	2,200
Cerorhinca monocerata. Rhinoceros Auklet.....	40,000
Ptychorhamphus aleuticus. Cassin Auklet.....	4,000
Synthliboramphus aleuticus. Ancient Murrelet.....	40,000

<i>Cephus columba</i> . Pigeon Guillemot.....	600
<i>Uria troille californica</i> . California Murre.....	40,000
<i>Larus glaucescens</i> . Glaucous-winged Gull.....	16,000
<i>Larus argentatus</i> . Herring Gull.....	440
<i>Oceanodroma furcata</i> . Forked-tailed Petrel.....	20,000
<i>Oceanodroma leucorhoa kædingi</i> . Kæding Petrel.....	100,000
<i>Phalacrocorax pelagicus pelagicus</i> . Pelagic Cormorant.....	300
<i>Hæmatopus bachmani</i> . Black Oystercatcher.....	100
Total.....	333,640

LAND BIRDS.

***Haliæetus leucocephalus alascanus*.** NORTHERN BALD EAGLE.— Estimated numbers. Nesting birds, thirty pairs. Young in nests, sixty. Immatures of past two years, eighty. Total, 200. At the time of my arrival on the island, May 23, the young were already hatched. They had apparently not yet left the nests August 15. The eagles on Forrester Island seem to subsist nearly altogether on fish, though on a few occasions they were seen in pursuit of sea birds.

***Falco peregrinus anatum*.** DUCK HAWK.— Half dozen pairs nesting. One nest examined June 13 contained two young about two weeks old. Most of the young were flying by July 20 and hunting for themselves by the 25th. This hawk appears to feed entirely on other birds, puffins, auklets and murrelets being its chief prey.

***Cryptoglaux acadica*.** SAW-WHET OWL.— An adult female was taken June 5 as she left a cavity in a dead spruce stub. On examining the cavity, apparently an old woodpecker's nest and about eight feet from the ground, it was found to contain four eggs on the point of hatching.

The species was common at the south end of Dall Island August 25-27.

***Bubo virginianus saturatus*.** DUSKY HORNED OWL.— One of the fishermen reported seeing a horned owl in a thicket at the northeast end of the island July 10. On visiting this locality the following day the bird was not seen, but a feather was found that undoubtedly came from a bird of this species.

***Ceryle alcyon caurina*.** WESTERN KINGFISHER.— First noted August 3, when a bird flew past camp. Single bird seen August 4 and again August 8. Probably a straggler from Dall Island, where it is common.

***Dryobates villosus sitkensis*.** SITKA HAIRY WOODPECKER.— I am rather puzzled as to the exact status of this bird on the island. It was rather common in the woods until the second week in June and after August 1. Between these dates it was very rarely seen or heard. It may have retired to more dense and out of the way sections to nest but no proof of this was obtained. Cavities, apparently old nesting sites of some woodpecker, were noted occasionally but no fresh ones were found. The bird was extremely wild and no specimens were obtained but from geographical reasons it is probable that it is referable to the above form.

Sphyrapicus varius ruber. RED-BREASTED SAPSUCKER.— A single bird seen near camp May 26. For reasons pointed out by Swarth (Univ. Cal. Pub. Zool., 10, 1912, pp. 35-38) I have used the above name rather than *S. ruber notkensis* of the A. O. U. Check-List.

Empidonax difficilis difficilis. WESTERN FLYCATCHER.— Rather common in the woods all over the reservation and undoubtedly breeding, though no nests were found.

Corvus corax principalis. NORTHERN RAVEN.— Common in the timber on all parts of the reservation. I was unable to locate the nest of this bird but it undoubtedly breeds, probably in the dense timber. Fully fledged young appeared with their parents early in July.

Although this bird in outward appearance is very similar to the more southern form, *C. c. sinuatus*, its notes, actions and, apparently, its nesting habits are so entirely different that it is difficult for me to regard the two forms as only subspecifically distinct.

Corvus caurinus. NORTHWESTERN CROW.— Very plentiful, especially in the vicinity of the sea bird rookeries. Two or three nests examined were placed in spruce thickets near the beach. The young left the nests about the middle of July and joined their parents in their egg raids.

This was the one bird on the reservation in which it seemed impossible to see a single redeeming quality. It is a pest and a robber of the worst type. Although possibly doing no more damage, bird for bird, than does the duck hawk, it is much more abundant. It also lacks the speed and fighting qualities of the latter which, however misplaced, one cannot help but admire.

Loxia curvirostra minor. AMERICAN CROSSBILL.— Occasionally seen in small flocks during the early summer, becoming more plentiful about July 20. Whether or not this species breeds on the reservation, I am unable to say. No nests were found and the birds seen were always in small companies, never in pairs.

Spinus pinus. PINE FINCH.— Rare during the early summer, at which season it was noted only on Petrel and Lowrie islands. About July 9 it began to appear in the vicinity of the camp and after July 20 was abundant.

Junco oreganus oreganus. OREGON JUNCO.— During the early summer evidently confined to the scrub timber and open meadows on top of the island. First appeared in the vicinity of camp July 9 during stormy weather, at which time adults and full grown young appeared together. After this date it was common.

Melospiza melodia rufina. SOOTY SONG SPARROW.— Common in grassy locations open to the sunshine, not occurring in the dense woods or more shady portions of the island. Most plentiful on Petrel Island but occurring in smaller numbers in favorable localities on the main island, Lowrie Island and Cape Horn Rocks. The nest is difficult to locate, being placed on the ground and carefully concealed among the grass. It is built entirely of grass, coarse outside and fine inside. One found June 13 contained four newly hatched young, and another found July 22 contained an addled egg and three young just leaving the nest.

***Passerella iliaca townsendi*.** TOWNSEND'S FOX SPARROW.—Probably the most abundant land bird on the reservation, occurring in wooded localities everywhere. Seemingly at least two broods are raised in a season. The location of the nests noted varied greatly, some being ten or twelve feet up in trees, some in brush thickets and on fallen logs and others on the ground. A brood of young left a nest near camp May 24 and fresh eggs were found as late as June 22.

***Vermivora celata lutescens*.** LUTESCENT WARBLER.—Common in brush thickets and on grassy slopes in many different localities. Was evidently breeding during the month of June but no nests were found. In late July the adults appeared accompanied by the young and from that time on the species was very abundant in the young spruce timber.

***Nannus hiemalis pacificus*.** WESTERN WINTER WREN.—Common throughout the wooded sections. Full grown young appeared by June 18.

***Certhia familiaris occidentalis*.** CALIFORNIA CREEPER.—Rare. Seen occasionally in the woods throughout the summer.

***Penthestes rufescens rufescens*.** CHESTNUT-BACKED CHICKADEE.—Fairly common during the first part of the summer. Abundant after July 10.

***Regulus satrapa olivaceus*.** WESTERN GOLDEN-CROWNED KINGLET.—Common. During early summer kept mostly to the treetops, but by the latter part of July was plentiful everywhere.

***Hylocichla ustulata ustulata*.** RUSSET-BACKED THRUSH.—Abundant in the timber in all parts of the reservation. From June 14 to July 2 several nests containing eggs and young were found. The locations of these varied greatly, some being low down in salmon-berry thickets, some in roots of fallen trees and others in crevices in stumps. In nearly all cases the nests were beautifully covered with green moss. Some young birds were flying by July 10 and shortly after that date they were plentiful.

***Ixoreus naevius naevius*.** VARIED THRUSH.—Much less common than the last species but fairly well distributed throughout the timber. Fully fledged young appeared the last week in June.