THE IPSWICH SPARROW ON THE NORTHEASTERN SEABOARD — PART II

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With an insular nesting habitat of limited extent such as the Ipswich Sparrow has on Sable Island considerable interest and speculation is aroused as to the prospective future of its flora and fauna in warring against wind and waves. Furthermore wide correspondence to collect information for Part 1 of this article (1955, Kingbird IV (4):91-6) many individuals showed an interest in Sable Island as to location, size and general characteristics which are described here. Only brief mention will be made of its history, as good accounts were written by Jonathan Dwight, Jr. (1895), and Harold St. John (1921) and there is a good bibliography of Sable Island's past in the latter. Bibliography and summary of Part 1 will also be included in Part 2.

Geographical Features

Situated at intervals on the Continental Shelf, east-northeast of Cape Cod, Massachusetts, are a series of shoals and banks of considerable size. Progressing northeastward from the cape they are Cultivator and Georges Shoals and Brown's, LeHave, Emerald and Sable Island Banks. Shallowest of these is a long, narrow submerged bar on Georges Shoal. For several miles it is only two and one-quarter to three fathoms below the surface. A similar, slightly deeper, submerged bar with a whistle bouy exists on Cultivator Shoal. Emerald and LeHave Banks, quite in contrast to the shoals, have soundings averaging about 45 and 48 fathoms respectively. Sable Island Bank, the shallowest, averages about 20.5 fathoms.

On the eastern half of Sable Island Bank lies unique Sable Island, "Graveyard of the Atlantic," the only land between Cape Cod and Newfoundland. Between the major banks occur depths of over 100 fathoms. Some 30 miles to the south-southeast of Sable Island the shelp drops away into the deep Atlantic, with a sounding of 1,303 fathoms! These measurements were taken from map 0949, Cap Cod to Cape Breton including Sable Island, Hydrographic Office, Washington, D. C., December, 1944.)

This gives some conception of the irregularities of the ocean floor on the Continental Shelf and of the difficulties confronting a shifting, sandy island moving eastward in the storm-tossed North Atlantic. Dwight (1895) states that Sable Island is possibly the remains of the sand continent which was of remote glacial origin, or was heaped up by ocean currents. At any rate, it is gradually shrinking in size as well as receding with the subsidence of the Continental Shelf. Its predicted fate is that in time it will disappear—the last of many tracts believed to have occurred in this region. Submergence of the others have isolated the Ipswich Sparrow to this, its present insular and only nesting grounds.

To this island, simetimes fog-bound for weeks at a time, Ipswich Sparrows must travel from the mainland each spring, although an estimated one-fifth winter on the island. Residents there say returning numbers increase over the wintering population in late April and May.

Physical Features

Sable Island (sable means sand in French) is about 24.5 miles long with

a maximum width of about one mile. It is gradually washing away on the west end and building up more slowly on the east. Its east end is about 100 miles off Nova Scotia, east-southeast from Halifax. From shipboard it appears as a long, sandy cliff facing the ocean and tapering down on the ends. Its western tip is low, flat sand and eastward for about two miles supports a few windrows or sand dunes, with shaggy crests of beach grass (*Ammophila*). This broadens a mile further east into an attractive, peaty interior, protected from the ocean and containing five or six fresh water ponds, well vegetated around the borders. Near this area, about four miles from the west end, on higher, grassy slopes are the west lighthouse, main station and radio station. A mile further east is the weather station. For some nine miles this portion of the island is narrowed by Wallace Lake. About 100 years ago it had an inlet from the ocean, but shortly afterward became completely rimmed with an outer beach as it is today. About 1913 Wallace Lake was divided by a broad, sandy flat. East of Wallace Lake the substantial "backbone" of the island extends about six miles to the east lighthouse. It is in this stretch that Sable Island reaches its maximum width, and the well vegetated tracts are known as the "old land." It is here also that the island attains its maximum height of about 80 feet. From the east light-house the island tapers gradually into a curved projection of bare sand jutting out into the ocean for four or five miles like a long serpentine tail.

With permission of the Canadian Board of Transport, "to study the nesting ground of the Ipswich Sparrow, "I sailed to this island, July 29, 1948, on the supply ship "Lady Laurier" out of Halifax, N. S., returning August 2.

Bird And Mammal Associates

Associates of the Ipswich Sparrow found on the 1948 trip were varied and abundant. Upon arrival I was surprised to hear the harsh chirping of House Sparrows around the barn of the Main Station, although literature stated as late as 1946 that the Ipswich Sparrow was the only nesting land bird on the island. I found out later from old residents that the House Sparrow was there at least since 1930. Other associates were large colonies of Arctic Terns; Semipalmated Plovers found nesting around the numerous ponds; a Red-breasted Merganser with young seen on a lilly pond; Least Sandpipers which hovered and called plaintively above the well-vegetated dune slopes; their spindly young hiding below in the grass; small flocks of migrant sandpipers—Dowitchers, Sanderlings and one White-rumped—which pattered around the muddy pond edges. A Barn Swallow was seen on a telephone wire at the weather station. It reportedly had been around since June, but was not known to breed. While riding along the shores of Wallace Lake I watched a night heron fly up in the fog past the high sand cliffs. On the beach I found a dead Leach's Petrel. A mile off-shore a Parasitic Jaeger was seen as Arctic Terns chased it from feeding grounds in the lee of the anchored supply ship. Herring and Great Black-backed Gulls nested on the stretch of beach which divides Wallace Lake into two parts. Wild horses have been present for several centuries, with an estimated population in 1948 of 200 to 300. Another important mammal is the Gray or Oceans Seal, occasionally seen swimming off-shore or disporting themselves in groups on some isolated beach.

Weather

Sable Island, like Newfoundland, is noted for its fogs which are common

in June and July and throughout parts of earlier spring. On my 1948 visit it was foggy two days out of five. Summers are cool and winters are moderate compared to the Canadian interior. In late winter, and especially in March, windstorms carry large amounts of flying sand and almost prohibit traveling abroad in the daytime, but towards evening the wind usually subsides. A member of the lifesaving crew remarked that after such a day, a walk on the beach would, at times, reveal four or five Ipswich Sparrows feeding along the tidal drift.

Nesting

The only known nesting range of the Ipswich Sparrow extends down the interior of Sable Island from about a mile west of the radio station to the east lighthouse, a distance of about 17 miles.

Dwight examined nine or ten nests as he traveled into the heavily vegetated juniper tracts (*Juniperus horizontalis*) on the eastern half, as well as into the turfy areas heavily covered with the low shrubbery of blueberry (*Vaccinium pennsylvanicum*), crowberry (*Empetrum nigrum*) and bayberry (*Myrica*) of the western half of treeless Sable Island. He remarks that the nests were very well concealed, especially deeply-hidden ones in the juniper. He writes: "No matter where situated, each nest is placed in a cup-shaped hollow about four inches in diameter and fully two inches in depth, scratched in the sand by the birds." Nests are compactly woven with two distinct parts, an outer shell of coarse material disposed on the rim and an inner cup finely woven. The excavation is filled in at the sides and around the margin with coarser material. Of six nests he gives the average inside diameter as 58.33 millimeters, outside diameter 114.5, the inside depth as 45.5, outside depth 72.

W. E. Saunders (1902 a, b) arrived on Sable Island earlier in spring than Dwight and found nests readily by locating the excavation which showed black soil as the nest was started. He discovered about 30 sites. Nests were described as larger than those of the Savannah Sparrow. In 1948 I found the Ipswich Sparrows still in a state of breeding agitation around the terraced, horse-trodden paths and well vegetated dune slopes near the half-dozen small ponds about three or four miles from the west end. The terrain here was attractively dotted with pink wild roses facing upward barely two or three inches out of the sand. Flowering meadow rue (*Thalictrum*) stood the tallest of all vegetation thereabouts (some two feet) and the attractive little yellow-flowered silver-weed (*Poientilla anseria*) was blossoming in damp places. Stunted blueberry and bayberry barely a foot high border the higher terraces and crowberry grows profusely in strung-out tracts. The area was favorable for nesting and it was still frequented on August 1 by agitated birds. At the abandoned Lifesaving Station No. 3, east of Wallace Lake and near the east lighthouse, Ipswich Sparrow juvenile groups, apparently past parental attention, were observed, but nesting activity was undoubtedly through for the year except on the west end.

Eggs

Dwight writes that the eggs "average a little larger than the eggs of a Savannah from which they are otherwise indistinguishable, and they resemble the eggs of several other sparrows." He described the ground color as bluish or grayish white often so washed with brown as to appear olive

brown, splashed or sprinkled with different shades of amber and van dyke brown as well as with purplish and grayish brown markings. He further decribes the eggs as usually ovate, but in one case long and slender. Average size: length 21.6 mm., width 15.5 mm. He states that according to the Sable Island residents four eggs were the usual clutch, but sometimes five are laid. Saunders (1920a) says that four out of seven clutches contained five eggs. The egg-laying season fluctuates, sometimes clutches are well advanced in late May as described by Saunders (1902a,b), whereas Dwight found his first nest containing three eggs on June 2. Neither found any young.

Young

Juveniles were distinguishable from the gray adults. Brown as the Savannah Sparrow above, they were pale yellow buff below, paler on the chin and abdomen. These trim juveniles in late July, early August, somewhat suggested the buffy brightness on the sides of the head of the Sharp-tailed Sparrow (*Ammospiza caudacuta caudacuta*). Evidence of two broods is shown by the discovery of a fledgling on July 31 near the weather station on the 1948 visit. This buffy juvenile was barely able to flutter along the path, being out of the nest perhaps a day or two. Presuming that the Ipswich Sparrow has a similar incubating and fledging period as the Savannah Sparrow, and on the basis of a 14 day fledging period and two days out of the nest, this would make the 1948 Sable Island fledgling's hatching date about July 15 and the egg laid early in the month.

Other evidence of second broods into very early August was the observance of an adult carrying food, preoccupied birds about the ponds and juveniles seen abroad, still being cared for and calling to be fed.

Molts

The young of the year were brown and trimmer in late July than the molting and raggedy adults. These young would soon go into their post-juvenile molt which would make them almost indistinguishable from the adults by the time they appeared on the mainland. Dwight (1900) states that the postnuptial molt, which is complete, is acquired in August, an assumption derived from the examination of the birds sent to him. Feather growth may actually come in August, but numerous individuals in late July, 1948, were raggedy and tailess. Among these, some had considerable diminishment of feathers about the face. In others the superciliary line was mostly gray with a few very small patches of yellow still showing. One or two individuals were practically bald on the crown; these suggested pugnacious males which may have fought during the courtship period as described by Dwight (1895).

Voice

In 1948 I heard no singing other than on the west end where nesting was in evidence. On July 31 singing was heard in mid-afternoon and continued irregularly until after dark. Although that day broke clear and sunshine continued all morning, fog swept in covering landmarks at 2:30 p.m. and remained into the night. As dusk came on singing increased until four or five could be heard from various directions. The muffled hoof beats of wild horses as under darkness they approached the dwellings, the continual distant

roar of heavy surf along the south shore, and the rythmatic musical and hyla-like piping of Arctic Terns in a nearby colony, all served as a subdued chorus which made singing Ipswich Sparrows the principal performers and this the only place on earth where such a combination could be heard.

Singing was resumed in mid morning, August 1, a day of bright sunshine. One individual usually started and then the chorus would be in progress; later it would dwindle down and stop. Birds sang from weed stalks, poles, or the stays of the radio tower. The song is very similar to that of the Savannah Sparrow, but is slightly more musical and lower. Richard H. Pough (1946) writes that the song ends "with a sound like the Common Tern's tee-aar." This is the ending which Dwight says usually swings out with a vim, and it was noticeable in 1948 in some, but not all, of the singing July and August birds. Besides the musical "tsip" heard in winter, a thicker "tsick" or "tsuck" is used repeatedly by adults on the nesting grounds and also given by the young when calling for food after leaving the nest. I have heard this note used on two occasions away from Sable Island by November birds, although the musical "tsip"is the only note mentioned by writers as used on the mainland. Inquiry reveals only three records of off-island singing: two from Long Island and one from Massachusetts. All three were heard in April.

Enemies

On Sable Island there have been many recognized enemies of the Ipswich Sparrow. Like all insular species this bird is subjected to the introductions of man, but because of its good flight ability and its migration off the island during the severe wintry period it has survived. Historians record the introduction of many pests. Dwight (1895) reveiws these, stating that around 1880 cats were turned loose to exterminate rabbits which were depleting the island's vegetation. Soon afterward the cats succumbed to winter hardships. In 1889 seven cats were brought from Halifax and 30 more in 1890. In 1891, with surviving cats still eating rabbits, seven red foxes were brought over and in a single season made an end of both. Dwight accused foxes of being very destructive, as well as killing terns on their nests and sucking duck eggs. He remarks: "That the Ipswich Sparrow has been on the bill-of-fare of all these rats and cats and foxes . . . we can hardly doubt—will it be spared their fate?" Saunders (1902a) reported finding the intervening time from 1894 auspicious for the Ipswich Sparrow and considered them much more abundant than Dwight represented them in his visit. He reported the extermination of foxes, presumably, with the cats, largely responsible for the increase of the sparrows.

Apparently there were few enemies of the Ipswich Sparrow on Sable Island in 1948, as evinced by their abundance. Inquiry revealed that there were only two or three cats—household pets—and no foxes at that time. Some unidentified predator, however, was on the Arctic Tern's nesting ground near the west end of the island. Six adults and about a dozen full-grown young were found dead on the sand with several bitten-off wings. Rats had come ashore from a recent shipwreck. These were being reduced in numbers according to Captain Solawan (Superintendent of the island) and there seemed to be no other natural enemies affecting the Ipswich Sparrows' productivity. The elements are perhaps as great an enemy as such pest invasions. Saunders (1902a) relates that during winter weather Ipswich Sparrows were

sometimes picked up exhausted and chilled and were then sheltered and fed until a better season arrived. After the winter of 1947-48, described as severe, Arthur MacDonald, a crewman at the main station on Sable Island, told me he found here and there on upper edges of abrupt dunes fully a dozen dead Ipswich Sparrows. These were in several groups lying in and about the matted grass roots torn away by wind erosion and apparently had died of winter hardships.

Sable Island is composed of white quartz sand. In 1948 I saw a fair abundance of spiders and crawling beetles, but winged insects were rather scarce. On this sandy island weather influences its sterility. History discloses that due to an unusually severe series of sand storms in 1825 many of the hundreds of wild horses died of starvation. Such conditions naturally influence the Ipswich Sparrow population.

Summer Behavior

Ipswich Sparrows were not found at any time on the beach during the 1948 visit. One followed along the crest of the dunes as I walked along the ocean edge; it uttered the musical "tsip", the recognized winter note. In midsummer they are very tame and on July 31, 12 to 15, in response to my squeaking, flew up out of the grass and alighted on poles or on the lone telephone wire stretching down the length of the island. On the nesting ground curious birds keep 25 to 30 feet distant; if one moves in their direction they increase this to about 50 feet. Off the nesting ground and on telephone lines an approach can be made to about 20 feet.

In calm summer, feeding birds need not fear being whisked away by a gale from the crest of a dune. They show a complete abandonment of the winter crouch or low, huddled creep employed on the mainland. Upright, they hop about on the sand, only occasionally resorting to running. Hopping on our eastern seaboard of the mainland declines rapidly as autumn advances. With winter comes running and even walking. Writers allude to this in comparing the Savannah Sparrow, which hops and runs, to the Ipswich Sparrow's running and walking. An example of summer behavior comes from my notes, as follows: "One bird flew out on the clean white sand, hopped several feet, picked at a seeding silver-weed blossom, eating the center, and again hopped through a patch of sedges; then flew away. A moment later it flew out again, hopped 20 feet, once breaking into a run of two feet and then resorted again to hopping." On the east end of Sable Island a bird without a tail hopped for several minutes on the sand, flapping its wings together rapidly and frequently. It was not seen running to any extent, the hopping steps averaging about five inches.

Status

A perusal of "Enemies" tends to show that there are years of population variations in the Ipswich Sparrow on Sable Island. Introduction of predators, invasions of rats from shipwrecks, and sterility from series of wind storms, indicate that these cycles of scarcity and abundance are due to other causes than the gradual shrinking of Sable Island.

Concerning the latter, if Sable Island is shrinking, so are our barrier beaches. Great stretches from Coney Island through the Rockaways and Long Beach and intermittently to Shinnecock and the Hamptons on Long

Island's south shore are built upon, as are areas down the coast from Cape Cod, on both sides of Long Island Sound, in New Jersey, and to a lesser degree southward.

Travels abroad on Sable Island in 1948 and careful examination of the wide correspondence from numerous observers on the mainland since are encouraging, however, and indicate that there are sufficient areas of island and barrier beaches remaining to provide for this big gray sparrow for many years to come.

It is the concensus of opinion down the coast that the Ipswich Sparrow is maintaining its usual numbers. By far the greatest number ever listed on any National Audubon Society Christmas Bird Count was in 1949 with 38 recorded. Also in 1949-50 the writer observed over 30 during the winter with five seen on two occasions.

As to Sable Island's prospects, one thing appears certain and that is its disappearance in the somewhat distant future. St. John (1921) after discussing its physical history states: "In any case the island is . . . wasting away. Three hundred years from now Sable Island, in all probability, will have vanished and then there will be no lighthouse to warn the mariner . . . The study of its fauna and flora will then be ancient history, only to be pursued by consulting the few specimens in the large museums and herbaria." At any rate we can still agree with Dwight who wrote 60 years ago, that this island's fate is for future generations to ponder and its conclusion: "not likely in our day or generation."

Summary

Part 1 gives a resume of the early history of the Ipswich Sparrow from the time it was collected at Ipswich, Mass., and its subsequent discovery on Sable Island until its present acceptance as a regularly wintering species down the Atlantic seaboard. Fall and Winter studies, through a wire correspondence, are discussed, disclosing that this bird occurs casually in winter in Nova Scotia, uncommonly in Maine and regularly from Long Island southward. Its southern penetration (with several reports) brings it to Cumberland Island, extreme southern Georgia. It is found only in spring in New Brunswick, Canada, although present both in spring and fall in Nova Scotia. Winter data from Nova Scotia, Maine, New Jersey and the Carolinas are given, along with actions and behavior in mild weather as well as during intervals of flood, snow and ice storm. Migration occurs off-shore as on Block Island and a three way route traverses the length of Long Island: along the south shore and on both sides of Long Island Sound. It was revealed that Spring dates may range as late as April 14 for the southernmost range (Cumberland Island, Ga.), April 8 for South Carolina, April 26 for Long Island and May 7 for Kent Island, New Brunswick. Evidence points to a rapid northern movement in Spring, as compared to a more leisurely fall flight with the greatest number of birds in November. Goodly numbers have been recorded in recent years, especially in 1949 and 1950.

In Part 2 geographical locations of shoals and banks on the Continental Shelf showing irregularities on the ocean floor are described, as are Sable Island's physical features down its 24.5 mile length. Only Spring behavior of the Ipswich Sparrow and nesting studies at that season have come from Sable Island in the past. The writer's 1948 midsummer trip allows treatment

of the latter stages of nesting behavior, descriptions of molding adults and juvenile birds, the singing of late-nesting birds as well as Summer behavior. Descriptions of nest and nest discovery by Dwight and Saunders are given as well as the color and dimensions of eggs. The present status of Sable Island and the Ipswich Sparrow is discussed.

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