

THE TERNS OF MUSKEGET AND PENIKESE ISLANDS,
MASSACHUSETTS.

BY GEORGE H. MACKAY.¹

THE change in conditions taking place from time to time in the Muskeget group of islands, where these birds breed, as also in the birds themselves, serves to retain one's interest and render continued observations desirable, that accurate information may be gathered.

Since last year nearly one third of Gravelly Island has been washed away. Adams Island has also been much reduced in area. At the South Point of Muskeget Island proper, the ocean has again broken through at the same place where it did four and five years ago, making South Point Island again an island.

It was with much concern, after visiting Muskeget waters last season (1897), that I looked forward to the season of 1898, and what it might have in store, for it seemed as if additional effort should be made, not only to keep all the Terns possible, but to induce those which had departed to again return. The town of Nantucket having voted one hundred dollars to provide an especial police officer (under an act of the Massachusetts Legislature of 1895) to care for these Terns, I was instrumental in having Mr. John Sandsbury appointed to the position. He remained on Muskeget from May 1 to August 15, 1898. His first visit there was from the 9th to the 17th of April, and during this period he did not see any Least Terns (*Sterna antillarum*), although this is the time they are generally about. On May 3, 1898, the wind was northeast, cold and raw; May 4, wind northeast, until noon, calm in the P. M.; May 5, wind southwest, moderate and cloudy. May 6, wind north to northeast, cloudy in the A. M., but changed to southwest in the P. M. At seven o'clock A. M. the first arrival of Terns this season was noted, — a few birds, so high up in the air as to render the variety indeterminate. May 7, wind northeast. Mr. Sandsbury saw about

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fifty Terns, and for the first time he heard, in the afternoon Laughing Gulls (*Larus atricilla*), although he saw none. On May 9 the Wilson Terns were very numerous around Gravelly Island shoals; a very few Roseate Terns (*Sterna dougalli*) were noticed among them. By May 18 new warning notices had been prepared and posted on the various islands.

On this date the Terns were observed carrying straws, etc., for their nests. On May 25 the first eggs of the season were discovered,—five nests containing one egg each. On May 27 Mr. Sandsbury walked across Muskeget Island proper and back again in nearly a straight line, and noted eight nests containing one egg each, and two nests containing two eggs each. By June 8 the Terns were abundant. Mr. S. again walked across Muskeget Island proper, as before, and noted thirty-one nests containing one egg each; sixty-six nests with two eggs each, and ten nests with three eggs each. On June 21 he walked across the centre of Muskeget proper and noted nine nests with one egg each, sixty-two nests with two eggs each, nineteen nests with three eggs each, and thirteen nests with four eggs each.

On June 24, Mr. S. searched for Laughing Gulls' nests and discovered eight containing two eggs each, and three nests containing three eggs each, these being the first noted this season (1898). On this date he observed three Tern chicks, two of which were just out of the shell and still wet, the other was in the down. It was singular to find that the one colony of Laughing Gulls, breeding on Muskeget proper, should have selected as a breeding place this season the abandoned site of the old life-saving station, which is less than half a mile from the present one. Here I found the old birds using all the old posts as lookout stations, and the top of the flag-pole, the favorite place of all, was constantly in demand, and frequently it was struggled for by two or more birds. Near by were their nests, eggs and chicks. In consequence of the care exercised the birds have enjoyed an unmolested season and most favorable breeding conditions, the results of which have surpassed my highest expectations.

The number of eggs observed, by actual count after a most exhaustive examination of all the breeding islands in Muskeget

waters, shows that these birds are at the highest point of abundance in their history. This satisfactory condition does not include the Roseate Terns; as far as these waters are concerned, their numbers, I regret to state, are still below the splendid aggregate of 1896. I think that some of them found a home at Penikese Island this season, while others may return next year. After completing this investigation I was unable to use my eyes but little for three weeks, the result of the radiated heat and glare from the beaches.

I passed July 2, 3, 4 and 5, 1898, on Muskeget and adjacent islands, the results of which examination are here submitted :

GRAVELLY ISLAND, JULY 2, 1898.

Terns.

<i>Nests.</i>	<i>Eggs.</i>		
1 egg each,	66	66	Live chicks, 23.
2 eggs "	276	552	Dead chicks, 5.
3 " "	65	195	8 nests of one egg and 1 chick.
4 " "	4	16	1 nest of 2 eggs and 1 chick.
5 " "	1	5	2 nests of 1 egg and 1 chick dead.
Totals,	412	834	

Laughing Gulls.

1 nest with 1 egg; 1 nest with 3 eggs.

Three quarters of the Terns estimated to be domiciled here are Wilson Terns (*Sterna hirundo*), the other quarter being Roseate Terns (*S. dougalli*). There are but four or five pairs of Laughing Gulls breeding here.

I observed on this island the present season the greatest concentration of Terns' eggs I have ever seen. The location was a slightly elevated, isolated knoll of sand on the beach, covered with beach grass (*Ammophila arundinacea*). To ascertain its size I paced it, and found it to be about 24 x 18 feet. I then subdivided it and called up Mr. Sandsbury to aid me in the count. In this restricted area were eighty Terns' eggs, as follows: eleven nests with one egg each; twenty-six nests with two eggs each; four nests with three eggs each. There were four nests containing one egg and one chick each, and one nest with one egg and two chicks, and two chicks away from their nest.

ADAMS ISLAND, JULY 2, 1898.

Terns.

<i>Nests.</i>	<i>Eggs.</i>		
1 egg each,	90	90	Live chicks, 15.
2 eggs "	168	336	Dead " 1.
3 " "	31	93	4 nests of 1 egg and 1 chick each.
4 " "	6	24	
5 " "	none	none	
Totals,	<u>295</u>	<u>543</u>	

It will be noticed that this island, which is situated near the others, now appears for the *first* time as a breeding resort. Heretofore there have been several small fishermen's huts here which have been occupied in recent years during the birds' breeding period. Different conditions, however, prevailed this year, owing to the disappearance of the shell-fish, huts and fishermen, and this island, formerly a portion of Muskeget proper (I have walked to it in former years), has again resumed its primitive condition. The birds having nothing to disturb them there the present season, took possession of the island, and I found a colony of about four hundred *S. hirundo* and *S. dougalli* breeding with the gratifying result shown above.

SOUTH POINT ISLAND, JULY 2, 1898.

Terns.

<i>Nests.</i>	<i>Eggs.</i>		
1 egg each,	226	226	Live chicks, 159.
2 eggs "	519	1038	Dead " 21.
3 " "	91	273	26 nests with 1 egg and 1 chick.
4 " "	8	32	1 nest with 2 eggs and 1 "
5 " "	<u>1</u>	<u>5</u>	
Totals,	<u>845</u>	<u>1574</u>	

Laughing Gulls.

1 egg each,	2	2	Live chicks in down away from nest, 5.
2 eggs "	6	12	1 nest with 1 egg and 2 chicks in the down.
3 " "	<u>8</u>	<u>24</u>	
Totals,	<u>16</u>	<u>38</u>	1 nest with 2 eggs and 1 chick in the down.

As will be perceived, this island continues to hold its own with the most favorable showing of any of the other breeding resorts. I again noted this season, as I have in previous years, considerable difference in the size of the Tern chicks found here. I attach no importance to this variation, it undoubtedly being due to the different dates of hatching. The Laughing Gull chicks were about all of one size.

SOUTH POINT OF MUSKEGET ISLAND, JULY 4, 1898.

Terns.

<i>Nests.</i>	<i>Eggs.</i>		
1 egg each,	111	111	Live chicks, 67
2 eggs "	161	322	Dead " 11
3 " "	24	72	11 nests with 1 egg and 1 chick
4 " "	2	8	2 " " 2 eggs and 1 "
5 " "	none	none	
Totals,	<u>298</u>	<u>513</u>	

Laughing Gulls.

<i>Nests.</i>	<i>Eggs.</i>		
1 egg each,	none	none	
2 eggs "	1	2	Also noted five empty nests.
3 " "	2	6	
Totals,	<u>3</u>	<u>8</u>	

MUSKEGET ISLAND, JULY 3, 1898.

Terns.

<i>Nests.</i>	<i>Eggs.</i>		
1 egg each,	173	173	Live chicks, 83
2 eggs "	385	770	Dead " 26
3 " "	95	285	3 nests with 1 egg and 1 chick.
4 " "	4	16	3 " " 2 eggs " 1 "
5 " "	1	5	1 nest " 3 " " 1 "
Totals,	<u>658</u>	<u>1249</u>	

Laughing Gulls.

<i>Nests.</i>	<i>Eggs.</i>		
1 egg each,	3	3	Noted a number of empty nests,
2 eggs each,	9	18	the eggs of which had probably
3 " "	7	21	been previously hatched. I saw
Totals,	<u>19</u>	<u>42</u>	but few chicks, however.

The birds were breeding this season most abundantly at the east and west ends of the island. While walking over the island on July 1, Mr. Sandsbury saw a Wilson Tern suddenly fall nearly at his feet from the air. On examining the bird, which was apparently nearly dead, he could find nothing out of the way; smoothing its feathers, he laid it on its breast on the sand, and placing an upright stick beside it, that he might find it on his return, he left it. It was not there on his return, and as no one had been in view meanwhile, he supposes the bird recovered and flew away.

Soon after my visit I learned from Mr. S., and later from others, that quite a number of Wilson Terns had been found dead on *this* island, with no apparent injury externally, their plumage being unruffled. Mr. S. estimated the number he had seen at thirty. None were observed on any of the other islands. No Roseate Terns were noted among these dead birds, although Mr. S. looked for them. They were apparently all Wilson Terns (*S. hirundo*), with the exception of two birds, which he described as having *very dark* breast feathers. It is probable that these were Arctic Terns (*S. paradisæa*), as he found them in the locality most frequented by them. It has been rather rare in my experience to find dead adult Terns lying about on any of the islands. I cannot recall over two or three in half a dozen years. I have no facts to offer in explanation. A good many young Terns just about to fly, were also found dead by Mr. S. this season, but on consulting with him later we concluded that the mortality was only normal.

I noticed fewer Arctic Terns this season than formerly, but I am not sure that their former numbers have decreased. I saw two or three on Muskeget proper, near the middle of the island, on July 3, one of which was particularly aggressive.

Of the eggs discovered this season all were normal with the exception of one clutch of two Roseate? eggs taken on July 4. The ground color of one of these was white, with the faintest tinge of green, with fine pen-point brown dots sparsely distributed over the whole egg, increasing in density, but only occasionally in size, towards the larger end of the egg; the other egg was of similar size and normally dark colored.

PENIKESE ISLAND.

In presenting my account of the Colony of Terns domiciled on Penikese Island, in Buzzards Bay, it gives me pleasure to acknowledge the aid I have received, in various ways, from the Messrs. Homer Brothers, owners of the island. Mr. Frederick A. Homer has, at my request, kindly taken some notes for me during the past season (1898) which add so materially to the interest and value of this contribution that I feel I cannot do better than to embody the greater part of his letter on this subject, as follows: "On the afternoon of May 10, with fair weather and south wind, the Terns of Penikese arrived, and in larger numbers than for years. This latter statement is confirmed by the fishermen who harbor at the island, and by the inhabitants of the neighboring island of Cuttyhunk. On the 28th of May the first eggs were seen, and from this date the eggs increased rapidly, and finally proved the largest laying in my experience. On the 23d of June hatching commenced, and on the 22d of July about one half the young could fly, and by the 7th of August, *all* the young were on the wing. The young were in great numbers, and I fully believe it was the largest and most successful hatch for years. Naturally there were a great many crippled young, caused by the sheep treading upon them in their early infancy. I should estimate the number of such crippled birds at about two hundred. During the week ending August 21, great bodies of these Terns would rise suddenly from the shores, fly out over the water about a quarter of a mile, then wheel, return, and alight, then as suddenly rise again and repeat the manœuvre. This they repeated for a few days and then left the island in squads, till, on the 21st, they had almost entirely disappeared. The weather during this period was fair and the prevailing wind southwest.

"What few Terns were left (about one hundred and fifty) seemed to be caring for the weaker birds and cripples. These finally decreased day by day till on the 11th of September not a Tern was in sight. I have observed more Roseate Terns than ever before. I also noted that the nests generally were better constructed, and were really more like a nest.

"Gull Island seemed this year to be quite a favorite place for

the Terns and large numbers made their home there. I visited this island once during the infancy of the young and the air was full of the older birds, and very savage they were, too. There were also more birds on the mainland than I have ever noticed before.

“In conclusion I will say, I think you would be abundantly satisfied with the Penikese colony of Terns, for in my estimation there has been a decidedly larger number of old birds than for years, as well as a larger number of young, and they seem to have increased in the past few years very materially.”

The old signs of last year were repaired, and repapered with new warning notices, in Portuguese and English, and all made ready before the birds commenced to lay their eggs.

There are other places in Massachusetts waters where Terns breed in small colonies, but they do not call for especial mention here. One of these is located about the eastern head of Nantucket harbor (where the ocean several years ago cut through), where they bred the past season. There is another fairly large colony domiciled within our boundaries which I have intended to visit, but have not done so. It is my intention to investigate it next summer, the results of which, if sufficiently important, will be placed before the readers of ‘The Auk.’

THE SPARROWS OF MISSISSIPPI.

BY ANDREW ALLISON.

THIS brief summary, while embracing, I think, some species not previously reported from the State of Mississippi, is perhaps not a complete synopsis of the species found there, but deals only with those that either I myself have found occurring, or which have been otherwise recently proved to occur. Some species that I have not seen in the State — viz.: the White-crowned Sparrow (*Zonotrichia leucophrys*), which occurs, though uncommonly, in the vicinity of New Orleans, and the Fox Sparrow