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## THE LAUGHING GULL ON THE COAST OF MAINE

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IN recent years many of the sea birds nesting on the islands along the coast of Maine have greatly increased in numbers, Gross (1944a, 1944b, 1945) but the Laughing Gull (*Larus atricilla*) is an exception. This bird has never been represented by large numbers but colonies comprising as many as 300 nesting pairs, as for example, Little Green Island in 1940, would seem to indicate that they had established a firm foothold. However, this bird, as far as can be ascertained, has been exterminated as a nesting species on this coast. The Laughing Gull seems to be very sensitive to environmental changes and on certain islands has been unable to withstand the invasions of the larger and more aggressive Herring and Black-backed Gulls.

The Laughing Gulls have made attempts to nest and establish themselves on at least seven Maine islands. Most of these islands are small outer rocky islands very different in character from the low-lying sandy islands and salt marshes usually selected by these gulls in the southern sections of their breeding range. The interior of the islands selected in Maine have all been well turfed and with a luxuriant growth of grass and weeds in which the nests and later the young can be well concealed. If this cover is removed, for example by grazing sheep, the island is no longer acceptable as a nesting place for these gulls.

It is not known when the Laughing Gulls first extended their range to the coast of Maine but there are nesting records extending back for a period of more than seventy-five years. In this time Matinicus Seal Island, Metinic Green Island, Western Egg Rock, Eastern Egg Rock,

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Shark Island, Pond Island and Little Green Island are known to have been used, at one time or another, as nesting places by the Laughing Gulls.

*Matinicus Seal Island.* 43° 53.4' N., 68° 44.5' W.

The Laughing Gulls bred on Matinicus Seal Island prior to 1894 but none have appeared there since that time.

*Metinic Green Island.* 43° 51.8' N., 69° 8' W.

Metinic Green Island was a breeding place of the Laughing Gull during the 19th century but none were there from 1880 to 1895. In June, 1896, according to A. H. Norton (1924), a few of the gulls made their appearance at that island. They nested there in 1902 and 1903. The birds appeared at the island in 1904 but did not nest and have not been known to have done so since that date. At the time the Laughing Gulls were on Metinic Green Island it was also the site of one of the largest tern colonies on the Maine coast. Of the thousands of terns the larger portion were Arctic but the Common Terns were also well represented. At present there are no terns but instead there is a colony of 1,500 Herring Gulls, 56 Black-backed Gulls and 1,014 pairs of Double-crested Cormorants nesting on the island.

*Western Egg Rock.* 43° 52.7' N., 69° 25' W.

*Eastern Egg Rock.* 43° 51.8' N., 69° 23' W.

*Shark Island.* 43° 50.8' N., 69° 21.5' W.

In Muscongus Bay the Laughing Gulls have nested at various times on Eastern and Western Egg Rocks, Shark Island and Pond Island. The first three islands are considered together because the birds which inhabited them were considered as belonging to one group, the members of which shifted from one island to another.

In 1885 these gulls were nesting on Western Egg Rock and Shark Island. In 1895 the Laughing Gulls which were represented by only 14 birds were all on Western Egg Rock. In 1907 there were 50 birds, W. H. Brownson (1907). In 1914 Western Egg Rock was abandoned and the gulls then occupied Eastern Egg Rock. They returned to Western Egg Rock later and through special protection increased to several hundred individuals by 1920. By 1931 the island was taken over by the Herring Gulls, and the Laughing Gulls deserted the island entirely. In 1944 there were 2,500 Herring Gulls, 130 Black-backed Gulls and 750 pairs of Double-crested Cormorants nesting on Western Egg Rock, again emphasizing the radical changes that are taking place in the sea bird inhabitants of our Maine islands. It also illustrates how a bird like the Laughing Gull has been forced out by more adaptable species.

*Marsh Island.* 43° 55.28' N., 69° 25.6' W.

This island is approximately a mile from the mainland in Muscongus Bay. It is covered with a growth of tall grasses and other plants and from this standpoint, is admirably suited for the nesting of the Laughing Gull. In 1937, members of the Audubon Nature Camp found about forty nests of the Laughing Gull, but most of the eggs were broken and the contents consumed. An investigation revealed that the island was inhabited by many rats which were responsible for the egg destruction. No attempt was made by the gulls to nest there on subsequent years following this abortive attempt at nesting.

*Little Green Island.* 43° 54.8' N., 69° 2' W.

Little Green Island is a low-lying island located well out to sea from the mouth of West Penobscot Bay. This treeless island bordered by rocky shores and sea walls has a well-turfed area which until recently was grown up with tall grass and luxuriant herbaceous plants which provided the conditions for the nesting sites required by the Laughing Gulls. The gulls nested on Little Green Island for many years and it was the last place to be inhabited by these birds.

The Indians are said to have visited this island in the early days for the eggs of the Laughing Gull, which they prized highly as food. About 1870, a fisherman built a cottage on the island and lived there several years with his family. This intrusion caused most of the birds to desert, a few bred there during the early eighties but the last nest reported in the nineteenth century was found June 15, 1884, by Charles Achorn (1884). At that time Little Green Island was also the nesting place of thousands of Terns, and many Leach's Petrels and Black Guillemots. After 1884 the island was not used by the Laughing Gulls for a period of forty-seven years. On July 5, 1931, Arthur H. Norton and Robert P. Allen (1931) found the Laughing Gull again inhabiting the old haunts. They saw a number of eggs and a family of three young, but stated the grass and weeds were so tall and dense that it was difficult to find other nests and young. Judging from the numbers of adults seen they assumed the colony was well established at that time. Members of the National Audubon Society Nature Camp visited the island in 1936 and found an estimated number of 150 pairs, 300 individuals, indicating a thriving, well-established colony. Also nesting at that time were an estimated 100 pairs of Leach's Petrels, 100 Arctic Terns, 50 Common Terns and 15 Black Guillemots.

The following year (1937) the Laughing Gulls had increased to 250 pairs and continued in these numbers until 1940, reaching a maximum that year of 300 pairs or 600 individuals. During the summer of 1940 ten sheep were pastured on the island. The following year more sheep were added, and according to Mr. Carl Bucheister, Director

of the Audubon Nature Camp, they had consumed much of the lush vegetative cover of the colony area with the result that the colony was reduced to 50 pairs of birds. This great reduction in numbers can be attributed directly to the destruction of the essential nesting cover by the sheep. I have no reports for the years 1942 and 1943, but on June 15, 1944, I made a special trip to Little Green Island with members of the U. S. Fish and Wildlife Service. We found that there were then 75 sheep which have closely grazed the entire turfed area of the island and so completely changed the environment that not a single Laughing Gull remained.

During the past four years (1941-1944) while serving in connection with the Herring Gull Control Project of the U. S. Fish and Wildlife Service, I have had the opportunity of visiting the sea bird colonies along the entire coast of Maine during each nesting season. Thus far we have not discovered a single nesting Laughing Gull and extensive inquiries of persons along the coast have revealed none since Little Green Island was deserted by these birds.

We have seen numbers of Laughing Gulls feeding along the coast, especially up the various estuaries between Muscongus and Penobscot Bays, but during the past two years the number seen did not exceed 25 birds for the entire season. Whether or not the Laughing Gull will again attempt to nest on the Maine coast only time can determine. In this connection it is of interest to note that L. L. Snyder (1940) reported that H. C. White found Laughing Gulls breeding on Bird Islands and at Harbour Rock off the Moser River, both localities in Halifax County, Nova Scotia.

While the larger gulls, the Herring and Black-back as well as the Double-crested Cormorant, are so abundant that control measures have had to be taken to reduce their numbers, the Laughing Gull, on the other hand, needs all of the protection and help we can give it in the event it again attempts to nest along our coast in the future.

It may become necessary to control the Herring Gulls on the Massachusetts coast in order to save the great colony of Laughing Gulls nesting on Muskeget Island. G. K. Noble and M. Wurm (1943) are of the opinion that competition between Laughing Gulls and Herring Gulls on Muskeget Island is at a minimum because each occupies a different ecological niche. They think it is highly improbable that the Herring Gull will eventually replace the Laughing Gull on that island. In 1940, according to the authors, there were 20,000 pairs (?) of Laughing Gulls, 3,000 pairs of Terns and 1,500 pairs of Herring Gulls nesting there. (The Herring Gulls first appeared at Muskeget in 1921.)

At the 1940 Muskeget Island ratio of one Herring Gull to thirteen Laughing Gulls, the former which prefers open situations may not seriously interfere with the latter occupying the dense cover. If the Herring Gulls increase to numbers equal to those of the Laughing Gulls,

which is probable within the next 15 or 20 years, it will be an entirely different story. We have a great many examples among the crowded colonies on the Maine coast, where the Herring Gulls nest in large numbers in very dense, tall grass and shrubbery, and on some islands they have invaded dense growths of coniferous and hardwood trees. In a few cases the nests have even been built in spruce and other trees several feet above the ground. The Herring Gull is an adaptable species and when its numbers increase, a matter such as vegetation will not serve as a barrier to the extension of its nesting area on Muskeget.

Dozens of former prosperous Tern colonies on the Maine coast as well as Laughing Gull colonies mentioned in this paper have been crowded out by the larger Herring and Black-backed Gulls. From this we may take a warning, and if we are interested in conserving the fine colony of Laughing Gulls on Muskeget Island, Massachusetts, some control of the Herring Gulls there should be undertaken at an early date.

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Since the above paper was submitted more recent information has been received which tends to substantiate, in part, the prediction of the fate of the Laughing Gulls on Muskeget Island.

Mr. C. Russell Mason visited Muskeget during the season of 1944 and reports the Herring Gulls have increased their numbers to 2,000 or 2,500, whereas the Laughing Gulls have been reduced to a population about equal to that of the Herring Gulls. In a letter received from Mr. Ludlow Griscom he writes: "It is my impression that on the Massachusetts and Long Island coasts, the various birds have a definite hierarchic order. The famous Tern colonies of Muskeget, of decades ago, gradually declined to nothing as the great Laughing Gull colonies built up in the 20's and 30's. By the late 30's there were 30,000 Laughing Gulls on Muskeget, and the Terns had disappeared. At about the same time the Herring Gull began to nest on Muskeget, and now the Herring Gull is dominant and the Laughing Gulls are fading out."

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## THE KITTIWAKE AS A TRANSATLANTIC BIRD

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FIFTEEN Kittiwakes are known to have carried bands across the Atlantic, more than a third of all the available records of transoceanic flights of banded birds. This naturally arouses some curiosity as to the migratory habits of the species. A common breeding bird on both coasts of the North Atlantic, the species winters at sea, and the evidence points to the probability that there is more or less of an exchange of individuals across the ocean. If fifteen birds are proved by bands to have crossed, it is a fair assumption that more, without bands, have done the same.

The Kittiwake is strictly a salt-water species, and its occurrence far inland is entirely accidental. This bird is said to drink sea water in preference to fresh, indicating that, like other pelagic species, it is physiologically adapted to assimilating sea water, which is as nauseating to many birds as it is to humans. The inability to utilize sea water is the reason that several species of gulls, including the Herring, seldom wander beyond coastal waters.

Except during the breeding season the Kittiwake is found far at sea. From mid-June to mid-August, however, even the year-old birds in "tarrock" plumage which are non-breeders, disappear from the pelagic zone. At this season the species is almost wholly confined to the coastal waters. Late in August the birds begin to move out to sea, and from November to April they are dispersed over all the unfrozen coastal and pelagic waters from about 60° North to the Tropic of Cancer. Half of the transatlantic records occur within this period. All writers on observations of birds at sea comment on the wide distribution of the Kittiwake. T. H. McKittrick, Jr. (*Ibis*, 1931, pp. 654-661) records