

THE PRESENT STATUS OF THE AMERICAN EIDER ON THE MAINE COAST*

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THE long, irregular coast line of Maine, with its numerous bays, coves, and harbors, is dotted with islands. There are more than 400 that range in size from 1,100 to 16,000 acres (H. E. Dunnack, 1920:39); more than 1,300 smaller islands that support a substantial growth of trees and vegetation; and so many islets and ledges that no one has ever attempted to count them. Numbers of sea birds have taken advantage of the excellent nesting sites and the isolation provided by many of the islands, especially those that lie well out to sea.



Figure 1. A group of adult American Eiders: five males (two in nuptial plumage), and four females. Kent Island, New Brunswick, June 17, 1932.

In recent years sea birds have greatly increased in numbers along the Maine coast. Some, like the Double-crested Cormorant (*Phalacrocorax auritus auritus*) and the Great Black-backed Gull (*Larus marinus*), have also greatly extended their ranges, and the Herring Gull (*Larus argentatus smithsonianus*), which, at the turn of the century, was threatened with extermination as a breeding bird on the Maine coast, has increased with protection to such an extent that the U. S. Fish and Wildlife Service has been forced to undertake measures of

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control. The Black-backed Gull is becoming so abundant and is so destructive to the eggs and young of other sea birds, especially to those of the Eider, that similar control may prove advisable.

This paper will deal primarily with the American Eider (*Somateria mollissima dresseri*), which, like the Herring Gull, was at a very low ebb of its existence on our coast 40 years ago, when William Dutcher (1904:147) wrote: "The American Eider . . . is yearly becoming more rare owing to the fact that almost every set of eggs that is laid is at once taken by some fisherman." Dutcher (p. 152) also quotes Arthur H. Norton: "Though this bird [the Eider], within the memory of the present generation . . . bred from the western side of Penobscot Bay . . . east to Machias Bay, it is now reduced to the small number breeding in Jericho Bay and a colony on Old Man Island." A year later Norton wrote of the Eider: "Maine is the only state in the Union in which it breeds, and while twenty-five years ago it occupied no less than fifteen of our islands and ledges to breed upon, it has been gradually reduced to the very verge of disappearance as a breeding bird"; and in 1907: "There are probably no Eiders breeding on the coast of Maine, except those at Old Man's Island" (Norton, 1905:78; 1907:325).

The year 1907 marks the low point for this species along the Maine coast. When Old Man Island was leased to the National Association of Audubon Societies (now the National Audubon Society), and Fred E. Small appointed warden in 1907, Small reported that there were only "two Eider Ducks breeding" on the island (Bowdish, 1909:124). But through the foresight of the National Audubon Society, the Eider was able to re-establish itself. By 1910 there was a substantial increase in the number of Eiders breeding on Old Man Island. From there they spread southwestward, and by 1911 Swain (1911:58) found a dozen nests on islands near Isle Au Haut, and in 1915 A. H. Norton (1915:501) reported that Eiders were again breeding on the islands in Jericho Bay.

Norton and Allen (1931:591) in their thorough inspection of the sea bird colonies on the Maine coast from June 23 to July 14, 1931, reported counting 165 adults, 25 broods, and 27 nests. In an unpublished report submitted to the National Audubon Society, they list Old Man Island, White Ledge, West Penobscot Egg Rock, Mouse Island, Robinson's Rock, and Calderwood Island as Eider nesting localities (see also Berolzheimer, 1932:21). Thus the Eiders slowly increased their numbers and regained much of their former nesting area in the course of 25 years.

During the past three years (1941-1943) I have visited the more important sea bird colonies as a Collaborator serving with the U. S. Fish and Wildlife Service,¹ and have supplemented these trips with

¹ I wish to thank the officials of the Fish and Wildlife Service for the opportunity offered to record the increase and present distribution of the Eider and other sea birds.

independent visits to other islands. The chief objective of the Fish and Wildlife Service representatives was to visit the larger Herring Gull colonies for the control of that species; hence visits to Eider Duck colonies were incidental. However, the records are sufficient to indicate the present trend of the population and the fact that the Eider is again firmly established as a breeding bird on the coast of Maine. Each year the trips were taken during the last two weeks of May and the first three weeks of June and extended from the Isles of Shoals, near the Maine-New Hampshire state boundary to the most northeastern sections of the Maine coast. I have found Eider nests on 31 islands, and I saw adult Eiders in the vicinity of 14 others, where they were probably nesting but where the duties of the gull control project did not permit time to land.

The nesting range has now extended as far southwestward as Mark Island in Casco Bay, and a summering pair has been recorded as far south as Massachusetts (Walsh, 1933:93). The large flocks of Eiders, some of them containing two or three hundred individuals, seen all the way from the mouth of the Kennebeck River to the Bay of Fundy, are



Figure 2. Female American Eider on nest. Kent Island, New Brunswick. June 24, 1932.

another indication of the increasing abundance of this splendid sea duck. The present population of nesting Eiders on the Maine coast probably exceeds 2,000 pairs, as contrasted with the two birds known to be breeding there in 1907.

The comeback of the Eider is apparently due to several factors: first, the protection and educational program initiated by the National Audubon Society; second, the law prohibiting spring shooting; and third, the recent pronounced decrease in egg collecting. The third, a development due to the war, is perhaps the most important. The armed services and various war industries have taken many of the persons who, in spite of the laws prohibiting it, frequently visited the islands to gather Eider eggs, which are highly prized as food (Knight, 1895:388).

The increase in Eiders is not peculiar to the coast of Maine but has been noted in other sections of the breeding range, for example, on the islands in the Bay of Fundy, New Brunswick—notably on Kent Island, the site of the Bowdoin Scientific Station. Brownson (1908:75) reported that there were only about a dozen pairs of Eider Ducks breeding at Three Islands (a group of which Kent Island is a member). With protection the colony on Kent Island had increased to 300 pairs by 1937 (Gross, 1938). By the summer of 1943, the Eiders had invaded every part of the two-mile island, and according to the warden, Ernest Joy, there are now a thousand pairs nesting there. This island presents a splendid example of what may be accomplished by establishing guarded reservations. From this Eider metropolis the Eiders have invaded many of the islands of the Grand Manan archipelago.

Space does not permit giving an account of each of the 31 Maine islands where Eiders were found nesting, but 9 of them have been selected because of their larger population, because of their geographical location, or because they represent typical conditions and trends of the present day Eider population. A complete list of the 31 islands is given at the end of this paper.

Most of the islands inhabited by the Eiders are very small, some of them only a few acres in area. Most of them are occupied by other sea birds, such as gulls, cormorants and guillemots. None is inhabited by man.

Old Man Island. 44° 37.2' N., 67° 14.2' W.

Old Man Island, the most northeastern of our sea bird colonies, is located three miles southwest of Cutler, and overlooks Grand Manan Channel to the east. It is a high rugged island, about 12 acres in area, with precipitous rocky shores. It is divided into several parts by deep straight-walled chasms. The top is covered with a reddish-brown peaty soil which 20 years ago supported a large number of spruce trees. Today most of these are dead; some are still standing, but the majority have been blown down by the storms of recent years and form a tangled network of stumps, fallen trunks and broken limbs. In the open spaces

there are luxuriant growths of grass, weeds, vines, wild parsnips, and other plants, which provide concealed nesting sites for the Eiders.

In 1907, as previously stated, there were but two Eiders nesting on the island, which were the only nesting birds of this species known on the coast of Maine at that time. Early in June, 1913, Frank A. Brown (1913:217) found a nest with one egg. On July 24 and 25, 1931, Allen and Norton (MS) found four nests with three to four eggs each. When we visited the island on June 6, 1943, we counted 83 adults



Figure 3. Nest of American Eider. Grass Ledge, Maine. June 3, 1941.

swimming around the island. In the course of the gull-control work nine nests were discovered: one with three eggs; four with four eggs each; three with five eggs each; and one empty. All of these nests were located among the grass and weeds of the open spaces, and I have no doubt a greater number were hidden in the tangle of fallen spruces. Judging from the number of adults seen, there are probably 25 pairs breeding there today. The Eiders are now well established on the island in spite of the fact that it also has a large nesting population of Cormorants and Herring Gulls and eight pairs of Black-backed Gulls.

In going along the coast from Old Man Island to the southwestward we saw flock after flock of Eiders, many of them comprising more than

50, and a few more than 200, individuals. We also found the birds nesting on six islands between Old Man Island and Penobscot Bay. A systematic search would probably reveal many more nesting Eiders along this stretch of coast line, which is dotted with hundreds of islands.

Grass Ledge. 44° 13.1' N., 68° 51' W.

A most significant fact concerning the present status of the Eider Duck is the large number which are again breeding on the numerous islands of the Penobscot Bay region. I have visited 23 islands in the bay (Matinicus, Vinal Haven, Castine and Rockland quadrangles) which are now occupied by nesting Eiders. Of these, Grass Ledge has the largest number of nesting birds. It is located in upper Penobscot Bay about 2½ miles north of North Haven and midway between Compass and Scrag islands. It should not be confused with another Grass Ledge (also inhabited by Eiders) lying 3 miles to the southeastward, in the same quadrangle. The Grass Ledge under consideration is two islets separated, except at very low tides, by a narrow channel. It has the rocky shore line characteristic of all of the islands of this region. The central portion of the northern and larger member is comparatively level and is thickly covered with grass, weeds, and other herbaceous plants. There are no trees or shrubs, and there is little to commend it as a nesting place; yet in recent years its few acres have provided a breeding ground for one of the largest colonies of Eiders on the Maine coast. There are more nests per acre here than in any of the numerous colonies I have visited in the Maritime Provinces or on the Labrador coast.

Allen and Norton (MS) made no mention of Eiders nesting on Grass Ledge when they visited this region in 1931, and I have discovered no published record of Eiders nesting there in recent times prior to my visit in 1933. I was informed by fishermen, however, that the birds were breeding there in 1932. When I arrived June 7, 1933, there was already a well-established colony of 94 nests, of which 72 contained one to six eggs and one contained four young. Young had left 14 nests, and in 7 nests the eggs had been broken and the contents eaten—probably by the Black-backed Gulls which were also nesting on the island. From one point on the island I counted 80 female and 12 male Eiders in nuptial plumage. There were also 13 females with broods comprising a total of 55 young, ranging from downy young just out of the nest to others about a week or 10 days old.

When he visited the island in July, 1936, Bryan W. Barker (1941: 65) found that all of the young had hatched—only traces of down remained to indicate the nests; on May 30, 1941, he found 45 nests with one to eight eggs each. When I visited the island on June 8 of the same year I found a total of 89 nests, of which 62 contained one to eight eggs each. Young had left 19 nests, and in 8 nests the eggs were broken and the contents eaten.

I saw 63 adults, 56 females and 7 males, swimming near the island. There were also 3 females, with 12 young in their combined broods. We found two dead adult Eiders, but there was nothing to indicate the cause of their death. A pair of Herring Gulls and two pairs of Black-backed Gulls were nesting on the island, and as we approached we noted four Crows (*Corvus brachyrhynchos*) that may have been responsible in part for the broken eggs found in eight of the nests. The gull nests were destroyed by Mr. White, the Federal warden, to discourage these birds from nesting on the island.

On June 10, 1942, we arrived at a time when the eggs in seven nests had just hatched or were in process of hatching. There were 86 nests with one to seven eggs each, and 27 empty nests. We found six dead adult Eiders with their flesh eaten away, possibly by a mink. As in previous years, a pair of Black-backed Gulls were nesting on the island. The Federal warden destroyed the nest and killed the three young that it contained.

On June 3, 1943, just a week earlier in the season than our visit of the previous year, we found 123 nests: 115 contained one to six eggs each; one nest was empty; young had left one nest; and in six nests the eggs had been punctured and partially eaten—probably by gulls, since we saw neither Crows nor Ravens on this island during our 1942 and 1943 visits. In spite of the efforts of previous years to discourage the Black-backed Gulls from nesting on Grass Ledge there were two of their nests, containing three young each. The warden took more drastic action this year, and not only destroyed their nests and young but also shot three of the adults because there is little room for competition on this little islet already over-crowded with nesting Eiders.

The ten-year history of the Eider colony on Grass Ledge shows a very slow but steady increase from 94 nests in 1933 to 123 nests in 1943. Undoubtedly many of the Eiders reared on Grass Ledge have served to stock some of the neighboring islands.

Compass Island. 44° 12.9' N., 68° 52' W.

Compass Island is also in upper Penobscot Bay, less than a mile southwest of Grass Ledge. It has an area of about 20 acres, and the eastern part is covered with a number of large spruces, oaks, birches, and other hardwood trees which provide nesting sites for two pairs of Ravens (*Corvus corax*) and a pair of Ospreys (*Pandion haliaetus*). Bordering the growth of large trees is a thick tangle of shrubs and briar thickets. About three fourths of the area of the island is covered with grass, which supports a flock of about 20 sheep and provides nesting sites for 800 Herring Gulls and 18 pairs of Black-backed Gulls. The Eiders nest in the thicker, taller grass and briar patches, and among the shrubbery and spruces.

The first record I have of Eiders nesting on Compass Island is June 8, 1941, when we found five nests containing two to five eggs each.

Swimming near the shore were 3 females with a total of 11 young that appeared to be about 10 days old.

The next year, on June 10, 1942, there were two nests with four eggs each and two nests with five eggs each; young had left three nests, and the eggs had been punctured or broken in four nests—probably by the Ravens and Black-backed Gulls. We found two gull nests which contained Eider eggs. One contained three gull eggs and one Eider egg, and the other, two gull eggs and two Eider eggs. The eggs in the two gull nests were being incubated by Eider females. The occurrence of Eider eggs in gull nests is not rare and may be expected on any island where the two species are nesting in proximity. Often it is the Eider that takes possession of the nest and incubates the eggs, though on Kent Island, New Brunswick, there were cases in which the gull retained possession of the nest after the Eider eggs were deposited (Gross, 1938: 390; see also Barker, 1938:137). In addition to the nests, we noted two broods of young in the water off the island.

On June 3, 1943, we found a greater population of Eiders, but unfortunately there was even a larger percentage of nests in which the eggs had been wholly or partially eaten. There were also the bones of three adult Eiders.

In 1943 we found 40 nests: 13 contained two to five eggs each, and one contained four young; young had left three nests, and in 22 nests the eggs were punctured or broken. There was one Herring Gull nest with two Eider eggs and two Gull eggs. Eiders have increased greatly on this island during the past three years. However, the destruction of the eggs in so many nests does not make one feel optimistic for the future of the Compass Island colony. On no other island we visited on the Maine coast was there such a wholesale destruction of Eider eggs.

Downfall Island. 44° 10.9' N., 68° 48.5' W.

Downfall is a small island lying east of the northern part of North Haven. In this vicinity Sheep, Dagger, Burnt, Oak, Grass Ledge, Spoon, and Sloop islands also have their quotas of nesting Eiders. Most of these islands had a few nesting Eiders when I first visited the region in the years 1933 and 1934. All of them have maintained, and some have greatly increased their numbers of nesting birds, especially during the past three years.

Downfall, though smaller than the others, has been selected as a good example of an average-sized Eider colony, and the increase in its Eider population during the past three years is typical of the recent trend on the majority of the Eider islands. It is without trees or shrubs, but there are numerous patches of tall grass, luxuriant weeds, and umbelliferous plants. In addition to the Eiders there are a colony of about 200 Herring Gulls, 5 pairs of Black-backed Gulls, and an Osprey, which nests each year on one of the protruding headlands. The results of the

nest counts made during the first part of June of each of the past three years are presented in the following table.

NESTS OF THE EIDER DUCK ON DOWNFALL ISLAND

	1941 June 8	1942 June 10	1943 June 3
Nests with eggs (1 to 7*)	7	23	37
Nests with young	1	3	1
Empty nests	1	-	1
Nests with eggs destroyed	-	-	5
Gull nests with Eider eggs	-	-	2
Total	9	26	46

* One nest found in 1942 contained the exceptionally large number of nine eggs, probably laid by two females.

As the Eiders increased in numbers their nesting sites approached more closely those of the gulls, and in 1943 this resulted in five nests being destroyed by the gulls. In the same year two gull nests were found to contain Eider eggs.

Barred and Colt Head Islands, 44° 16' N., 68° 50' W.

Barred Island and nearby Colt Head Island are north of the Penobscot Bay Islands previously mentioned. They are situated about four miles east of Dark Harbor, South Islesboro Island (which separates East and West Penobscot Bays). There are two parts to Barred Island; on the western and larger section there is a thick growth of spruce, but the greater part of its area is grown up in a tangled mass of gooseberry, raspberry, and rose bushes and briars interspersed with small areas of rank weeds and grass. These conditions provide excellent, well-protected nesting sites for the Eiders. When we visited Barred Island for the first time, on June 8, 1941, we saw 25 Eiders swimming offshore, and on the island we found two nests with five eggs each. One of the nests was located in the briars, and the other was concealed under the lower spreading branches of a large spruce tree.

On June 9, 1942, we located nine nests: three with three eggs each; two with four eggs each, and four with five eggs each. On June 3, 1943, as we approached the island, we saw 50 Eiders, one third of them males. In the thick growth of briars we found 13 nests, all of them in good condition. One of the nests contained three eggs; five had four eggs each; five had five eggs each; one had six eggs and one had seven eggs. The type of nesting cover gives excellent protection from enemies such as Ravens, Crows, and Black-backed Gulls, all of which nest on or near the island. The nests are so well concealed that all we found were located only by flushing the incubating females as we walked through the tangle of briars. Because of the large number of adults seen in the vicinity, it is probable that a systematic search of Barred Island would reveal double the number of nests we found.

On nearby Colt Head Island we found one nest in 1941, 7 nests with eggs in 1942, and 13 nests (with two to five eggs each) in 1943.

Fisherman's Island. 44° 2.4' N., 69° 2.4' W.

Fisherman's Island is located on the western side of Penobscot Bay about 3½ miles south of Owl's Head Light, which marks the entrance to Rockland Harbor, and 3 miles east of Ash Point. It is a rather high island with knolls well covered with grass, and the lower depressions grown up with patches of weeds and red raspberry vines. There are no trees or shrubs.

There were no Eiders nesting on Fisherman's Island when I visited it in 1935. Our first record of nesting Eiders was made on June 8, 1941, when we found one nest containing four eggs, and one nest with one egg and four freshly hatched young.

On June 1, 1943, we found seven nests: one with two eggs; one with three eggs; one with four eggs; and four with five eggs each. There were 28 adult Eiders, including 13 males, swimming along the eastern shore; and on the opposite side, one male and five females. Some of the nests were in rather open situations, and it is remarkable that, though there is a large colony of Herring Gulls and 25 pairs of Black-backed Gulls on the island, not a nest had been disturbed.

This is another illustration of how the habits of a species such as the Black-backed Gull may vary among the individuals of different island populations. There is also a prosperous colony of 265 pairs of Double-crested Cormorants nesting on the rocky outcroppings of the higher portion of the island.

No Man's Land. 43° 53' N., 68° 52.2' W.

No Man's Land Island is a member of the Matinicus group off Penobscot Bay. It is a fairly large island with many bold outcroppings of rock. Fallen spruce trees produce conditions somewhat resembling those on Old Man Island. In the lower levels between the rocks there are thick growths of grass and weeds.

On June 14, 1941, four adult Eiders were seen in the vicinity of the island, but no nests were discovered that year. On June 8, 1942, there were four nests: two with four eggs, and two with five eggs, each.

On June 11, 1943, we found 15 nests. Twelve contained three to five eggs each; one nest had five freshly hatched young and one egg; and there were two gull nests with Eider eggs. One gull nest contained an Eider egg and a gull egg, the other two Eider eggs and one gull egg. We saw 12 adults, including 4 males, swimming near shore.

Mark Island. 43° 42.4' N., 69° 54' W.

During the past three years, especially during 1943, many flocks of Eiders were seen among the islands along the coast southwest of Penobscot Bay. There were indications that they were nesting in the

BREEDING LOCALITIES OF THE EIDER DUCK ON THE
MAINE COAST, 1941-1943*

QUADRANGLE	ISLAND	LOCATION
Cutler	Old Man Island	44° 37.2' N., 67° 14.2' W.
Machias	Double Shot Island	44° 36.5' N., 67° 16' W.
	Green Island	44° 33.8' N., 67° 26.8' W.
Columbia Falls	Ballast Island	44° 33.7' N., 67° 33.2' W.
Deer Isle	Shabby Island	44° 10' N., 68° 33.5' W.
	Great Spoon Island	44° 2.5' N., 68° 33.5' W.
	Little Spoon Island	44° 2.5' N., 68° 34.4' W.
Castine	Green Ledge	44° 17.5' N., 68° 49.7' W.
	Barred Island	44° 16' N., 68° 50' W.
	Colt Head Island	44° 15.6' N., 68° 50.5' W.
Vinal Haven	Horse Head Island	44° 15' N., 68° 51' W.
	Grass Ledge	44° 13.1' N., 68° 51' W.
	Compass Island	44° 12.9' N., 68° 52' W.
	Sloop Island	44° 12.4' N., 68° 48.9' W.
	Spoon Ledge	44° 12.1' N., 68° 49.6' W.
	Mouse Island	44° 12' N., 68° 56.5' W.
	Grass Ledge	44° 11.8' N., 68° 47.8' W.
	Oak Island	44° 11.8' N., 68° 49.2' W.
	Burnt Island	44° 11.3' N., 68° 49' W.
	Goose Island	44° 11.1' N., 68° 57' W.
	East Goose Rock	44° 11' N., 68° 58.7' W.
	Dagger Island	44° 11' N., 68° 48.3' W.
	Downfall Island	44° 10.9' N., 68° 48.5' W.
	Sheep Island	44° 10.8' N., 68° 47.8' W.
	Robinson's Rock	44° 9.6' N., 68° 58.6' W.
	Widow's Island	44° 7.8' N., 68° 49.9' W.
	Otter Island	44° 0.5' N., 68° 48' W.
Matinicus	No Man's Land Island	43° 53' N., 68° 52.2' W.
Rockland	Fisherman's Island	44° 2.4' N., 69° 2.4' W.
	Otter Island	44° 1.4' N., 69° 4.2' W.
Small Point	Mark Island	43° 42.4' N., 69° 54' W.

* Arranged in order, beginning with the most northeasterly and proceeding south-westward, according to the quadrangles or sheets of the U. S. Geological Survey. The nine islands discussed in the text are in boldface.

region (in particular on some of the islands of Tenant's Harbor and Muscongus Bay), though we found no nesting Eiders on the islands we visited. The probability that the Eiders have now extended their nesting range to this region was greatly strengthened by the finding of an Eider's nest on Mark Island even further to the westward, in Casco Bay.

Mark Island is one of the outer islands in the eastern part of the bay. The interior of the island is heavily timbered with spruces and hardwoods—chiefly beeches and maples. There is a colony of about a hundred pairs of Black-crowned Night Herons (*Nycticorax nycticorax*

hoactli), and a considerable number of nests of the Great Blue Heron (*Ardea herodias herodias*). About 200 Herring Gulls nest on the rim of the island between the timber and the rocky shores.

I was unable to go to Mark Island in 1943, but Jay Gashwiler of the U. S. Fish and Wildlife Service and his assistant, Allen Morgan, found an Eider's nest with four eggs when they visited the island on June 14, 1943. The nest was located on the southwestern quarter of the island about 75 feet from the water. It was well concealed in some shrubbery at the edge of the timber, and there were no gulls nesting near it. No other Eiders were seen on Mark Island nor were any others seen in Casco Bay.

This nest constitutes not only the first record of the Eider nesting on Mark Island but, as far as I have been able to determine, also the most southwestern record of nesting Eiders on the Atlantic coast.

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