## BREEDING EUROPEAN CORMORANTS OF NORTH AMERICA

## BY HARRISON F. LEWIS

In the summer of 1940 an opportunity to obtain a fairly accurate record of the breeding population of the European Cormorant (Phalacrocorax carbo carbo) at its known nesting places in Canada presented itself. Leaving out of account the Cormorant colonies in Greenland, which for the present purpose may be treated as not part of North America, these Canadian colonies are the only North American ones now known. Although information about these nesting places has been accumulating in recent years, no detailed record of the number or size of this cormorant's breeding colonies on the large island of Anticosti, in the northern part of the Gulf of St. Lawrence, has been available. The species was known to nest on limestone cliffs on the eastern part of the north side of the island and it was surmised that more than half of the European Cormorants of North America might have their homes there.

Through the coöperation of the Consolidated Paper Corporation, which owns Anticosti, and of Mr. H. E. Graham, Resident Manager of the island, I travelled along the entire north shore of that island. a distance of about 140 miles, in one of the Corporation's motor patrol-boats, on June 7, 8, and 9, 1940. Because the sea on those days was remarkably smooth and our shallow-draught boat was navigated by skilled men who, from long experience, knew that coast in great detail, we were able, in spite of extensive fringing reefs, to pass very close to shore. In order to permit me to obtain as much information as possible about the seabirds nesting on the numerous cliffs on that side of the island, we made a practice of entering the bays and passing close around each headland. With the aid of a six-power binocular the birds and nests on the cliffs were observed very satisfactorily. I believe that on June 8 and 9, I saw every colony of nesting European Cormorants on the north side of Anticosti and obtained careful counts, not estimates, of the number of occupied nests in each colony. The resulting tabulation is therefore believed to have a high degree of accuracy. Mr. Charles McCormick, who commands the boat on which I travelled and whose duties have given him a detailed acquaintance with the entire coast of Anticosti, told me that there are no cormorant colonies on the part of the coast of that island that I did not see. This was to be expected, for most of the

south shore of Anticosti, being low and shelving, is lacking in suitable situations for the nesting of European Cormorants and other seabirds.

Taverner (Canadian Field-nat., 43: 77, 1929) reported forty European Cormorant nests, or eighty breeding birds, from Cape Observation, Guy Point, and a point between (Cape Vauréal) in 1928. As these three colonies contained 266 breeding birds of this species in 1940, the contrast suggests that the Anticosti population of European Cormorants underwent in the interval an increase of large proportions.

Later in the summer of 1940, I counted the occupied nests of European Cormorants in their colonies on the north shore of the Gulf of St. Lawrence, a part of Saguenay County, Quebec, where I have made similar counts annually for a number of years past. The nests in the colonies on Lake Island and on one of the Outer Wapitagun Islands, which together form one nesting group, were counted on July 3. The nests in the colony on Cliff Island, in St. Mary Islands Bird Sanctuary, were counted by the sanctuary caretaker, Mr. Fred W. Osborne, in June and by me on July 5. Each of these two groups of European Cormorants showed a notable increase in numbers in 1940, as compared with their population in 1939. The Lake Island-Wapitagun group increased from 220 breeding birds to 292, and the St. Mary Islands group from 132 breeding birds to 172.

Mr. Frank L. Prest, of Leslie, Magdalen Islands, Quebec, very kindly took the trouble, in response to a request from Mr. Hoyes Lloyd, to visit Entry Island, Magdalen Islands, early in July 1940, and examine the nesting colony of European Cormorants there and to report their numbers. This colony has increased greatly since my visit to it in May 1924, when it had a population of fourteen breeding birds. Mr. Prest also reports that European Cormorants in 1940 founded a new colony, containing five nests, on the north side of Bryon Island, Magdalen Islands. For some years past, non-breeding birds of this species have been accustomed to roost in summer on ledges on the cliffs of this island.

Both Mr. Harold S. Peters, Atlantic Flyway Biologist, of the United States Fish and Wildlife Service, and Mr. Robie W. Tufts, Chief Federal Migratory Bird Officer for the Maritime Provinces, took the trouble to visit, in 1940, the recently established colony of European Cormorants at Crystal Farm, Antigonish County, Nova Scotia, and to report on it. Mr. Peters's visit was made in early June; Mr. Tufts's on July 16. It is difficult at any time to make an accurate count of the breeding population of European Cormorants in this

colony, which is situated on a mainland cliff facing the sea, and in which Double-crested Cormorants form a large majority, and as conditions for making a close estimate of numbers were more favorable at the time of Mr. Peters's visit than later in the summer the figures published below for this colony are based on his report. Mr. Tufts visited, on July 18, 1940, the colony of European Cormorants on Hertford Island, one of the Bird Islands, off the coast of Victoria County, Cape Breton Island, Nova Scotia, and reported a very accurate count of the occupied nests in that colony.

It is, of course, quite possible that additional colonies of European Cormorants nest on suitable cliffs in northeastern North America, but I have no certain knowledge of any. Although Kumlien (Bull. U. S. Nat. Mus., no. 15: 94, 1879) reported this species as breeding in Cumberland Sound, Baffin Island, J. Dewey Soper (Bull. Nat. Mus. of Canada, no. 53: 86, 1928) suggests that it "may now be extinct on Baffin Island."

The known North American breeding population of the European Cormorant, in 1940, as determined by the investigations described above, is summarized in the following table, in the preparation of which an occupied nest has been considered to indicate the presence of two breeding birds.

## Breeding Population of European Cormorants in North America in 1940

Nu	
Site of colony	breeding birds
Cape Observation, Anticosti, Quebec	154
Cape Vauréal, Anticosti, Quebec	30
Guy Point (Garden Cape), Anticosti, Quebec	82
Bear Head, Anticosti, Quebec	32
Tower Point (Cape Metallic), Anticosti, Quebec	32
Cape Robert, Anticosti, Quebec	42
Harvey Point (Cape Henry), Anticosti, Quebec	24
Battery Point, Anticosti, Quebec	154
Joseph Point, Anticosti, Quebec	34
Mill Bay, Anticosti, Quebec	16
Prinsta Bay (Deep Bay) to Table Head, Anticosti, Quebec	100
Fox Point, Anticosti, Quebec	10
Reef Point to Merrimack Point (Baie Innommée), Anticosti, Que	bec. 210
Cape Sandtop, Anticosti, Quebec	18
Gullcliff Bay, Anticosti, Quebec	
East Point, Anticosti, Quebec	92
Total, Anticosti	

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Outer Wapit	Saguenay Co., Quebec	
	Total, north shore of Gulf of St. Lawrence	464
=	l, Magdalen Islands, Quebec	
	Total, Magdalen Islands	310
	n, Antigonish Co., Nova Scotia 110 Victoria Co., Nova Scotia 78  Total, Nova Scotia	188
	GRAND TOTAL, North America  Mines and Resources a, Canada	