



Egg Rock Update

1984 Report

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Director

Newsletter of the Fratercula Fund of the National Audubon Society

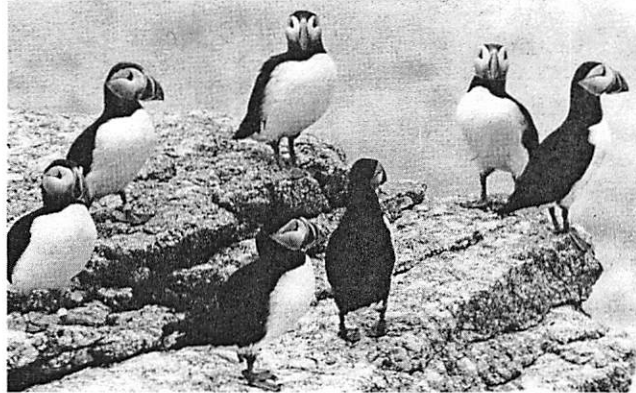
EGG ROCK PUFFINS

During the summer of 1984 at least 49 puffins were observed at Eastern Egg Rock. Most of these were banded as Newfoundland transplants, but as many as seven unbanded birds were seen at the same time. Unbanded puffins were observed on 95% of observation days and three nested. This is the largest number of unbanded birds seen so far at Eastern Egg Rock and it suggests that native puffins (probably from Matinicus Rock or Machias Seal Island) are an increasingly important part of the new colony.

At least 14 pairs of puffins bred at Eastern Egg Rock in 1984. This number equals the highest number of breeding pairs seen at the island since the colony was re-established in 1981. Previously, puffins had not bred at Eastern Egg Rock since about 1885 when they were eliminated due to overhunting. Of the 14 pairs, both members of 5 pairs were new breeders and one member of 2 pairs was a new breeder. Eleven of the fourteen pairs successfully fledged chicks this year for a very good fledging success of 79%.

Nesting success of the re-established colony is one of the best measures of the health of the colony, as good chick production demonstrates that both the nesting habitat and food resources remain suitable for puffins at Eastern Egg Rock.

In 1981, two native Egg Rock puffin chicks were pulled from rock crevices and banded with black plastic bands with white letters -A- and -B-. In 1983, puffin -B-, a large male, returned to Matinicus Rock and this summer he visited both Matinicus Rock and Eastern Egg Rock, spending at least 11 days at Egg Rock. The return of -B- to Egg Rock marks the first return of a native Egg Rock puffin — another important landmark for the project.



Puffins rest on a roosting ledge at Eastern Egg Rock. Unbanded native puffins (center and upper right) socialize and nest with banded transplanted puffins.

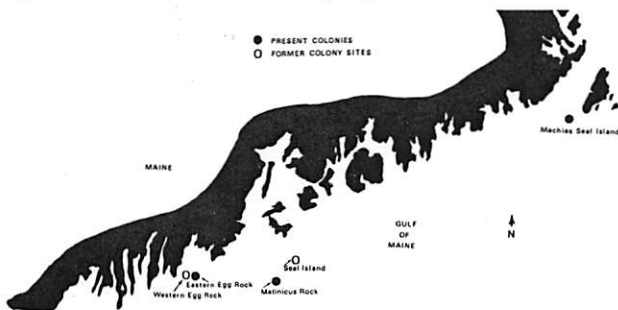
Western Egg Rock

Western Egg Rock was historically the southern limit for puffins in North America. Located only one mile west of Eastern Egg Rock, this ten acre island has abundant boulder habitat suitable for puffins and it is protected as part of National Audubon's sanctuary system.

Like Eastern Egg Rock, Western Egg Rock holds a prominent place in the history of Maine seabird populations as an important nesting island for Common and Arctic Terns and Atlantic Puffins. Like most other former Maine puffin colonies, overhunting 100 years ago is the likely cause for the disappearance of puffins on Western Egg Rock. Puffins disappeared from this southernmost nesting island by 1887.

1984 marked the beginning of a project to restore puffins to Western Egg Rock. As part of this new effort, 100 puffin chicks were transplanted to Eastern Egg Rock this summer from Great Island, Newfoundland (100 were also transplanted to Seal Island for a total of 200 transplanted in 1984 — see page 2). At Eastern Egg Rock the chicks were reared in sod burrows and fed a diet of thawed smelt with vitamin supplements. Ninety-eight out of 100 chicks successfully fledged.

In 1986, when these birds are two years old, decoys and tape recordings of puffin calls will be placed on Western Egg Rock in an effort to attract some of the returning young birds to this historic puffin nesting island.



Puffin colonies in the Gulf of Maine.

Egg Rock Update

PUFFIN RESTORATION BEGINS AT SEAL ISLAND

Located 20 miles off Rockland Maine, Seal Island was once the largest Atlantic Puffin colony on a U.S. island. Arthur H. Norton, former Curator of the Portland Society of Natural History, described the demise of the Seal Island puffins in his 1923 review of the history of Knox County birds:

"The chief breeding ground of the birds [puffins] in Knox County was at the Matinicus Seal Island, where the birds were sufficiently numerous to make it an object for parties to visit this distant place at evening during the fifties [1850s] and spread old Herring nets over the rocks for the capture of the birds as they came forth from their nests the following morning. These were used for food. The colony continued for many years, and about twenty-five or thirty pairs still persisted there in 1886. Their final extermination was probably effected the following year by the milliners' agents who carried on a most destructive season's work at that place."



Extensive rock jumble habitat on the northeast shore of Seal Island was the likely site of a large colony of puffins in the 1850's. Hunted by fishermen who trapped the birds under herring nets spread over the rocks, the once thriving colony at Seal Island disappeared by 1887.

Seal Island appears to still have habitat and food requirements necessary to support a colony of puffins. The most conspicuous nesting habitat is at the northeastern end of the island where blocks of granite provide ample cracks and crevices for nesting. This may have been the major puffin nesting habitat at Seal Island in the past.

Although the status of the food supply available to puffins is unknown, the waters off Seal Island support one of the principal herring fisheries in Maine and puffins from the nearby Matinicus Rock colony (8 miles SW) have been observed feeding at Malcolm Ledge, just off the southern tip of Seal Island. The slow increase of puffin numbers at Matinicus Rock from a few pairs at the turn of the century to the present population of about 75 pairs also suggests that Seal Island may once again support a puffin colony. The island is now a National Wildlife Refuge, administered by the U.S. Fish and Wildlife Service.

In 1984, National Audubon Society and the Canadian Wildlife Service began a cooperative program to re-establish puffins to Seal Island. The program is designed to learn more about survival rates, growth rates, and behavior associated with formation and growth of Puffin colonies.

The first phase of the project began June, 1984 with the construction of a 12x12' cabin for research assistants and 100 sod burrows for rearing young puffins patterned after those used at Eastern Egg Rock. By July 18, all preparations were ready for phase two- the arrival of 100 puffin nestlings from Great Island, Newfoundland. These ranged in age from 10 to 28 days and were reared in the sod burrows on a diet of thawed smelt with vitamin supplements.

The re-establishment effort rests on the assumption that puffins learn the location of their natal home either toward the end of the chick rearing period or soon after fledging. If so, nestlings transplanted early in development may adopt a new home, colonizing new islands.

Although the puffin re-established project at Seal Island is based on techniques developed at Eastern Egg Rock, several differences between the two islands pose interesting questions. Will the close proximity of the Matinicus Rock puffin colony attract some or most of the Seal Island transplants? If puffins do return to Seal Island, will they nest on the island's northern end where they were reared or elsewhere where observation is more difficult (Seal Island has 100 acres of rugged terrain)?

Perhaps most important of all is the question of whether the numbers of Herring and Great Black-backed Gulls which now nest on the island can be controlled at a level sufficiently low to permit puffins to establish and breed? A strict control of gull numbers will be necessary because gulls are effective predators on puffins at all stages of life; moreover, the mere presence of gulls may inhibit landings by returning birds which would prevent any possibility of colony establishment.

This summer, 99 of the 100 puffin chicks transplanted from Newfoundland to Seal Island successfully fledged. All were banded with plastic color bands and stainless steel bands. Over the next five years, the re-establishment plan calls for the release of an additional 900 puffin chicks at Seal Island. — S.W. Kress and D. N. Nettleship.

Egg Rock Update

ISLAND UPDATES

Matinicus Light Station Licensed to National Audubon Society

On August 16th, 150 friends of the National Audubon Society gathered on Hog Island to participate in a festive ceremony acknowledging more than 80 years of cooperation between National Audubon Society, the U.S. Coast Guard and the U.S. Fish and Wildlife Service. The event was the licensing of the Matinicus Rock Light Station to National Audubon. The light station, located 22 miles off Rockland, Maine was built in 1846. It was automated in December of 1983 and through a cooperative agreement, Audubon warden-biologists will occupy it during the summer months to supervise visitors and study the island's seabirds. Carl W. Buchheister, President Emeritus of National Audubon and long time protector of Matinicus Rock was present to receive a key to the lighthouse from Captain John Sproat of the U.S. Coast Guard.

Since 1977, Matinicus Rock has played an increasingly important role in understanding the movements of puffins transplanted to Eastern Egg Rock. In that year several transplanted birds visited Matinicus Rock. The first breeding of a transplanted puffin at Matinicus Rock occurred in 1980, one year before breeding occurred at Eastern Egg Rock. This year, 37 transplanted puffins were observed at Matinicus Rock and ten of these bred on the island.

Tern Numbers Decline at Eastern Egg Rock

The avian cholera epidemic at Eastern Egg Rock led to the abandonment of most Common and Arctic Terns at Eastern Egg Rock by early June. However, a second nesting attempt was underway by July 4th. Three hundred and seventy-three pairs nested in this second attempt, but most of these failed due to a marauding Black-crowned Night Heron that broke open many of the eggs. This caused most of the remaining terns to abandon the island. Only those pairs nesting near the research cabin avoided predation and successfully fledged their young. The combination of disease and predation that caused such a poor breeding season for terns at Eastern Egg Rock points to the vulnerability of terns to disruptions and to the need for alternative nesting islands where terns might safely avoid such nesting disasters.

Avian Cholera Hits Muscongus Bay

More than 1000 pairs of terns nested at Eastern Egg Rock in 1983 and similar numbers were expected when the field season opened this past June 8. But rather than a thriving colony, we found the island nearly abandoned by terns. A total of 33 dead terns were discovered along with 20 dead Common Eiders and six dead Great Black-backed Gulls. Autopsies performed by the Wildlife Disease Laboratory of the U.S. Fish and Wildlife Service in Madison, Wisconsin revealed the cause of death as avian cholera.

In recent years, cholera has become an increasingly serious threat to seabirds, perhaps due to contamination from the poultry industry. This spring conditions were perfect for an outbreak. Heavy rains in late May carried nutrient-rich guano into shallow rain pools that were heated by increasing temperatures in early June. These warm, enriched pools created ideal conditions for the growth of the bacteria. Birds such as terns, eiders and gulls which typically drink and bath in such pools were especially vulnerable. Estimates of losses suggest that several thousand eiders and gulls died on the Muscongus Bay bird islands this spring. Puffins, guillemots and petrels were apparently unaffected.

Based on similar outbreaks elsewhere in Maine, it is unlikely that another epidemic will occur in the near future. It is also fortunate that the species which suffered the greatest losses also have a rapid reproductive rate.

Maine Tern Census

In 1940, there were approximately 8,000 pairs of Common Terns and approximately 4,500 pairs of Arctic Terns nesting on Maine islands. By 1977, these populations showed a major decrease to only 2,095 pairs of Common Terns and 1,640 pairs of Arctic Terns. This summer a statewide tern census conducted by National Audubon Society, U.S. Fish and Wildlife Service, Maine Department of Inland Fisheries and Game, College of the Atlantic, and Maine Audubon Society revealed relatively stable numbers since the 1977 census with 2,143 pairs of Common Terns and 1,631 pairs of Arctic Terns. While tern populations seem to have changed relatively little in the seven years since the previous census, the count also demonstrated that terns have not regained any of their former abundance and therefore must still be under serious constraints.



ACKNOWLEDGEMENTS

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I also thank the Maine Department of Conservation for the lease which permits us to work on Eastern Egg Rock, and I thank the U.S. Coast Guard for the privilege of working on Matinicus Rock. I also acknowledge the cooperation of the U.S. Fish and Wildlife Service for permission to conduct our studies on Seal Island National Wildlife Refuge and thank the Canadian Wildlife Service for their continued cooperation and assistance with the collection of puffin chicks on Great Island, Newfoundland.

It is a special pleasure to acknowledge the very generous support of Drs. William and Bess Brennan and Thomas Ebbert for flying us to Newfoundland to collect puffin chicks. I also thank Delia May Farris and the students of the Bremen Elementary School for their help in painting razorbill decoys.

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