

Egg Rock Update

1978 Report

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Director

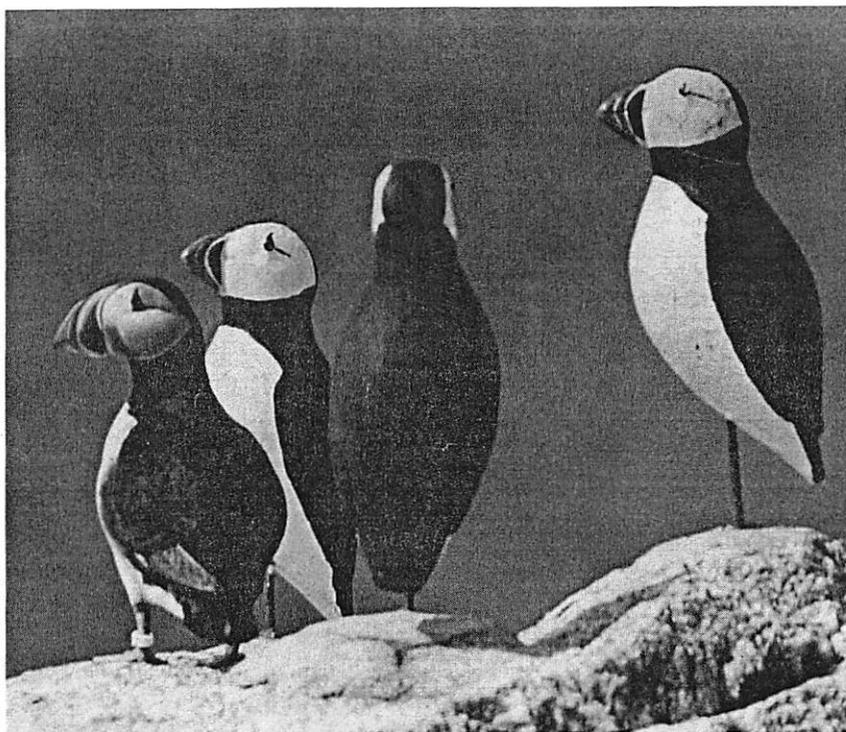
Newsletter of the Fratercula Fund of the National Audubon Society

Puffin Activity Increases at Eastern Egg Rock

On May 28, the puffin monitoring team at Eastern Egg Rock observed the first puffin return of the season. Now three years old, this bird was one of 91 chicks transplanted from Newfoundland to Eastern Egg Rock in 1975. This was the first of 30 sightings of Atlantic Puffins observed at Eastern Egg Rock during the summer of 1978.

Protected as the Allan D. Cruickshank wildlife sanctuary of the National Audubon Society, Eastern Egg Rock is the site of an Audubon experiment attempting to re-establish a nesting colony of puffins. Egg Rock, like several other Maine coastal islands, lost its breeding population of puffins by 1887 due to excessive hunting. Since 1973 the National Audubon Society has cooperated with Canadian Wildlife Service to develop techniques for re-establishing puffins to former breeding sites. Now in its sixth season, the Audubon effort is beginning to show signs of success.

Since puffins do not usually breed until they are at least five years old, it is too early to determine the eventual outcome of the Egg Rock experiment. However, the trend in sightings between 1977 and 1978 suggests that puffin activity is increasing at Egg Rock. Although it is not possible to determine the total number of birds which visited Egg Rock in 1978, observers noted nearly twice as many puffin sightings as in 1977. The monitoring team observed twice as many landings in 1978 as compared to 1977 and noted an encouraging increase in the amount of time which the birds spent on the island. Puffins were observed during 1/3 of the 1978 observation days and pairs of puffins were seen at the island on seven different days. Most sightings were of three-year-old birds wearing white leg bands, but there was at least one return of a two-year-old puffin identified by



Now three years old, a white-banded puffin stands among decoys at Eastern Egg Rock. Puffins landed on Egg Rock during half of all 1978 sightings and spent more time standing on the island than they did in 1977.

its black leg band. The return of this bird demonstrates that the transplant techniques have successfully brought members of two different age groups back to the island. Two sightings of unbanded puffins suggest that birds from other colonies may also be showing increased interest in the island — perhaps as a result of the puffin decoys which are mounted atop several large boulders around the island.

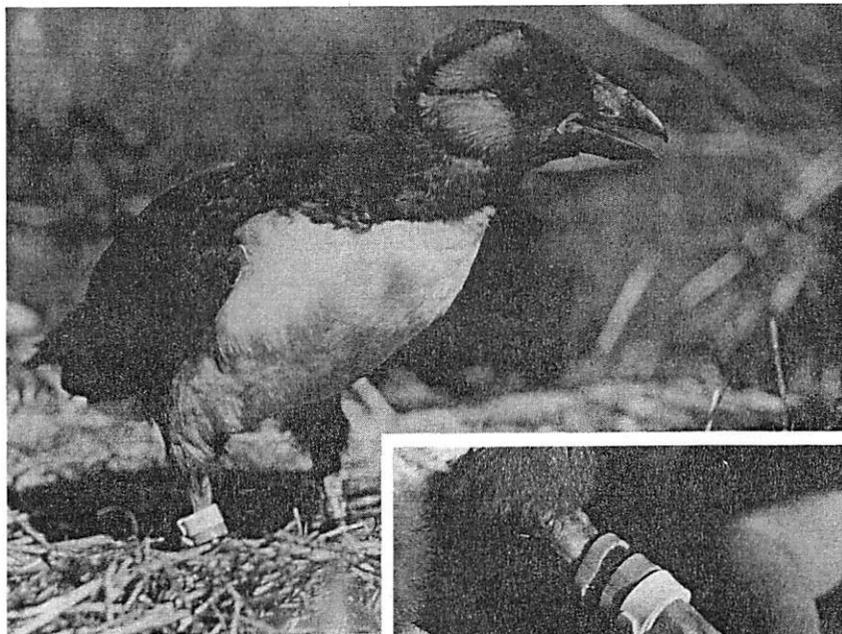
These sightings demonstrate a definite increase in puffin activity as there was only one brief sighting of a puffin at Egg Rock in the three years prior to the first returns of 1977. The table on page 2 summarizes the trend in puffin activity.

Egg Rock Update

1977 - 1978 PUFFIN ACTIVITY AT EASTERN EGG ROCK

	<u>1977</u>	<u>1978</u>
<i>Number of sightings</i>	18	30
<i>Total hours puffins were observed at Egg Rock</i>	52	61
<i>Total time puffins were observed on land</i>	4 hours 10 min.	35 hours 40 min.
<i>Number of sightings during which a puffin landed on the island</i>	5	15
<i>Percent of sightings containing a landing</i>	28%	50%
<i>Number of days in which puffin pairs were observed</i>	2	7
<i>Observation period (days from first to last sightings)</i>	70	87
<i>Number of days in which puffins were observed</i>	19	28
<i>Percent of days in which puffins were observed</i>	27%	32%

The 1978 Transplant



A 1978 puffin fledgling outside its burrow entrance at Eastern Egg Rock during the days just prior to fledging. A bicolor orange and black band identifies it as an Egg Rock puffin. Individual color band combinations distinguish this bird from other members of its age group.

On July 12th the puffin transplant program continued with the successful transfer of 100 puffin chicks from Great Island in Newfoundland to Eastern Egg Rock in outer Muscongus Bay. The puffin chicks were approximately 10 days old at the time of the transplant. As in previous years, they were reared in sod burrows and fed two meals of smelt each day. Ninety-one of the chicks reached fledging age and the last of these fledged by August 31.

Unlike previous years, in which fledglings were marked with a metal Fish and Wildlife Service band and a single color band designating year of fledging, members of the 1978 group were marked with up to three different colors in combination with the Fish and Wildlife band. This system will permit the recognition of individuals. The release of the 1978 age class brings the total number of puffins fledged from Eastern Egg Rock to 438: 5 in 1973; 54 in 1974; 91 in 1975; 98 in 1976; 99 in 1977; and 91 in 1978. This represents a total fledging success of 97%.

Arctic Terns Prospect For Nest Sites

The outer islands of Muscongus Bay, Maine were once the southernmost major nesting sites for the Arctic Tern. According to early accounts, there were colonies of several thousand birds nesting on Eastern Egg Rock and nearby Shark Island in the 1850's. However, Arctic Tern skins were in great demand for the millinery trade and this resulted in the extinction of the Shark Island colony by 1887. During these years extensive hunting of breeding adults greatly reduced the large colony at Eastern Egg Rock.

By 1895 the terns at Egg Rock had begun to recover from the hunting pressure of the late 1880's and approximately 500 terns nested at Egg Rock. A few pair of Arctic Terns continued to nest at the island as late as 1936, but by this time the Herring Gull population had so greatly expanded that the terns were no longer able to successfully compete for nest sites. Great Black-backed Gull and Herring Gull numbers have increased dramatically on the Maine coast due to abundant food in garbage dumps and fish waste from the fishing industry. As a result, there are few remaining breeding sites for Arctic Terns in the Gulf of Maine.

Arctic Terns are notable for their remarkable annual migration from Arctic nesting islands to Antarctica where they circumnavigate the Antarctic continent before returning to the precise location where they nested the year before. Arctic Terns usually breed for the first time when they are four years old, often returning to nest at their natal colony. However, some young terns prospect for new nesting sites at islands near existing colonies and if suitable conditions are discovered, nesting attempts may follow.

Arctic Terns are also noted for their aggressive temperament toward predators that approach too near their nests. Terns will actively harass predators such as Herring and Great Black-backed Gulls and drive them from their colonies. This behavior is valuable to birds such as puffins and guillemots which compatibly share tern breeding sites and coincidentally receive protection from predators. It is of special interest that puffins at Machias Seal Island and Matinicus Rock, the two surviving Gulf of Maine colonies, nest under the protective umbrella provided by aggressive Arctic Terns.

Since the puffin re-establishment project began at Egg Rock in 1974, staff have noted Arctic Terns visiting the island in early summer. These birds often appeared in pairs, gave harsh screams as they circled around the island and hovered over

the flat granite shelves where the original tern population probably nested. After inspecting the island for a few minutes, such visitors usually disappeared over the Atlantic as quickly as they appeared. In past years terns seldom landed on the island or exhibited preliminary nesting behavior.

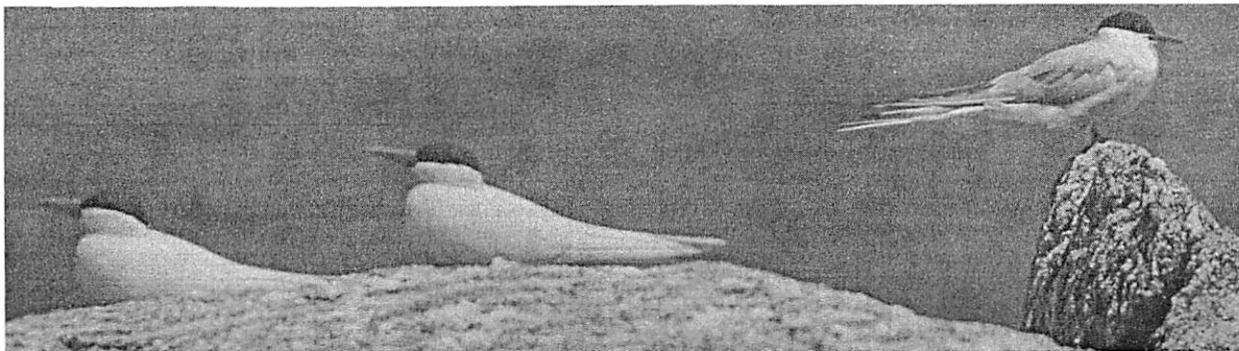
During the summer of 1978 an effort was begun to lure prospecting terns to Egg Rock in an effort to re-establish a colony. This was accomplished by discouraging gulls from nesting and by uprooting vegetation from a large deposit of gravel.

To give the impression of an active colony, 38 Arctic Tern decoys were positioned in suitable tern nesting habitat. To further simulate an active colony, a remote speaker projected Arctic Tern flock sounds. The tern decoys were reproduced on a multiple carving machine from original carvings by Donal C. O'Brien, Jr., a board member of the National Audubon Society. It was hypothesized that prospecting Arctic Terns would find the decoy set attractive and that it might encourage them to nest at the edge of the decoy group.

The first Arctic Tern of the season visited Egg Rock on May 8th. In typical strong flight, it winged over the low grassy meadow in the center of the island — then did a double-take as it passed over the decoys. It hovered over the decoys for nearly a minute before continuing eastward away from the island. Similar encounters — perhaps by birds already committed to nesting in other colonies were common in early summer.

On May 23rd a pair of Common Terns and a pair of Arctic Terns landed among the decoys. Before the day was over, observers watched the birds display to one another and perform courtship feedings followed by matings. From this date on, terns frequented the decoy set with encouraging regularity. Both tern species were frequently seen carrying fish in courtship display and were often seen parading with nesting material in their beaks. This vegetation was deposited in apparent nest depressions and the birds spent considerable time sitting in incubation posture on these depressions.

At least three pair of Arctic Terns occupied positions near the decoys and frequented the island during the summer. These birds expressed their aggressive nature on several occasions by chasing Black-backed Gulls and Ravens from their defended territories. Such behavior offers encouragement that these birds will return to the island next year to breed.



An Arctic Tern sits near two decoys. Several pair of Arctic Terns performed preliminary nesting behavior at Eastern Egg

Rock offering encouragement that terns may recolonize this historic nesting site.

Interesting Miscellanea

Ten pair of Leach's Storm Petrel have nested in empty artificially constructed puffin burrows.

Petrels banded as chicks at Egg Rock are beginning to return to the island. Though probably still too young to breed, four such recoveries were netted at night during the 1978 season. Three of these were three years old, one was four years old.

Petrel netting in 1978 also recovered seven petrels banded at other Maine islands: five from Matinicus Rock, one from Matinicus Seal Island and one from Kent Island (approximately 130 miles from Egg Rock).

One hundred and thirty-nine species of birds were observed on and from the seven acres which comprise Eastern Egg Rock. Some of the more unusual observations included: a flight of 20,000 Black Scoters and 5,000 Surf Scoters on May 8, 31 Gannets on May 10, 12 Northern Fulmars on May 9, Iceland Gull on May 19 and a Blue-winged Warbler on May 12.

Five sightings of Minke Whale were recorded from Egg Rock.

The strongest winds recorded during the observation period (April 23–August 31) were 43MPH from the SE on May 9, the same date when many pelagic species such as Northern Fulmar, Gannet and Sooty Shearwater were observed.

This was the driest summer in the five year history of the project, with only 18 days of measurable precipitation out of the 131 observation days.

A floating puffin decoy which broke loose from its anchor at Egg Rock during the summer of 1977 was recovered at Nauset Beach on Cape Cod this past winter after drifting on a journey of at least 150 miles.

Acknowledgements

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1977-1978 Contributors

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CONTRIBUTIONS continue to be an important source of income to the puffin project. Gifts in support of this research will permit continued monitoring for puffin returns and will support seabird management research such as described in this newsletter. Contributors of \$25 or more will be placed on the mailing list to receive future copies of Egg Rock Update and an 8" x 10" color print of the puffin return among decoys pictured on page one of this newsletter.

Checks should be made payable to the National Audubon Society and directed to the Fratercula Fund. They should be mailed to the Fratercula Fund at the Cornell Laboratory of Ornithology.

All photographs this issue by Stephen W. Kress.