

2005 REPORT ON THE BERMUDA CAHOW TRANSLOCATION AND RECOVERY PROJECT



Fig. 1: Adult Cahow *Pterodroma cahow* (image by Ian Fisher).

Report By:

**Jeremy Madeiros
Terrestrial Conservation Officer
Applied Ecology Section
Department of Conservation Services
Bermuda Ministry of the Environment**

Introduction:

The 2005 Nesting Season of Bermuda's National Bird, the endemic Bermuda Petrel, or Cahow *Pterodroma cahow*, concluded on the 16th June when the last fledgling chicks departed from Bermuda and headed out into the vast reaches of the North Atlantic Ocean, not to return for about 5 years. The annual departure of Cahow chicks from Bermuda is an event that has taken place for hundreds of thousands of years, as confirmed by numerous sub fossil records. The arrival of man rapidly reduced this departure to the barest trickle, reducing the formally abundant Cahow to supposed extinction by 1620 for over 330 years. In 1951, a small number of nesting pairs were discovered on several of the smallest, most isolated rocky islets off the eastern end of Bermuda, which led to the area being declared as a Nature Reserve to protect the species. Despite the odds, an intensive conservation program for the Cahow has resulted in a slow, but accelerating recovery of the species with the number of active nest burrows increasing from 18 in 1962 to the present number of 71 in 2005.

Highlights of 2005 Cahow Nesting Season:

This year's Cahow nesting season featured a number of highlights, including the continuing recovery of the species from the effects of hurricane Fabian in 2003. A total of 6 new nesting pairs colonized nest burrows on 3 of the nesting islets, including 4 on the largest islet. This more than made up for the number of active nest burrows destroyed and lost when large sections of the islets collapsed during the hurricane. 3 of these new nest sites were located in a completely new complex of artificial burrows built on the top of the largest islet after nearby nest burrows low on the side of the islet were destroyed by the huge waves of Fabian. Techniques used to attract these displaced pairs to the new burrows included the use of sound attraction equipment powered by a solar panel and playing back digital recordings of Cahow courtship calls. Another technique has involved going out to the islands at night and picking up pairs of Cahows that were scrambling about on the ground at the former locations of destroyed nests, banding them and placing them together into the new nest burrows. In this way they are then aware of the location of potential new nest sites.

The combination of these two techniques appears to have worked, and at least one of the new pairs includes banded birds that were physically moved into these nest burrows the previous year. The other two pairs have not yet been checked for bands as handling is generally kept to a minimum while new pairs are still establishing. The three new nesting pairs of Cahows at

this site provide a nucleus for a whole new complex or group of nest burrows elevated enough to be safe from most hurricanes.

One of the most significant features of this nesting season is the fact that more than half of this years fledging chicks departed from a new complex of nest burrows on the Nonsuch Island Living Museum. This is the site of a translocation project to attempt the establishment of a new nesting colony of Cahows on Nonsuch, which is much larger and higher in elevation than the present nearby tiny islets that the species is presently restricted to. These islets have been heavily impacted by hurricane impacts over the last 15 years, and their small size in any event limits the ability of the critically endangered Cahow to build up a larger population. Nonsuch Island is the site of an ecological restoration project started in 1960 by Dr. David Wingate, which has re-established native and endemic forest cover on the island and recreated the habitat that Cahows were described as nesting in by the first settlers. The need to establish new populations on larger islands safer from hurricane damage and managed to exclude mammal predators is considered to be of critical importance to the recovery of the species.

Successful Second Year of Cahow Translocation Project:

The translocation Project uses techniques developed to successfully establish a new colony of the endangered Gould's Petrel *Pterodroma leucoptera* to Boondelbah Island, New South Wales, Australia. In this method, chicks are monitored through their development and moved to the new colony site approximately two weeks before fledging.

In 2004, the trial year of the translocation project took place with the assistance of Mr. Nicholas Carlile of the New South Wales department of Parks and Wildlife in Australia. 14 Cahow chicks were moved to the new site on Nonsuch and were fed and monitored through their exercise period, with all eventually fledging successfully out to sea.

In the 2005 nesting season, the total number of successfully fledged chicks this year was 35, up from 29 in 2004. With the larger number of chicks overall, a total of 21 were moved to the translocation site and were fed and monitored with the help of volunteers and staff, mostly from BAMZ and the Department of Conservation Services.

Preparations for the translocation began shortly after the chicks hatched on the nesting islets during late February and March. The chicks are weighed

every 3 to 4 days on average to monitor development and when they reach about 45 to 50 days of age their wing length and plumage development are also monitored to determine the optimal time to move them to the translocation site. Chicks are translocated when they reach 75 to 80 days of age. There was a real scare this year when in April it was discovered that Rats had managed to reach Nonsuch for the first time in 14 years by swimming across from Coopers Island (located 0.35 km east of Nonsuch). Luckily, the Rats were detected before they had time to build up a large population and were eradicated within two weeks by an intensive baiting program. This event highlights the importance of constant diligence and checks as Rats are particularly destructive to burrowing seabirds.

With the Rats successfully eradicated from Nonsuch, the translocation was able to proceed with the first chick moved to its new home on May 8th, also being the first to fledge on May 21st. The last of the 21 chicks was moved to Nonsuch on June 2nd, which I had the pleasure of watching fledge successfully and fly strongly and confidently out to sea on the night of June 15th. These chicks were fed every other day on 35 to 90 grams of squid and fresh Anchovies which were provided by Mr. Chris Flook of BAMZ. This feeding continues until their wing chord (flattened) exceeds 250mm. and/or the chick loses all natal down and attains adult plumage. The chicks then emerge from the nest burrows at night to exercise their flight muscles and explore the surrounding area. It is thought that the chick imprints on its surroundings at this time, which enables them to return to the same location in several years when they mature to attract a mate and find or dig their own nest burrow.

The chicks all departed in good condition with good fat reserves. All chicks remaining on the nesting islets which were not part of the translocation also fledged and there were no weak or abandoned chicks which needed to be taken into care. In fact, many of the chicks this year were unusually large and heavy possibly due to an abundance of food in areas where the adults forage. Unusually strong winds in the western North Atlantic through much of the nesting season may also explain why breeding adults generally were able to carry out more feeding visits than average. 18 of the 24 chicks regularly measured this year attained peak weights of over 400 grams (the previous record being 8 out of 21 chicks in 2002) and a record chick peak weight of 563 grams was recorded. A total of 28 of the 35 chicks were fitted with identification bands this year, bringing the total of adult and fledgling Cahows banded since 2002 up to 183.

I would like to thank all the individuals who assisted in the monitoring and measurement of adult and fledgling Cahows and in particular the moving and feeding of the translocated chicks. Particular thanks go to Chris Flook, Joe Furbert, Jennifer Gray, Annie Glasspool, my wife Leila Madeiros, Mark Outerbridge, Patrick Talbot and Jack Ward. These and other individuals contributed greatly to the success of this year's nesting season and the continuing recovery of our remarkable National Bird.

Jeremy Madeiros
Terrestrial Conservation Officer
Department of Conservation Services



Fig. 2: Adult Cahow removed from burrow for banding (image by Jeremy Madeiros)



Fig. 3: Downy Cahow chick at 45 days of age (image by Jeremy Madeiros)



Fig. 4: One of 21 Cahow chicks translocated to Nonsuch Island in 2005 (Leila Madeiros)



Fig. 5: Translocated Cahow chick receiving squishy squid meal (Leila Madeiros)



Fig. 6: Typical Cahow breakfast menu: 2 squid and 4 anchovies (Leila Madeiros)



Fig. 7: Translocated Cahow chick exercising on Nonsuch Island before flying out to sea (Jeremy Madeiros)



Cahow chicks love to climb rocks, trees...and Conservation Officers! (Image by Leila Madeiros)

