

# CARIBBEAN CONNECTIONS





# Flamingo Project is a Success Story

By James Conyers

**B**AMZ's flamingo flock has a unique place in the husbandry of Caribbean flamingos (*Phoenicopterus ruber*), in that the Zoo is believed to have the most successful long-term captive breeding record for these birds. Once common throughout the Caribbean, these beautiful birds are listed under CITES (Convention on International Trade in Endangered Species) and in the IUCN Red Data Book (International Union for the Conservation of Nature) as a threatened species.

In 1983, BAMZ began working with the Conservation Agency (a U.S.-based conservation organisation active in the Caribbean) and other interested parties on the possibility of developing an in-situ conservation project for Caribbean flamingos within their natural historic range. The area of particular interest was establishing a breeding colony of wild flamingos in the British Virgin Islands (BVI).

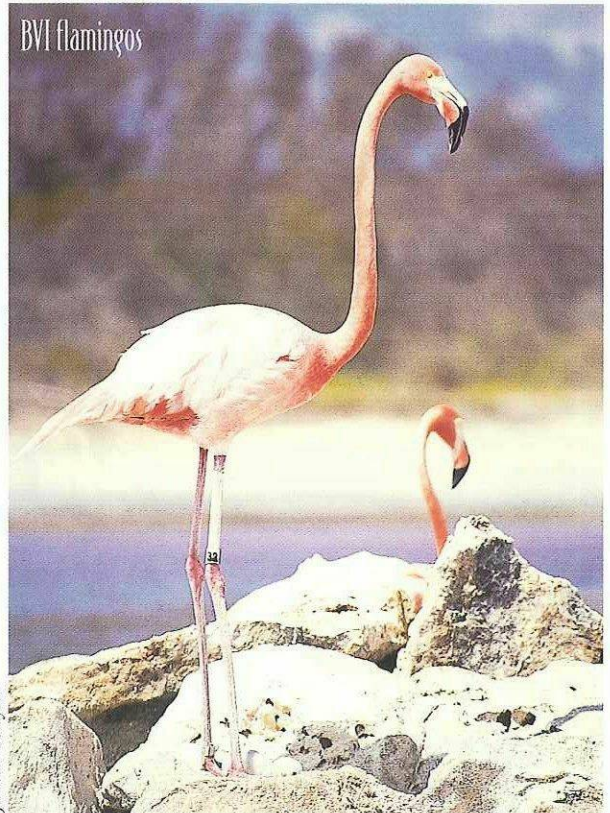
The trial phase involved the export of eight BAMZ flamingos to the BVI Guana Island Wildlife Sanctuary in November 1986. This group was monitored on a daily basis for the next four years to develop and establish a monitoring protocol, and to evaluate the needs for pre-release training and acclimatisation. The second phase involved surveying, selecting and preparing a release site that could support large numbers of flamingos. Research on the original native flamingo population indicated that the last recorded population of BVI flamingos was on nearby Anegada Island, a sparsely-populated, low-lying island (its highest point above sea level is a mere 34 feet) comprising nearly 25 square miles of salt ponds interspersed with thickets of brushy flats.

Anegada was also thought to have been the main historic breeding site for BVI flamingos, with some estimates numbering them in the thousands. However, even as early as 1832 their numbers were on the decline as reported to the Royal Geological Society by a German-born naturalist named Schomburgk, who extensively travelled the Caribbean and reported seeing flocks of hundreds of flamingos on Anegada. His

report also gave some insight on the flamingos' demise throughout the Caribbean, describing how the birds were very popular as food because the young—called 'pulli' (singular, pullus)—could be readily rounded up and herded. Each year, the crop of youngsters was herded, first through the towns of each island supporting a nesting colony, and then on to ships and small boats for transport to other islands where they were sold. A few nesters persisted until the 1950s, but then the widespread use of firearms by indiscriminate 'sport' shooters extirpated the remainder, with the last known birds reported to have been killed around 1963.

By the end of January 1992, plans had been laid for the return of flamingos to the BVIs; permits had been obtained, the mechanics of a flamingo release on Anegada had been worked out, even a brand-new Lear jet had been 'borrowed.' The size of the seed flock was based on observations of our own successful breeding flock and the trials and errors of other captive populations throughout the international zoo community. It was decided the next release needed between 15 and 20 birds, nearly a third of BAMZ's prize birds. These individuals were specifically selected from the flock to provide a representative cross-section of the demographics estimated to enable the introduced flock to prosper in the wild. The hand-picked flock was composed of a mixture of age classes and included proven breeding pairs, juveniles and sub-adult birds, as well as a pair and their 1991 season chick.

The release site was two connecting salt ponds locally known as 'Flamingo Pond' and 'Bones Bight Pond.' The choice of the actual site was left to the local community to decide because without their support the project would never succeed. Working with a local Anegadian, Rondel Smith, we



encouraged the local community to learn about the environmental needs of these birds and we provided as much information as we could. By the time of the actual release, both Rondel and I felt we had the support of the entire island community, practically giving the transplanted flock an unofficial 'bodyguard' of 180-plus wardens.

Since the initial release on Anegada, there has been an increase in the number of vehicles available for hire and hikers on the island. Unfortunately some of the tourists who hire these vehicles have taken to driving or hiking into the salt ponds to get closer to the flamingos. This not only physically damages the ponds, especially as the ponds generally only have a thin surface crust and the vehicles regularly get bogged down, but also disrupts the birds, causing them to scatter. By late 1993, there were reports the flock was no longer one homogeneous unit, but was widely dispersed throughout the island's ponds.

In 1994, I funded an aerial survey and, with Rondel, conducted a thorough ground search of the nearly 20 square miles of salt-ponds, flats and scrub bush in an attempt to locate and observe the dispersed flock. These surveys confirmed the flock was widely dispersed throughout the main salt ponds of Anegada Island, and no courtship or breeding behaviours were evident throughout the 1994 breeding season.

The success of this restoration project depended heavily on the flock settling in an area in which they felt secure enough to ►



◀ breed. Factors that would lessen the likelihood of successful breeding were: disturbances by introduced or feral livestock; disturbances by curious tourists, local salt harvesters, fishermen and hunters; fluctuations in natural food levels and flock dispersal. Efforts have been made to address the human impact through education and, in particular, to discourage vehicular access to the ponds by all but experienced locals—and then only those who have a valid economic justification. Further, efforts have been made to educate the various air charter companies, private pilots and air traffic controllers on the disruptive effects of low-altitude flights across the ponds on the flamingos, believed to be one of the final factors in the extirpation of the original breeding colony (pilots training for the Second World War are known to have buzzed remnant nesting flocks).

It must be noted that the major human threat to the birds was not from the present day Aneadians, who had on their own initiative abandoned one of their most productive salt-producing ponds when the birds were harassed away from the release area, but from the visitors to the Island who chose to ignore the advice and instructions of local residents.

During the lead-up to the BVI project, there had been sporadic reports discovered of small numbers of birds (often single animals or lone pairs) seen in both the U.S.

and British Virgin Islands as well as other islands. Indeed during a 1990 research trip to the Dominican Republic and Haiti for another threatened Caribbean animal, the Hispanolian slider turtle, I stumbled across two pairs of flamingos feeding in a remote pond on the Haitian border. One of the hopes we had was that these 'vagrant' flamingos, dispersed from the few remaining wild populations in the Bahamas and Cuba, would be recruited into the 'new' population and provide important links to other wild populations within the species' historic range. In late 1994, this was realised when four wild flamingos flew in and settled with the introduced flock.

By the beginning of 1995, the accomplishments of the BVI Caribbean Flamingo Restoration Project were remarkable. Captive-bred flamingos had been raised, transported and released within a historic habitat; a protocol for establishing a resident population of a bird species having a complex social and behavioural life cycle developed and the active involvement of the local community in supporting the project was gained. Perhaps the most notable thing was that support of the local community was gained without having to develop specific laws or regulations.

In April 1995, the disappearance of 12 of the introduced birds from the main flamingo area led Rondel and I on another intensive search of Aneгада's salt pond habitat. In a

remote pond at the eastern end of the island five nesting pairs of the BAMZ birds were discovered, which subsequently laid five eggs. During mid-May 1995, I camped on the verge of the salt pond and monitored the nests and behaviour of the nesting birds. All five of the eggs successfully hatched within a week, the first on May 18, the second on May 19 and the other three between May 23 and May 26.

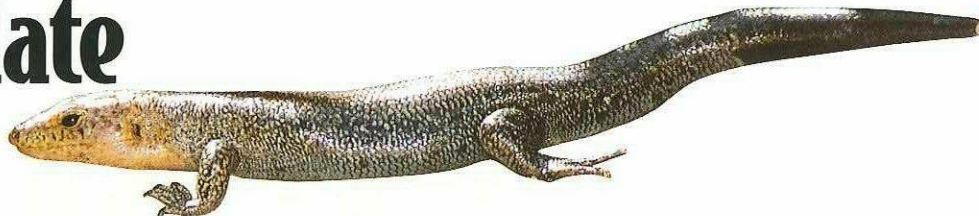
The BVI flamingos have steadily increased their numbers and the latest reports for the 98-99 season indicate the population now numbers 38 birds, with 10 to 12 nest pairs. Since it takes up to three or four years for the chicks to reach sexual maturity, it will be a while before the BVIs' newly established population can be pronounced stable. In the meantime, those involved in the project, as well as many other British Virgin Islanders, biologists and conservationists, are eagerly waiting to see if more baby birds will be hatched in 1999.

It may be a while before the flamingos of the BVIs reach their original thousands, or even the hundreds Schomburgk once reported, but as the next millennium dawns, it will dawn on graceful pink flamingos once again at home in the British Virgin Islands. ■

*James Conyers was former head zookeeper at BAMZ.*

# Skink Update

*By Anne Glasspool*



Our ongoing efforts to protect the endemic Bermuda rock lizard or 'skink,' as it is more commonly known, have taken the following directions over the past year:

- In the summer of 1998, with the support of Island Press and BELCO, a questionnaire was mailed to 33,000 households seeking information about the Island-wide distribution of the skink. Included was a description of the skink, and a paragraph describing the threats to its survival, and recipients were asked for details of where and when they had seen skinks. The survey yielded over 140 responses, far more than anticipated and showed that there still appear to be some extensive tracts of land inhabited by these reptiles, particularly along the South Shore. We will try to determine the numbers of skinks in each area and employ DNA analysis to see if there are distinct sub-populations;
- In the late fall of 1998, two skinks were captured from the Spittal Pond population and immersed into an exhibit in Local Tails. In addition to being a public attraction, and serving as an important public educational tool, this exhibit is providing us with the opportunity to learn more about the biology of the skink about which little is known;
- At the end of 1998, we launched our 'Have a drink and save a

skink' campaign in partnership with John Barritt & Son Ltd. For the first three months of the new year, all Barritts Ginger Beer cans supported a picture of the skink, and a message about the threats of discarded soda cans to the animal. Visitors to BAMZ were entitled to half-price admission if they brought one of these cans with them, and in addition to the skink exhibit in Local Tails, there was also an interpretive skink exhibit set up;

- In the summer of 1998, we partnered with the Ministry of Works and Engineering to support a Bermudian student, André Raine in conducting population studies of several locations known to be inhabited by skinks. This fieldwork contributed towards his Master's degree for the University of London. André gathered some valuable data about the skinks on two islands in Castle Harbour, Inner Pear and Charles Island, and one mainland site, Spittal Pond. He calculated there were 52 skinks on Inner Pear, 123 on Charles Island and 124 from the coastal tract of Spittal Pond. Additionally, he recorded morphometric differences (eg. tail length versus snout-vent length) in the skinks at the different sites, suggesting that they may be distinct sub-populations. This data may prove very important in the future conservation of the skink. We look forward to continuing this work in 1999. ■