



**Bermuda Audubon Society**  
**NEWSLETTER**

**Summer**  
**1998**

**P O Box HM 1328, Hamilton HM FX Vol.9 No.2**

## **THE FERAL CAT PROBLEM**

The government grant to Bermuda Feline Assistance Bureau raises the stakes in the growing controversy between BFAB's feral cat trap, neuter and release approach, and concurrent biodiversity conservation efforts in Bermuda.

While we accept that both BFAB and the various conservation agencies are striving towards the same goal of reducing the feral cat population in Bermuda, the controversy revolves around the efficacy of the approach BFAB is using. They rightly claim that they are the only group which is actually trying to do something about this problem, but all of the people we know who are involved in local biodiversity conservation efforts are equally convinced that the BFAB approach, particularly in regard to their proliferating cat feeding stations in rural areas, is actually making the problem worse. Considering that our tax money is now being used to help BFAB, it is all the more urgent that this question is addressed scientifically and dispassionately.

The rationale of the BFAB approach is as follows: If all the feral cats can be trapped and neutered, there will be no long-term harm in letting them live out the rest of their lives comfortably with the aid of feeding stations because they will be unable to breed and will eventually die off naturally of old age. They also argue that well fed cats don't bother to kill wildlife although some of their claims are ambiguous in this regard, such as the recent news release (Royal Gazette, 1st April) claiming that their reduction of feral cats was the reason for the increase in feral chickens because formerly the cats controlled them!

The conservationist argument in rebuttal is as follows:

1) Given the extremely high reproductive potential of cats, it would only require BFAB's failure to capture 5% of the feral cat population to guarantee enough new kittens born to replace losses from mortality, thereby maintaining the population ad infinitum.

2) Even if BFAB succeeded in catching all of the feral cats, the problem still would not be solved because of all the privately owned cats which are not required to be spayed and yet are free to roam, breed and benefit from the feeding stations!

3) The maintenance of feeding stations, especially in rural areas where sources of human garbage and handouts would otherwise not be so readily available, actually makes it possible to maintain cat populations four to tenfold denser than what nature alone could support. (This is no exaggeration - some of the feeding stations do, in fact, support up to 40 cats!)

4) While it is true that well fed cats might not tackle larger prey, where risk of injury is possible, (such as longtails or adult chickens), there are numerous documented scientific studies which prove that even well fed cats continue to hunt smaller prey (such as mice, lizards and small passerine birds), instinctively for 'play' or to hone hunting skills.

5) Such incidental hunting by unnaturally dense cat populations maintained by feeding stations, could easily tip the scale towards extinction for such endangered local species as the bluebird and our endemic skink.

6) There is no controversy over whether cats do kill these species in significant numbers. Local conservationists obtain proof of it all the time as people telephone the Audubon Hotline, or the Aquarium & Zoo, to report that "their cat just caught the female bluebird at their nestbox", or "walked into the house with a dying skink in its mouth", or "a neighbour's cat just killed all of my bluebird fledglings as they emerged from the box and fluttered to the ground".

7) The situation is especially critical in Bermuda because we are now almost totally suburban. There are no rural areas large enough, or remote enough, to be beyond the reach of our free-roaming pet cats, let alone the additional feral animals that we are now supporting with feeding stations!

8) Finally, cats are reasonably long-lived, especially if aided by feeding stations. Can we really afford to allow them to live out their days for perhaps another 6-10 years while the bluebird and skink risk extinction now?

All of these points raise the obvious questions: Why on earth go to all the trouble of capturing, neutering, re-releasing and feeding feral cats if the stated goal is to reduce or eliminate them? Is it any more cruel to put them to sleep for good if you are going to put them through the trauma of capture and anaesthesia for neutering anyway? Pondering this question causes some to suspect the real motives of the BFAB membership. Only a fanatic sentimentality could explain such an illogical approach.

Many local conservationists are convinced that the feral cat problem has actually gotten worse, not better, because a few fanatical cat-lovers have persuaded both the SPCA and the private and government veterinary services to stop putting down unwanted cats, by offering to set up colonies with feeding stations instead whenever there are not enough home-owners willing to take them on as pets. Given the cat's enormous reproductive potential, and in the absence of legislation requiring licensing for breeding or compulsory neutering, the whole situation has spun out of control. More and more feeding stations have had to be set up and more and more money found to provide the cat food. When there were no longer enough people willing to have feeding stations on their private properties, BFAB even began establishing them on government land and parklands, thus imposing their narrow self-interest on a public that might actually prefer native wildlife, such as bluebirds, in its parks. Despite what BFAB may claim, this is the state of affairs as we see it now, with more feral cats than ever before!

Clearly we all need to step back and take a sane and more scientific look at the problem. Given the cat's reproductive potential in the presence of adequate food, we must either revert to humane euthanasia on the unfortunate scale that the SPCA and veterinary services used to do it in the past, or we will have to pass comprehensive licensing legislation and set up a cat-catching authority for cats, much as we have licensing and dog-catching for dogs today. The challenge is formidable, but nowhere is it more important than on the world's remote oceanic islands like Bermuda, where the original native heritage typically evolved in the total absence of any mammalian predators, including man, and where introduced cats have been responsible for more documented extinctions of endemics than on all the continents combined.

Surely, the survival of our uniquely Bermudian species is more important than maintaining unnaturally high populations of feral cats that everybody claims not to want anyway!

## Migrant warblers like Bermuda Cedars in the springtime!

Over several decades of birding in Bermuda, I have gradually come to recognise a consistent seasonal pattern of feeding habitat choice by the wood warbler family, which makes up most of the passerine migrants in Bermuda.

In the early fall they are found mainly in mangroves, tamarisk and casuarinas, which have high populations of tree crickets, leaf hoppers and spittle bugs, respectively. In the late fall and winter, they favour the broad-leaved forests of fiddlewood and the fallow arable fields, with their aphids, whitefly, moths and cutworm, as well as the casuarinas.

In spring, however, they show an exclusive preference for Bermuda cedars, apparently because the insect and aphid populations peak on cedars at this season. This realisation came gradually because for many years after the great cedar scale epidemic, there were only isolated surviving cedars - not enough to hold the birds in one particular locality. With the gradual evolution and increase of a scale resistant strain, however, (aided in part by deliberate plantings), there are now some significant groves of healthy trees - enough to attract and hold the spring migrant warblers.

Three such groves of cedars result from reforestation efforts which I organized myself, viz. Great Head Park, planted in 1972 with trees now 25-35 feet high, Stokes Point Nature Reserve, planted with resistant 'clone' cedars in 1985 (now the healthiest stand of young cedars in Bermuda), and Nonsuch Island's east shore area, planted between 1972 and 1984. Now, twenty-five years later, I am reaping unexpected rewards for all that hard work of planting!

How extraordinarily satisfying it is to be able to predictably find 2 to 6 species of spring migrant warblers ONLY in these groves whenever I check them between late March and mid-May. This year's records included the earliest ever Blackburnian warbler on Nonsuch, the latest ever Prothonotary warbler at Great Head Park, and a total of 21 warbler species plus Red-eyed vireo, between the three aforementioned cedar plantations. That's pretty good for spring when our passerine migrants tend to be sparse at best!

David B. Wingate

..... and talking of spring birds ..... migrants have been few and far between, but there have been some interesting sightings. A Tufted Duck at Mid-Ocean Golf Course on March 4th was only the third record for this species, following two together in 1993. Bermuda's fourth greater White-fronted Goose turned up at the Civil Air Terminal on May 16th and the following day David Wingate was able to add it to his Nonsuch List as it flew over the island honking! The first ever spring record of Vesper Sparrow occurred on April 1st at Ferry Point. One Swallow-tailed Kite was reported from Port Royal Golf Course on April 23rd.

The biggest disappointment this spring has been the lack of pelagic birds off-shore. A lack of suitable wind direction, and perhaps the effects of El Nino have resulted in hardly any Greater, Sooty or Cory's Shearwaters being seen up to mid-June.

However, what birds may have been out there this spring? One of the joys of birding is that you never know what unusual species is going to turn up next. Tantalizing reports of Masked Booby, Great Horned Owl, Elegant Tern and even Bananaquit were never verified. The belated news and description of the owl sounded particularly convincing - so if you are not sure about that strange looking bird - phone the hotline!

Andrew Dobson

## Bermuda Biodiversity Project

Biodiversity, that is, the sum total of all living organisms within their genetic and environmental context, is now increasingly recognised as a priceless and irreplaceable yet insufficiently understood resource on which our quality of life and survival depend (Wilson, 1992). There is a rapidly expanding list of organisms that are now used in the development of new crops, biological control agents, chemicals and pharmaceuticals. More importantly, biologically diverse systems such as coral reefs or tropical rainforests are not only more productive than their species-poor counterparts, but are also more stable in the long run, providing their surroundings with a safety net of services that include soil stabilisation, hurricane protection and climate control (Hawksworth, 1995). We know of major changes in biodiversity resulting largely from human activities such as fishing and hunting, agriculture and industry, pest control and exotic species introductions, development and habitat destruction, and pollution. It is estimated that there may be as many as 30 million species in the world; less than 5% of these have been described by man. Many species will become extinct before we have even named them, let alone gained an understanding of their value to us or the biosphere itself. Some estimates suggest that if the current rate of extinction continues, up to one third of all animal and plant species could be lost within the next 20-30 years; or, put another way, one species is being lost every 20 minutes!

Owing to its small size and long history of research, Bermuda is one of the best studied environments on earth. From over 3,000 references that have been published about the Island's natural history, we know that Bermuda's current species diversity totals over 8,000, a surprisingly high number for such a small place. We know of at least five cataclysmic changes to Bermuda's ecology. The first of these, the loss of many endemics such as birds and snails, was a consequence of flooding during the Ice Ages, some 125,000 years ago. These were followed much later by: 2) the near-extinction of the cahow and local sea turtle populations, and the introduction of a host of foreign species around the time of Bermuda's colonisation, 1609; 3) the near-extinction of the endemic cedar and related species (cicada etc.) followed by another wave of introductions in the 1940s; 4) the ecological change of Castle Harbour basin as a result of massive dredging for airport construction in the early 1940s; and 5) the bloom of the alga *Cladophora prolifera* throughout most inshore waters from 1960 on. Many more species have disappeared (e.g. the coral *Cladocora*; sea stars, sea anemones, commercial sponges), or turned up (e.g. the Calico clam, the red burrowing sponge *Cliona lampa*; the corals *Scolymia* and *Briareum*), but we do not know why.

In a concerted effort to promote the conservation of Bermuda's natural resources, BAMZ/BZS has taken the lead in coordinating the Bermuda Biodiversity Project, which represents the first attempt to create a comprehensive information management system for Bermuda's natural resources. Launched in February 1997, the backbone of this project is the database which will provide the framework for bringing together widely dispersed information sources which will then support a range of applications (e.g. resource management, land planning, scientific research). This initiative is intended as a cooperative venture involving various Government departments, NGO's and individuals both locally and overseas.

The first phase of this project is nearing completion. Over 3,000 documents describing Bermuda's natural history (both terrestrial and marine) have been unearthed and a bibliographic database has been compiled. The next step is to compile a biological inventory, from which information gaps can be identified and accurate up-to-date information collected to fill these gaps. Particular effort will be made to ensure that this information is presented in an appropriate form for local planners and resource managers.

A primary focus of the BBP is to target 'high priority' conservation issues/species and develop action plans involving community participation. This is being accomplished in part through our educational programmes in which over 6,000 local children currently participate. A population survey of the critically endangered, endemic Bermuda Rock Lizard or skink has already been undertaken. Recommendations emerging from this survey, including follow-up surveys, captive husbandry and public awareness campaigns have already been initiated.

A fundamental component of the BBP is the mapping of Bermuda's marine and terrestrial habitats to provide baseline environmental data. In April 1997, BAMZ became partners in an initiative to support the production of an aerial photographic survey of Bermuda and the surrounding marine platform which will support subsequent digital orthophotography and incorporation into a GIS database currently being developed by the Bermuda Government. Integration of the habitat data into this GIS database will allow for both qualitative and quantitative analysis and will serve as a powerful vehicle for information management and decision support. Mapping protocols and training programmes have been designed to include community volunteers and school children (as well as local experts) in this undertaking. By involving the community in this way, we hope not only to be able to provide the necessary information required by local planners, resource managers and policy-makers, but also to promote community understanding of the sensitive issues facing planners, environmentalists, resource managers and resource users, as well as developing a core of in-situ environmental watchdogs. Field surveys commenced in February 1998.

Objectives defined for the mapping of Bermuda's terrestrial and marine habitats are:

- To establish a current baseline from which future changes can be monitored. Long-term, high resolution records of biotic abundance, diversity, and habitat condition are necessary in order to document the need for future management action. Habitat surveys employing traditional ecological survey techniques are being employed for this.
- To identify potentially sensitive areas or areas of major importance. A necessary prerequisite in catastrophic planning is the identification of areas that might be particularly vulnerable either to a sudden environmental disaster such as an oil spill, or to continuous degradation arising from a persistent environmental hazard such as increasing sedimentation.
- To integrate the local resource management authorities, the scientific community and the resource users in the management processes to define common goals and to recognise the significant pressures and conflicts that multiple use creates.
- To develop a core of in-situ environmental watchdogs by involving the local community.
- To make a significant contribution to the Bermuda Biodiversity Project.
- To provide an educational element by including BAMZ staff and local students in the monitoring programme. Only by educating the public and promoting the need to protect the local environment, can conservation initiatives be effective.
- To promote ecotourism. The economic value of ecotourism to local communities is becoming increasingly apparent. Visitors interested in participating in active sports such as snorkelling and diving, or bird enthusiasts are looking for ways in which they can make a contribution to protecting the environment. This high profile, community-orchestrated monitoring programme will fulfill such desires at the same time as promoting the intrinsic value of the resource.

## Progress

Although in its early stages, this project has generated the interest of the Department of Planning who wish this information to be incorporated into the Development Plan 2000 for Bermuda, along with the supporting information explaining the rationale for conservation zonings to the public. A protocol has been developed and the active involvement of schools in the field mapping endeavours has been initiated. The general format for student groups is:

- 1) A visit to the classroom by project staff to explain what is meant by 'biodiversity' and the goals of the Bermuda Biodiversity Project.
- 2) Fieldwork to conduct two or more vegetation transects in different habitats.
- 3) A visit to the Department of Planning to see how GIS computer software works and how data from the Biodiversity Project is to be used.

A group of dedicated community volunteers has also been trained to assist with the terrestrial field mapping. Baseline data has been collected for approximately 10% of Bermuda's open spaces. Nature trail guides are being produced for all public areas as surveys in each area are completed. One has been produced and a second is nearing completion. In the coming year it is intended that all terrestrial open spaces will have been surveyed and the information incorporated into the GIS database. A small group of volunteer divers (including marine operators) has been trained to conduct marine habitat surveys, with the intent of including visitors in an enhanced ecotourism experience. Marine mapping has commenced in the inshore waters.

(Information compiled by BBP Director, Wolfgang Sterrer and Project Leader, Anne Glasspool.)

### Bermuda Audubon Society

## HOTLINE

**235-5513**

**or**

**297-2623**

Bird News

Society Business

Environmental Concerns

### Bermuda Audubon Society Committee 1998/99

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	Bruce Lorhan
	David O'Neill
	Stuart Smith
	David Wingate
Newsletter	Andrew Dobson

## **Bluebird workshop emphasised the importance of nestbox management**

Every year we witness the enthusiastic purchase of bluebird nestboxes from the Bermuda National Trust and other outlets, either as gifts for Christmas and Easter or because a pair of bluebirds has appeared in the garden. The sad fact is that these boxes get installed and then all too often get forgotten or neglected until they fall apart.

At our Bluebird Workshop held on 14th March, under the distinguished patronage of Mrs. Jennifer Masfield, we emphasised how important it is to monitor and manage boxes after they are installed. Most people are reluctant to do so because they think constant checking inside the box will scare the bluebirds away but, in fact, the opposite holds true. Bluebirds are never put off by box checking, and monitoring can reveal problems before they become critical, such as a dead chick which is in the box attracting ants, mite infestation, or attempted take-over by sparrows. Failure rates are typically high with bluebirds, so many people get easily discouraged, but it is important to prevail because bluebirds will try over and over again and one success can make up for many failures! Although failures due to displacement by sparrows are common in spring, it is important to recognise that bluebirds will continue trying even into August - long after sparrows stop nesting in late June.

The bluebird needs all the help it can get because the gradual urbanisation of Bermuda is steadily reducing the habitat it requires for survival. We have learned, to our dismay, that bluebirds are no longer viable in areas where the housing density exceeds two houses per acre - close to the average housing density on Bermuda today! Nor can they survive in areas of dense broadleaf forest such as allspice and fiddlewood. This means that they are now wholly dependent on a few golf courses and low density residential areas. Unfortunately, many of the latter are being re-developed with larger houses and swimming-pools to cater to the upscale market, eating up valuable lawn areas with tarmac and concrete. Feral cat feeding stations in rural areas may also be tipping the scale towards their extinction.

We found no active bluebird nests on the spacious Government House grounds, when we visited there during the Bluebird Workshop, despite ample provision of boxes - a clear indication that the bluebird is in trouble!

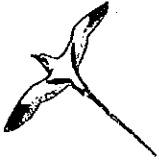
David B. Wingate

(Note: If anyone would like a copy of our Bluebird Fact Sheet, which answers most of the commonly asked questions about bluebirds and nestbox monitoring, please call Penny Hill at 292-1920 (after 6.00 pm), and she will be happy to send you one.)

**Environmental Concerns? Talk to your MPs and prospective candidates - they need to know! With an election looming, your voice can be powerful.**

*If undelivered please return to:*

Bermuda Audubon Society  
P O Box HM 1328  
Hamilton HMFx



<b>Future Events</b>	
<b>Saturday 20 June to Saturday 27 June</b>	<b>Nonsuch Island Natural History Camp for students</b>
<b>Sunday 12 July</b>	<b>Nonsuch Island Open Day. Boat leaves BBSR 10.00 am, returns 3.00 pm. Reservations 292-1920 (after 6.00 pm) Cost: \$20.00 adults \$10.00 children Bring swimsuits and picnic</b>
<b>Sunday 23 August</b>	<b>Spittal Pond 'Shorebirds and Muffins' Field Trip. 7.30 am East End car park.</b>
<b>Friday 2 October to Sunday 4 October</b>	<b>Birdwatching Weekend - Paget Island Depart Ordnance Island 6.00 pm. Reservations 236-7410 Cost \$40.00</b>