

THE BERMUDA
AUDUBON SOCIETY



50TH ANNIVERSARY
1954-2004



A WELCOME FROM THE BERMUDA AUDUBON SOCIETY'S PATRON

As Patron of the Audubon Society, it gives me enormous pleasure to pay tribute to the Society's 50th Anniversary. This is a remarkable milestone given the impact that all the members have had on the preservation and conservation of Bermuda's fauna and flora. It has been accomplished through a strong advocacy and educational programme throughout the community to cherish our most valuable natural heritage which in turn has galvanised the support for acquisition of open spaces. Success stories include the protection of many wetland habitats, the Alfred Blackburn Smith Nature Reserve and most recently, Long Bay Reserve in Sandys. Such action allows a wealth of biodiversity to flourish.

I count myself as one of many who has been inspired to learn more about birds purely through the enthusiasm of the Society. Workshops, field trips and individual encouragement give all of us the incentive to find that rare bird, to seek out opportunities to visit other Audubon reserves or simply to delight in someone else's success story. Audubon has opened up a whole new world for me, given me a new interest and made my powers of observation keener. Travel itineraries are now devised to include nature reserves and trails suitable for bird watching. The recent discovery of such an area was southwest Florida, especially at the Corkscrew Swamp Sanctuary, this year also celebrating its 50th Anniversary. I was thrilled to record 20 different birds which I had never seen in

the wild, including a Painted Bunting, as I meandered through the swamp and forest habitats along a 3-mile boardwalk. Daily recreation in our garden or on the water often brings rewards, such as watching bluebirds care for their young, spotting the gracefully camouflaged young herons, observing a Great Egret on the prowl for lizards, out in Paradise Lakes tracing the flight of longtails or the rarer Red-tailed Hawks, or simply listening to the cardinal sing. It makes my day just to observe one of these natural wonders. My husband and I were privileged to watch the feeding of the newly relocated Cahow chicks on Nonsuch. They were about to take their first flight. This was a once-in-a-life-time opportunity which we shall never forget, along with Nicholas Barton, one of Audubon's youngest keen members.

I pay tribute to the continuing collaboration between Audubon, the National Trust, the Zoological Society, Government and the private sector in lobbying for and educating about the value of wild birds and animals, plants, soil and water. Audubon has recognized that it is in Bermuda's interest to host and to attend international conservation conferences to focus on sharing knowledge and benefiting from each other's experience, research and new discoveries.

And I salute the Society's dedication to encourage young people to take care of their immediate surrounds which are instrumental to the bio-diversity of the

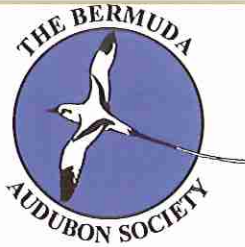
Island and ultimately to its survival as a pleasant and healthy place to live. The natural history summer camp on Nonsuch is a good example of nurturing young people's interest in living under the stars and getting close to nature, and for many, a beginning of serious studies in ornithology, horticulture, conservation or marine science.

I intend to be a life-time supporter of Audubon world-wide and to cherish the experiences I have gained here in Bermuda. I will continue as Patron to promote the Society's activities in welcoming young people and their families to Government House to study the biodiversity on the grounds, to hold workshops or field trips and to use it as a venue for meetings.

In that spirit, and as a small gesture of marking this 50th Anniversary Year, I am arranging for five endemic or native trees, named in honour of Bermuda Audubon Society, to be planted at Government House as part of our post-Fabian landscaping programme to attract more birds to the property. And by the time the next big Anniversary comes round, perhaps members can gather to note how the trees and bird life are progressing and to look back and remember this Special Year.

Lady Vereker

LADY VEREKER



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AUDUBON SOCIETY'S

50TH ANNIVERSARY
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OBJECTIVES OF THE SOCIETY:

A) TO AROUSE THROUGH EDUCATION, PUBLIC RECOGNITION OF THE VALUE OF AND NEED FOR PROTECTING WILD BIRDS AND ANIMALS, PLANTS, SOIL AND WATER, AS WELL AS THE INTERDEPENDENCE OF THESE NATURAL RESOURCES.

B) TO COOPERATE, AS OCCASION PROMPTS, WITH CONSERVATION AGENCIES, AND WITH PRIVATE ASSOCIATIONS DEVOTED TO THE INTERESTS OF CONSERVATION AND TO EDUCATION IN THE FIELD OF NATURAL RESOURCES.

C) TO ENGAGE IN SUCH EDUCATIONAL, SCIENTIFIC, LITERARY, HISTORICAL, PHILANTHROPIC AND CHARITABLE PURSUITS AS MAY BE A PART OF THE AFOREMENTIONED OBJECTIVES.



from left: TARITA CARTWRIGHT, DAVID O'NEILL, DAVID WINGATE, RICHARD AMOS, JENNIFER GRAY, FIONA DOE, ANDREW DOBSON, JEREMY MADEIROS, LEILA MADEIROS

THE BERMUDA AUDUBON SOCIETY IS A NON-PROFIT MAKING REGISTERED CHARITY, FOUNDED IN 1954. THE SOCIETY HAS NO OFFICE OR PAID OFFICIALS. THE SOCIETY IS ORGANIZED AND RUN BY AN EXECUTIVE COMMITTEE OF VOLUNTEERS.

REGISTERED CHARITY No.099



I AM EXTREMELY HONOURED TO BE PRESIDENT OF THE BERMUDA AUDUBON SOCIETY IN ITS 50TH ANNIVERSARY YEAR. THIS SPECIAL CELEBRATORY MAGAZINE NOT ONLY TRACES THE HISTORY OF THE SOCIETY BUT ALSO LOOKS AT SOME OF THE SUCCESSES AND REAL ENVIRONMENTAL ISSUES BEING FACED TODAY. YOU WILL ENJOY READING DAVID WINGATE'S HISTORY OF THE SOCIETY SINCE ITS FORMATION BY A GROUP OF COMMITTED ENVIRONMENTALISTS IN 1954.

A WELCOME FROM THE PRESIDENT

Over the past 50 years, the Society's work has been undertaken without any paid officials. What a fantastic effort! I would like to take this opportunity of thanking the scores of individuals who have devoted so much time over the years actively supporting the Society, both the committee members and volunteers. The Society is in an extremely healthy position, with regard to both finance and organization. In the 15 years that I have been involved with Audubon, the Society has maintained an active programme of field trips, lectures, workshops and natural history camps. Environmental education has also been promoted through regular newsletters and an informative website. It is pleasing that we have contributions to this magazine from two of our junior members. Environmental advocacy has been carried out on a variety of issues, including protection of open spaces and control of invasive species. Great efforts continue in trying to help our bluebird population which is dependent entirely on nest boxes for breeding success.

More than ten percent of the world's 10,000 species of birds are in trouble. Seabirds are having a particularly hard time, facing a variety of problems including habitat loss, global warming, pollution and fishing practices. All three species of Bermuda's breeding seabirds are faced with serious threats. You will be able to read about the significant effort being made to help our Longtails (the Society's emblem!); the on-going Cahow recovery programme which has entered an exciting stage; and the disastrous fate of our Common Terns.

One hundred members attended an anniversary dinner at Horizons in June. What a memorable evening that was! It provided an opportunity not only to reminisce but also to look to the future. One of the most exciting projects of our anniversary year is the 'Buy Back Bermuda' campaign. This exciting initiative between the Society and the Bermuda National Trust will raise \$1.7 million to purchase and restore land at the eastern end of Somerset Long Bay as a nature reserve. We have already

received fantastic community-wide support and I am confident that we will achieve our target before the end of 2005! Do read more about the BBB campaign in the magazine – and we would love to hear from you! You will also read about our latest reserve acquisition. The number of reserves owned or managed by the society has increased to fourteen. These are featured in an article by former President, Jennifer Gray. We are also involved in the production of a natural history documentary film featuring Nonsuch Island and the Cahow. It continues to be a very full year!

The Society continues to enjoy working with other organisations in an attempt to develop and safeguard Bermuda's natural environment for the future. We look forward to maintaining close links with government and environmental NGOs in Bermuda, as well as international organisations.

Andrew Dobson

ANDREW DOBSON

MESSAGES OF CONGRATULATIONS

"How fortunate for the Bermudian birds—and the citizenry—that Bermuda Audubon came into being and rose to the twin challenges of conservation and education, just in time to save and to restore a lovely mosaic of endemic-rich habitats. The enthusiasm and effectiveness of your society are truly examples for bird clubs and conservation efforts everywhere, and Bermuda's future generations are the richer for all your good work."

ED. S. BRINKLEY, NORTH AMERICAN BIRDS JOURNAL

"I would like to congratulate the Bermuda Audubon Society for 50 years of leadership in protecting our delicate environment."

BOB STEINHOFF, PRESIDENT, BERMUDA ZOOLOGICAL SOCIETY

"I would like to congratulate the Bermuda Audubon Society on its outstanding contribution to seabird conservation."

ANN SUTTON PH.D. CHAIR, SEABIRD WORKING GROUP & SECRETARY OF THE SOCIETY FOR CONSERVATION AND STUDY OF CARIBBEAN BIRDS & DIRECTOR OF CONSERVATION, THE NATURE CONSERVANCY IN JAMAICA

"On behalf of the Department of Conservation Services, I wish to extend congratulations to the Bermuda Audubon Society for its 50 years of conservation in Bermuda. Through positive action, the Society has firmly established its position as a leader in this arena. We look forward to continuing to work together to preserve Bermuda's unique natural heritage."

JACK WARD, DIRECTOR OF CONSERVATION SERVICES, BERMUDA

"Cheers to BAS on 50 years of vital accomplishments for Bermuda birds and the environment. Thank you for your inspiration, dedication and hard work - we look forward to the next 50."

LISA SORENSON, PROJECT COORDINATOR, WEST INDIAN WHISTLING-DUCK AND WETLANDS CONSERVATION PROJECT

"Congratulations to the Bermuda Audubon Society for being a leader in the conservation of Bermuda's natural heritage for 50 years. I am delighted to help the society achieve its mission of bringing public awareness to the rich bird, animal, and plant life of Bermuda through education."

DEIRDRE BRENNAN, PRODUCER "BERMUDA'S TREASURE ISLAND", CASTLETOWN PRODUCTIONS, NEW YORK. MEMBER OF THE EXPLORERS CLUB

"The BirdLife Caribbean Program wishes the Bermuda Audubon Society another 50 years of invaluable environmental education and awareness raising, and biodiversity conservation efforts."

DAVID C. WEGE, BIRDLIFE CARIBBEAN PROGRAM MANAGER

"Congratulations to the Bermuda Audubon Society on 50 years of dedication to the biodiversity of Bermuda and its surrounding waters."

CAROLYN WARDLE, COORDINATOR OF THE ORNITHOLOGY GROUP, BAHAMAS NATIONAL TRUST, NASSAU, BAHAMAS

"Congratulations to the Society on its 50 years of looking after Bermuda. As the only Audubon Society amongst all our UKOT members, you are still fulfilling your mid-Atlantic linking role well too!"

MIKE PIENKOWSKI, CHAIRMAN, UK OVERSEAS TERRITORIES CONSERVATION FORUM

"The Bermuda National Trust and the Bermuda Audubon Society share a common passion and commitment: the preservation of open spaces and natural habitats. Congratulations on your 50th Anniversary and we extend best wishes for many more years of continued success in the conservation of our natural environment."

W. WAYNE JACKSON, J.P., PRESIDENT THE BERMUDA NATIONAL TRUST



IT GIVES ME GREAT PLEASURE TO CONGRATULATE
THE BERMUDA AUDUBON SOCIETY IN REACHING
THE MILESTONE OF ITS 50TH ANNIVERSARY!

CONGRATULATIONS FROM THE MINISTER

The Society from its humblest beginnings to the present day has been recognized always as an active, hardworking charity dedicated to the protection and conservation of Bermuda's natural heritage and birdlife.

One of your most impressive achievements is the fact that since 1954, the Society has remained a totally volunteer organization run by a knowledgeable and dedicated Executive Committee without any paid employees. This is a remarkable feat when one considers how demanding life has become and how successfully the Society has achieved its objectives and outreach in both the local community and overseas.

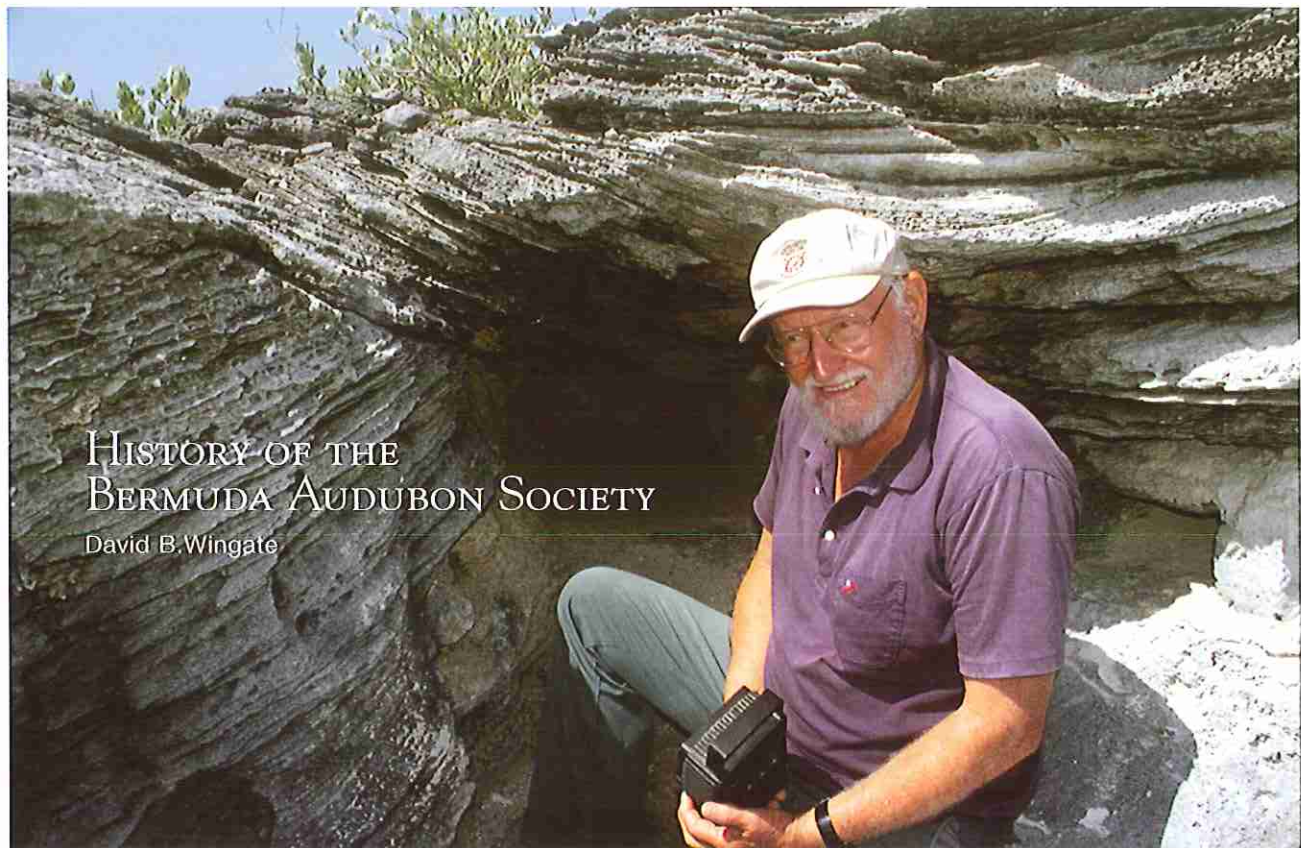
Another accomplishment of the Society is its ability, through education, to awaken a recognition of the value and need to protect wild birds and animals, plants, soil and water, and the interdependence of these natural resources. An example is the Society's Nonsuch Island Natural History Camp for secondary school students that has been held for over 25 years. The camp has given countless young Bermudians an in-depth opportunity to experience Bermuda's unique biodiversity while living on Nonsuch Island for a week. Many alumni have gone on to develop a love of Bermuda's environment and are giving back to Bermuda in a significant way.

Also, Bermuda owes a great deal to the Society for its dedication to the preservation of wetlands and ponds scattered throughout the island which provide such an important habitat for Bermuda's birdlife.

I wish to sincerely thank the members and volunteers of the Bermuda Audubon Society for their hard work and their accomplishments, and to pass on my very best wishes to the Society as it continues to care for our irreplaceable natural environment.

A handwritten signature in black ink that reads "Neletha Butterfield". The signature is written in a cursive, flowing style.

THE HON. D. NELETHA BUTTERFIELD, J.P., M.P.
MINISTER OF THE ENVIRONMENT



HISTORY OF THE BERMUDA AUDUBON SOCIETY

David B. Wingate

(David B. Wingate at the site of the rediscovery of the Cahow)

IN 1954, A SMALL GROUP OF LOCAL NATURALISTS GOT TOGETHER TO ADDRESS GROWING ENVIRONMENTAL CONCERNS IN BERMUDA. THE TRAGIC LOSS OF THE ONCE DOMINANT BERMUDA CEDAR DUE TO THE SCALE EPIDEMIC OF THE LATE 1940S, AND THE ESTABLISHMENT OF THE STARLING AS ANOTHER NEST SITE COMPETITOR ALONG WITH THE SPARROW, WAS THREATENING THE IMMINENT DEMISE OF THE NATIVE BLUEBIRD. THERE WAS ALSO A GOVERNMENT POLICY OF FILLING IN THE MARSHES BY USING THEM AS GARBAGE DUMPS. BUT IT WAS A TIME OF HOPE TOO, BECAUSE THE CAHOW HAD JUST BEEN REDISCOVERED IN 1951.

Prime movers in the group were Patricia Benbow, a school teacher, Stanley and Sybil Gascoigne (Stanley was in the Education Department at the time), Louis Mowbray of the Aquarium, Jerome and Betty Hollis, Ambrose and Babs Gosling and Mabs Cooper. They called themselves the Bermuda Audubon Society, in imitation of the American Audubon Society. That society, in turn, was named after the famous American naturalist, John James Audubon, who was regarded as the founder of the conservation ethic in America. This American rather than British link was chosen out of recognition that Bermuda's zoogeographic affinities are with North

America rather than the Old World, and thousands of North American birds of over two hundred species pass through Bermuda each year on their way between North and South America. The longtail was chosen for the society's emblem.

Among the first activities of the society was the promotion of the long-running and very successful American Audubon Wildlife Screen Tours in Bermuda. This involved bringing in a series of outstanding wildlife film producers and lecturers from the American Audubon Society to give evening presentations for the general public and matinees for the schools. Thus Bermuda

Audubon was one of the first to initiate environmental education in our schools. The society began promoting a successful nest box programme for bluebirds and lobbying for a revision of the Protection of Birds Act, which still allowed the killing of hawks and owls at that time. It also mounted a vigorous campaign in the press against the government policy of garbage disposal, which was rapidly filling in our biologically rich wetlands by using them for dumpsites. However, this small membership group quickly realized that the urgent battle to save Bermuda's wetlands was going to require something stronger than just lobbying. Most of the marshes were privately owned and the

general mindset was still for filling them in, although the growing smell and smoke pollution problem was gradually working in the society's favour. The society decided that the only sure way to prevent this destruction of the marshes was to buy the land and manage it for conservation.

I returned from university in the late 1950s, and promoted the idea of incorporating the society with the power to hold land in trust for conservation. Orrett Whitney, our legal representative on the committee, assisted the society with this crucial step in 1960. The only other organization holding land for conservation at that time was the Historical Monuments Trust, which owned part of Spittal Pond and Paget Marsh. Bermuda Audubon was the first, however, to adopt the procedure of negotiating a land purchase and then launching a public fund-raising drive to raise the money to buy it for a reserve. Our first project was the Seymour's Pond reserve at Barnes Corner in Southampton Parish. This was the key lot of a subdivision, which had it been sold for development, would have destroyed a scenic pond and wooded hillside visible from the main road. As part of our campaign strategy we placed an advertisement in the newspaper with a photo of the property and the caption "Buy Bermuda a Christmas present". This struck a nerve with a community already alarmed by the rapid erosion of our open spaces for development. The project was immediately successful and our initiative here, incidentally, eventually persuaded government to acquire the rest of that strategic scenic junction between South and Middle Road in Southampton as a nature reserve. Then in 1965 we were able to move right on to a second project involving the 8-acre central portion of Paget Marsh, the rest already having been acquired by the Bermuda Historical Monuments Trust. Once again the public support was generous and the money rolled in.

Walwyn Hughes was a key member of our committee at that time and I attribute our early successes in fund-raising to his great organizational skills, which were later recognized and used by government! Bob Steele and my first wife, Anita, who died tragically in 1973, were also key players on the Audubon committee during this period. Nevertheless, after 1970, rapidly rising real

estate prices and accelerating subdivisions made the task of nature reserve purchases much more difficult. So Bermuda Audubon was one of a number of conservation-oriented groups on Bermuda that decided to band together and form a larger umbrella organization, which was named the Bermuda National Trust. Building on the foundation of the Historical Monuments Trust, which had a small annual grant from government and already held in trust several historic buildings and two nature reserves, the Trust was able to support a headquarters and a staff and soon became the major non-government organization involved in land acquisition for the conservation of our open spaces and built heritage. The advent of planning legislation in 1965, initiating land zoning for conservation, and the gradual evolution of a government parks system also began to play a greater role, but it is noteworthy that the passage of the National Parks Act, which mandated government responsibility to establish nature reserves, did not happen until 1986. This explains why the majority of nature reserves on Bermuda are, in fact, Trust or Audubon owned.

Notwithstanding these other conservation initiatives, the Bermuda Audubon Society continued in a specialist role. In the realm of environmental education the society initiated the completely novel idea of running a week-long natural history training course and camp for high school students in the incomparable setting of the Nonsuch Island Living Museum nature reserve. This idea was initiated by David Lonsdale in 1972, and catered to approximately 20 students by application from all the high schools. In addition to the coursework and field trips to all the most interesting terrestrial and marine habitats of Bermuda, the students had to rough it, sleeping outdoors and preparing their own meals. This experience established such a camaraderie and appreciation for Bermuda's natural environment among the graduates that a surprising number re-directed their careers into education, scientific research and conservation work on Bermuda later in life. Following David Lonsdale, the camp director role was taken over by Mervyn White of the Government Education Department until his premature death in April 1984. Mervyn's memory is honoured

today through the establishment of the Mervyn White Shield, which is presented to the top-performing student on the course each year. Many teachers and scientists have volunteered to help run the camp over the years and Bruce Irvine from Berkeley Institute was camp director for the next several years after Mervyn, followed by Rob Chandler, Andy Fields, Duncan Ashworth, Andrew Dobson and others through the 1990s. Meanwhile, the Bermuda Zoological Society became established as the support organization for the Bermuda Aquarium, Museum and Zoo, and soon began to place its main emphasis on environmental education. In the 1990s, it began partnering with Audubon on running the camp. Holly Holder and Joseph Furbert currently play the leading role in directing the camp.

In the realm of nature reserve acquisition, Bermuda Audubon began to focus more on the acquisition and restoration of rare habitats – such as the Sears Cave sink-hole in Smith's Parish, a gift from the Trott family, which is being restored from a dumpsite into a sanctuary for endemic ferns. We also exploited an opportunity for much cheaper land purchases, namely those marshlands which had already been filled in as dumpsites and which, due to lack of solid foundations, were unsuitable for development. Purchasing these areas and restoring them to functioning wetlands and bird sanctuaries, through the hire of a government dragline, became our *modus operandi* for the next two decades after 1970. Altogether, the society has now been involved in six such projects, the most notable of which is the Somerset Long Bay Reserve, where no less than 5 species of waterfowl breed. (This project, incidentally, inspired a neighbouring landowner to copy our example, complete with pond, as a private nature reserve). Another one of these projects was the Stokes Point Reserve and Bartram's Pond at Mullet Bay, St. George's, which likewise provided the nucleus for a larger land purchase of the Nea Smith property by the Bermuda National Trust, bringing the total reserve area there up to 12 acres.

Our latest marsh restoration project at Paget Marsh in the year 2000 was carried out in partnership with the Bermuda National Trust and included provision for a

boardwalk and interpretive nature trail, funded by Dennis Sherwin. While many feared the end of the world in this millennium year, this society adopted a more optimistic approach by launching a very successful Millennium Campaign for conservation funds under the able chairmanship of Dr. David Saul, former premier of Bermuda, who was president of Audubon at this time. While the majority of our reserves are wetlands, owing to the historic circumstances of our evolution, we have recently been the recipients of a most extraordinary eight acres of upland coastline west of Coral Beach, thanks to the extreme generosity of Elfrida Chappell, who donated it in memory of her father Alfred Blackburn Smith. This large reserve is providing us with a unique opportunity to develop and demonstrate improved forest management strategies for Bermuda. It is already being used for youth training programmes in native tree planting and invasive species culling. We also hope to expand the nesting Longtail population there..... which brings me to another undertaking of the society. We have recently become involved in the development of a mass-produced and easy to install nestbox igloos for longtails, an urgent need in the light of recent hurricanes, which have destroyed so many cliff nests along the South Shore. Our initiative with this enabled us to apply for, and win, one of the Government Environmental Grant Awards for \$10,000. Meanwhile, our bluebird nest box programme continues under the energetic leadership of Stuart Smith, who took over from Tommy Outerbridge after the latter's tragic accident.

As time progresses, the society is attracting more and more keen field naturalists and birders, and so the emphasis of our activities has changed, as well, to accommodate this. We have always been active in promoting and leading educational field trips for local and visiting naturalists. As editor of our newsletter, Andrew Dobson has done an outstanding job in bringing us into the new computer age by creating a society website, putting the newsletter on email and setting up a birders' hot-line. Indeed, as we move into the new century we have not only succeeded in retaining the long-term dedication of members like Ted Cassidy

(our former treasurer) and David O'Neill; we have also attracted the best of the new. I need only mention our current president, Jennifer Gray, whose commitment and dedication to conservation has just been recognized in her receipt of the Bermuda National Trust's prestigious Silver Palmetto award. Nothing has given me greater satisfaction than to see the baton being handed on to such a vigorous and dedicated new crew.

In an age of globalization, I should mention the growing trend towards partnerships with international conservation groups. In 2003, Bermuda Audubon was one of three sponsors of the UK Overseas Territories' "Forum" which held its bi-annual conference in Bermuda and gave us the opportunity to share experiences and solutions to common conservation problems in the UK Overseas Territories. Just this spring we have had the benefit of four sabbatical volunteers from the Royal Society for the Protection of Birds in the UK to help create a database for my 50 years of bird observations on Bermuda. I faced a daunting challenge analyzing and writing up all this data without a computerized database, and being of an age group that grew up before computers I needed help. I never cease to marvel at the power of modern computers, but the other day I experienced the ultimate put-down when one of the RSPB volunteers approached me with a broad smile, lifted something that looked like a small brooch hanging from a chain around her neck and said, "Dr. Wingate, we now have your entire life's work stored in this iPod". "What!" I replied. "Do you mean to say that is all I have accomplished?"

Sad to say, I sometimes feel that same way even in regard to all that the Audubon Society and its partners have been able to accomplish when I measure those accomplishments against the present scale of global and local environmental crises. It has been said that the world is presently facing a species extinction catastrophe comparable to that at the end of the dinosaur era. Make no mistake about it, the challenges we face in conservation on Bermuda today are more daunting than ever and despite all we have done so far we have only slowed the rate of environmental degradation, not reversed it.

I believe we can still turn the situation around by maximizing the efficiency of land use on Bermuda but it will require setting aside in NGO or Government reserves sufficient additional open spaces to cater to the growing needs of a still growing population. That growing population needs housing as well, making the competition for the remaining undeveloped land especially intense. Given the importance of Bermuda's natural amenities to our tourist and international business economy and to our own spiritual well-being, the provision of adequate parks and reserves is just as vital as adequate housing. However, more than half of Bermuda's remaining undeveloped open spaces are privately owned and precious few of those owners are able, let alone willing, to give them for conservation. Every incentive is, instead, for development.

It is time we recognized that as our open spaces become scarcer, the free services of nature that they provide will make them equally if not more important, economically, than some of our developed areas. To quote from one of our former fund raising appeal letters: "This generation must, in effect, purchase the right to retain open spaces that previous generations were able to take for granted". I consider it justifiable, therefore, to pay the full real estate values to save them, if necessary. Meanwhile, we should be concentrating on a more efficient re-development of already developed areas as the best alternative for solving our housing crisis. We must identify all those remaining open spaces which have high scenic, amenity, biodiversity or cultural value as Bermuda's most sacred places and be prepared to pay market prices for them when they are offered for sale by private owners. But in view of the high price of real estate today this will only be possible through a co-ordinated partnership between the various environmental charities and government.

I firmly believe that our present Audubon committee is up to this challenge, and will continue in its valuable role as initiator of projects to acquire, restore and manage reserves for the benefit of the public and our threatened wildlife heritage.

*Thank you all for your support
over the last fifty years!*



PRESIDENT'S REPORT 2003-2004

Jennifer Gray, A.G.M. at Government House, June 7th 2004

I AM HONoured TO BE PRESENTING HERE TONIGHT OUR REPORT FOR JUNE 2003 TO JUNE 2004. IT HAS BEEN A YEAR OF ACHIEVEMENT FOR THE BERMUDA AUDUBON SOCIETY AND IT GIVES ME GREAT PLEASURE TO SHARE OUR PROGRESS WITH YOU.

After a summer break in 2003 we all had a reminder of our vulnerability in the trail of damage left behind by Hurricane Fabian which hit our island on September 5th. We were pleased to discover that our reserves received minimal damage from this ferocious storm. This can best be attributed to the resilience and suitability of the many native and endemic trees and shrubs that have been cultivated and or protected in these areas for many years. We quickly set to work clearing those areas needing attention. These included the Alfred Blackburn Smith Reserve where a small number of large casuarina trees fell across the walking path; Stokes Point Nature Reserve which also had a number of casuarinas down and a sign that vanished altogether; and Sears Cave where repairs to the fence and the righting of toppled cedars was necessary. The Somerset Long Bay western path was blocked by fallen trees and debris but it was decided to leave them as a deterrent to trespassers. This area was later cleared thoroughly by the Parks Department. The hurricane took a large number of cahow and longtail nesting site away but the igloos proved to hold up well in the high winds and seas. The society's remaining stock of igloos were quickly coated and installed just prior to the onset of nesting season on the Castle Harbour islands where the greatest loss occurred. A good number of these were colonized immediately.

This has definitely been a year of hard work in the field with many hours spent on improvements to our reserves. The Alfred Blackburn Smith Reserve has had an entrance gate installed on the South Shore Road and the combination is available to

all members. In March an energetic group of Junior Volunteers from the Aquarium spent the day culling invasives on the ABS Reserve. Before leaving, they planted Bay Bean on the sandy ledges at the base of the cliff and Palmetto, Cedar and Coast Sophora on the hill top. In April, a group from the Waynfleet School in the US joined forces with Audubon executive members and Peter Drew from the National Trust to establish a walking path leading to the reserve from the South Shore Road. This was not easy and we were ably and thankfully assisted by the chain-saw crew from Conservation Services. The environmental Youth Conference held in April saw a group of keen youngsters return again to the ABS reserve. While they were small in size and young in age, we were really impressed with their wisdom and will-power to make a difference. The reserve has benefited greatly from these culling events and a large number of young people have been inspired by their experiences in the field.

In the New Year the invasive taro plant was removed from the Sears Cave Nature reserve and by the end of March this year the last of the eddoe plants were removed. In Paget Marsh a vast clearing of invasives in the under-story was carried out by David Wingate and Evan Morby and the Audubon portion of the reserve is now in good shape. Seymour's Pond and Stokes Point had new signs installed and Cockroach Island had a Woodland Management plan approved by the planning department and we are well on our way to seeing this plan through. Two working trips to Cockroach Island were made in November and March respectively.

Under the leadership of Fiona Doe, a big dent was made in the large sprawling groups of Brazil pepper and all the large casuarinas were reduced to stumps. The culling of these trees exposed a number of White Stopper which should now flourish. Return trips are needed to remove asparagus fern and the remaining casuarinas and Brazil pepper.

In addition to the events held in association with reserve management, the society held a number of other workshops. In January, a bluebird nest-box workshop was led by Audubon at Lagoon Park pre-school. Audubon manned a stall for bluebird nest-box construction at the BAMZ Open Day where 60 boxes were constructed by participants. Seventeen boxes made that day were donated to the BZS Gift Shop. A bluebird workshop hosted by Lady Vereker at Government House was a huge success and the participating children thoroughly enjoyed the tour of the gardens and installation of a box under the guidance of Lady Vereker. If you are wondering where all the prepared wood for all these boxes came from you can thank our dedicated volunteers. Bob Steele always provides immaculately cut parts when asked, and in the absence of the Latter's this year, we decided to hold a members' night in the BAMZ workshop to get the job done. This is an appropriate time in my report to acknowledge the many volunteer hours and the ongoing dedication and commitment to bluebirds shown by Stuart Smith and his posse of bluebird trail monitors. The committee also got together this year to create an emergency supply of longtail igloos to replace some of what was lost in Hurricane Fabian.

A very successful Natural History Camp was held again this year on Nonsuch Island under the direction of Holly Holder of the Bermuda Zoological Society. As usual Jeremy and Leila Madeiros opened their home and their hearts to these young naturalists. Field trips this year took our members and friends around Spittal Pond, Heydon Trust and Fort Scaur. The National Trust Children's Walk held in February had a strong Audubon presence as our experts were available in three different locations along the walk to share waterfowl and woodland bird knowledge with the students from a large number of schools.

We are proud to have made available a series of fantastic lectures in this our 50th anniversary year. In February we heard from a keen birder and author, Ian Fisher who shared his birding experiences in Gambia with our audience. Stuart Smith followed in the spring with a lecture entitled "An Assault on the Senses". He filled the auditorium of BUEI and

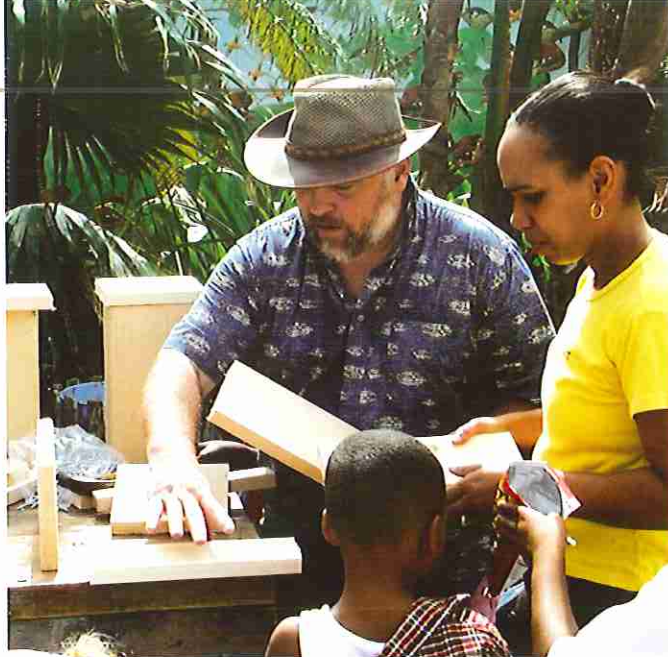
delivered a captivating presentation on his travels through India. Andrew Dobson and Jeremy Madeiros gave an illustrated talk in March on their birding experience in Trinidad and Tobago. John O'Halleron, a leading ornithologist from Ireland entertained us with his talk on Swan and Dipper research. We were very lucky to get two lectures out of Australian Nicholas Carlile. Nicholas is an energetic and devoted conservationist and gave a fascinating illustrated lecture on the seabirds of Lord Howe Island in Australia. He also shared with us the amazing re-discovery of a giant stick insect thought to be extinct for 80 years. Only two nights ago at our 50th anniversary dinner, Nicholas delivered a wonderful talk entitled "Biodiversity Conservation, a petrel-led recovery". Those of you who heard Nicholas speak can testify to his amazing experiences and his passion for his work.

Late last year the society signed onto the Earth Charter. The Annual Christmas Bird

Count was held again this year in affiliation with the National Audubon Society. We remain an associate member of the UK Overseas Territories Conservation Forum and we participated in a month-long celebration of unique birds in the region as part of the Caribbean Endemic Bird Festival. Both Andrew Dobson and Jeremy Madeiros represented Bermuda and the society at the SCSCB conference and presented papers on the effects of invasive species and the Cahow programme. An Audubon Society initiative engaged staff of the RSPB for sabbatical trips to Bermuda to work on the Wingate Diaries. I understand great progress has been made. In addition to existing partnerships the Audubon Society became a member of ECO (Bermuda) in November last year. The mission of Eco is "to facilitate and promote responsibility for and stewardship of our island environment through communication, collaboration, awareness and action". In the New Year the society was successful in obtaining a \$10,000 grant



from the Ministry of the Environment for the fabrication of longtail igloos. After a delay in securing a reasonable supplier we have an order of 100 igloos ready for action. A further fundraising drive raised \$30,000 to purchase additional igloos. Our sincere gratitude goes to Dr. David Saul for his fabulous efforts on this project. Gerard Fitzpatrick succeeded in a charity run in the New York Marathon, in memory of his friend lost at sea. With proceeds to the Audubon Society, the Bank of Bermuda Foundation matched the funds that Gerard raised. The society agreed to use some of the proceeds to install a teak bench with a plaque on the ABS reserve.



In addition to the public awareness raised through field trips lectures and workshops the Audubon Society participated again this year in the Eden Project. At the Farmers' Market, information flyers were distributed and bluebird boxes sold. A guide for the ABS reserve has been written and awaits final design details before going to print. This will be a template for future guides to be produced for all of our reserves. The society continues to serve as an environmental watchdog and advocates strongly for resolution on issues that threaten our environment. Included in the topics addressed this past year was; the seismic testing in local waters by research vessel Maurice Ewing; concern regarding the displacement of longtails and other environmental impacts caused by feral pigeons; rat poison containers and the potential threats to wildlife; Grape Bay development; Somerset Long Bay nature reserve - public abuse; Gilbert Bay - cliff scraping, destruction of longtail and owl habitat; airport and prison farm - unshielded night lighting; development at 1 Cambridge Beach Road - filling of a pond. The Society supported an amphibian study in our nature reserves. Alarming, Seymour's Pond and Paget Marsh are ranked in the top four for sites with the highest deformity rates in toadlets.

Both sites have metals and petroleum hydrocarbon pollutants that work synergistically together for a more toxic effect. It is suspected that the animals absorb the contaminants from the sediments and dumping and or road run-off are the most likely sources of the pollutants.

We have three very exciting projects underway to celebrate our 50th and take us forward.

The development of a strategic action plan for our nature reserves, initiated in this our 50th anniversary year, will provide the framework for improved management of our reserves programme. The aim of this plan will be to establish and restore a comprehensive network of nature reserves for the preservation of Bermuda's natural heritage and to manage them in a sustainable way through community involvement and by using them for conservation education. The first session was very successfully facilitated by Dr. Anne Glasspool and we are eager to continue the process.

We are thrilled to be supporting a professionally made film on the success story of the cahow and the restoration of Nonsuch. Producer Deirdre Brennan has engaged an expert wildlife documentary crew led by Eamon de Buitlear, otherwise known as the 'David Attenborough of Ireland'. The film will bring international attention to Bermuda and provide a first class documentary of our natural heritage. Sub-titled "Journey" the film will be called "Bermuda's Treasure

Island Restored, The Journey of a Lifetime" Our own David Wingate and Jeremy Madeiros will obviously be the stars of the show second only to the Cahow. Our third project will be officially announced in the coming days and is an outcome of our energies to save an environmentally significant tract of land from development. With a hand-shake agreement to purchase with the owner, we have also been in discussions with the National Trust and they are keenly interested in supporting a joint initiative.

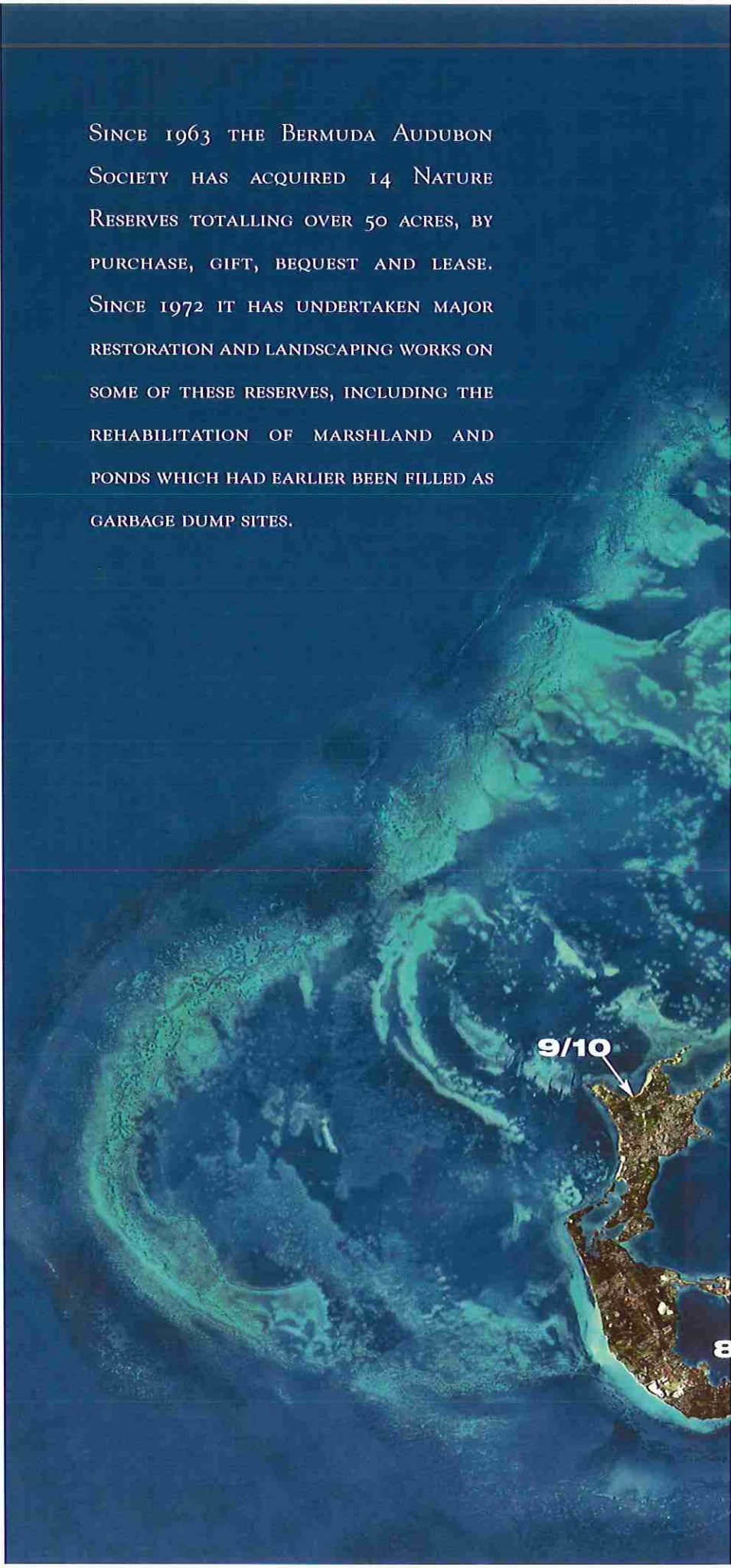
As I mentioned at the anniversary dinner every member makes us stronger and more able to protect Bermuda's increasingly threatened wildlife habitats. Voices for conservation are needed more than ever and your support can make a big difference as we move into very challenging times ahead. Those of you who did attend the 50th Anniversary Dinner at Horizons the night before last will I'm sure agree that it was a delightful evening, rich in meaningful dialogue, delectable food and good company. In closing, I would like to thank my incredible executive committee. The accomplishments of this organisation are largely due to their undying devotion to our goals and their incredible support every step of the way. Serving as Audubon president ranks amongst the most enriching experiences of my life and I look forward to exciting years ahead with friends on the committee and within our membership.

This is truly a wonderful organisation and I feel very privileged to be a part of it. A special thank you is due to our Patron Lady Vereker who I believe, like me, has caught the "birding bug." Your support has gone far beyond any call of duty and you are a pillar for the organisation. Thank you once again for opening your home to us for this occasion and for all your support throughout the year.

Nature Reserves

OUR GIFT TO THE FUTURE

SINCE 1963 THE BERMUDA AUDUBON SOCIETY HAS ACQUIRED 14 NATURE RESERVES TOTALLING OVER 50 ACRES, BY PURCHASE, GIFT, BEQUEST AND LEASE. SINCE 1972 IT HAS UNDERTAKEN MAJOR RESTORATION AND LANDSCAPING WORKS ON SOME OF THESE RESERVES, INCLUDING THE REHABILITATION OF MARSHLAND AND PONDS WHICH HAD EARLIER BEEN FILLED AS GARBAGE DUMP SITES.







1. Alfred Blackburn Smith Reserve

8.7 acres
South Shore Paget
Donated by Mrs. Elfrida Chappell 2003
Pristine rare upland forest
Magnificent coastal view
Established walking trails
Open by appointment
Native and endemic flora
Whale and longtail sightings
Rare Box Briar and Fleabanes
Restoration site since 1993



2. Cockroach Islands

0.23 Acres
Harrington Sound Hamilton Parish
Leased from the Wilkinson Trust 2003
Ten small islets
Isolated in Harrington Sound
Excellent snorkel site
Remote
Woodland management plan in place
Planted with natives and endemics
Longtail igloos installed



3. Lambda Island

1.0 Acre
Great Sound Warwick
Bequeathed in 1985
Isolated in Great Sound
Once a tern nesting site
Barren islet with one longtail burrow
Rich in Marine Fossils



4. Pearl Island

0.22 Acres
Great Sound Warwick
1969 Leased for \$1 from Dudley Butterfield Estate
Donated in 2004
Isolated in the Great Sound
Typical rocky coast with buttonwood scrub
Important tern nesting island
Beacon maintained by Marine & Ports

5. Freer Cox Memorial Reserve

11.71 Acres
Devonshire Marsh Devonshire
Twenty year lease with Devonshire
Church Parish Vestry 1990
Extensive wetland habitat
Supports species of native fern
Invasives have been culled
Pasture used for fodder



6. Firefly Nature Reserve

1.0 Acre
Devonshire Marsh Devonshire
Gift from Kitty Zuill 1970
Wetland habitat
Supports 9 species of native fern
Experimental reforestation



7. Paget Marsh

8.58 Acres
Middle Road Paget
Purchased in 1965
Co-managed with National Trust
Combined reserves total 20 acres
Least disturbed of the peat marshes
Wide variety of wetland habitats
'Hammock' forest, mangroves, ponds & ditches
Saw-grass savannah
Ferns
Thickets of Wax Myrtle
Rare endemic Bermuda Sedge
Supports waterfowl and woodland birds including owls



8. Seymour's Pond

2.84 Acres
Middle Road Southampton
Donation 1988 by the Masters Estate
Good viewing of wintering birdlife
Very accessible
Amphibian study site





9. Somerset Long Bay Nature Reserve (West)

2.71 Acres.

Long Bay Road, Somerset

Purchased 1971 and part in 1972

Successful wetland restoration

Beach, pond, field, mangroves and woods

Breeding of coots, moorhens and grebes

10. Somerset Long Bay Nature Reserve (East)

(See *Buy Back Bermuda* page:43)



11. Sears Cave

0.38 Acres.

Sears Hill, Smiths Parish

Donated in 1990 by the family of Sir Howard Trott

Large Limestone Sink

Supports Bermuda's rarest ferns

Rim restored with endemic native forest

Trash and invasives removed from sink



12. Stokes Point Nature Reserve

3.6 Acres

St Georges

Purchased in 1980

Successful wetland restoration

Maturing forest of cedars

Sanctuary for the endemic killifish



13. Winifred Gibbons Reserve

2.0 Acres

Devonshire Marsh Devonshire

Donated by the Gibbons Family in 1993

Wetland habitat

Wide representation of native marsh ferns

Impressive mature stand of Wax Myrtle

14. Watlington Reserve

7.10 Acre

Devonshire Marsh, Devonshire

Hereward Watlington Bequest 1992

Small area of virgin peat marsh forest

Extensive wet pasture

Rich diversity

shore birds and waterfowl



THE 2004 TRANSLOCATION OF CAHOW CHICKS TO NONSUCH ISLAND

"IT WAS THE BEST OF TIMES; IT WAS THE WORST OF TIMES"

Jeremy Madeiros, Conservation Officer (Terrestrial)

Dept. of Conservation Services

THE 2003-2004 CAHOW NESTING SEASON CERTAINLY REPRESENTED EVERYTHING THAT COULD GO BOTH WRONG AND RIGHT IN THE FIELD OF ENDANGERED SPECIES MANAGEMENT AS THE SEASON BEGAN WITH A FRANTIC RECOVERY FROM THE EFFECTS OF HURRICANE 'FABIAN'. THIS SEVERE CATEGORY 3 STORM STRUCK BERMUDA ON 5 SEPTEMBER 2003, AND HAD A DEVASTATING EFFECT ON THE EXPOSED CAHOW NESTING ISLANDS, COMPLETELY OVERWASHING THREE OF THE ISLANDS WITH 35' WAVES. THE PARTIAL COLLAPSE AND WEAKENING OF TWO OF THE ISLANDS NECESSITATED A FRANTIC AND ULTIMATELY SUCCESSFUL RACE TO REPAIR OR REPLACE SCORES OF DAMAGED OR DESTROYED CAHOW NEST BURROWS. THIS HAD TO TAKE PLACE, IN MAINLY ROUGH CONDITIONS, DURING A SHORT 5-WEEK PERIOD BEFORE THE RETURN OF THE BIRDS FOR THEIR NESTING SEASON, AND POINTED OUT THE INHERENT VULNERABILITY OF THE PRESENT BREEDING SITES TO STORMS, EROSION AND RISING SEA LEVELS.

All this took place at the same time that three years of preparatory work came to fruition to address this very issue, and re-introduce the Cahow to a more suitable habitat, where the species will be both safe from hurricanes and erosion and will have enough room to build up a larger population. Nonsuch Island has been under restoration as an example of Bermuda's pre-colonial native plant and animal communities since 1962, thanks largely to the dedication and vision of former conservation officer David Wingate. It now closely resembles the habitat that the Cahow was described as nesting in by the early settlers. Because of the size and higher elevation of Nonsuch, one of my main goals upon assuming the post of conservation officer in 2000 was to attempt to establish a new nesting colony of Cahows on the island using translocation techniques already used successfully with several related gadfly Petrel species in Australia and New Zealand. In this technique, chicks are monitored through their development and moved some 14-18 days before fledging to a complex of new burrows at a new colony site. Between 2001 and 2004 data has been collected on Cahow fledgling growth (weight gain/loss, wing chord (length) development, feeding frequency and approximate feed size). In 2003 a translocation site was established on Nonsuch Island down-slope and south-east of the Octagon building. Nine specifically designed plastic nest-boxes and eight cement artificial nest burrows were installed in a forest clearing and along a coastal hillside. 2004 was chosen as the initial trial year when the timing of the transfer of chicks and methodology of the translocation would be fine-tuned and any problems worked out.



Nicholas Carlile, project manager of Threatened Fauna Ecology with the New South Wales Dept. of Environment and Conservation, Australia, had considerable experience with the successful translocation of the endangered Gould's Petrel *Pterodroma leucoptera*, from their only breeding site on Cabbage Tree Island, to a new colony site on Boondelbah Island, off the coast of Port Stephens, NSW. Mr. Carlile first visited Bermuda in 2000 while on a Churchill Scholarship-supported trip to visit endangered petrel recovery programmes in the Northern Hemisphere. As a result of this visit, I was able to visit Australia in 2001 to observe the recovery and translocation programmes for the Gould's Petrel and gain experience in handling, banding and measurement procedures for petrels and a variety of other seabirds.

With all the preparatory work for translocation of the Cahow to a new site on Nonsuch Island completed, it was arranged for Mr. Carlile to travel to Bermuda and stay at Nonsuch Island from 8 May to 15 June 2004. He would assist and lend his experience and advice for the trial year of the Cahow Translocation Project. He also provided training in

assessment of translocated chicks and feeding techniques to myself and several staff from the Department of Conservation Services. Plumage development was introduced as a means of determining the development of chicks, along with weight and wing-chord (length) growth in the weeks leading to the translocation period. When a chick's wing-chord went above 190mm it was considered ready for translocation after several other factors were assessed.

Between 13 May and 1 June 2004, 14 chicks were translocated from the four breeding islands with 15 chicks remaining in their original nest sites as a control. The translocated chicks were between 68 and 88 days old when moved to Nonsuch Island. Chicks were given a total of 68 feeds with a mean weight of 41 grams (range 22-67) with an average of 5 feeds per chick (range 3-8). The translocated chicks were fed from 14 May until 9 June 2004 with a maximum of 5 birds being fed in any one session.

In each feeding session, the translocated chicks were fed both squid and fresh fish. Squid were human-quality and obtained at local supermarkets. Three species of fish

were netted fresh by Chris Flook of BAMZ and provided, depending on availability. Initially, anchovies were used, followed by pilchards (Red-cheeked Sardine) and finally Hog-mouth Fry. The latter were too small to feed individually to the translocated chicks and were stuffed into squid bodies (mantles). All other fish were fed whole to the birds. Feeding of individual chicks was carried out every other day until their wing chord reached 250mm or they had lost all of their natal down and achieved adult plumage.

Once the translocated chicks began to come out of their burrows at night to exercise and explore their surroundings in preparation for eventual departure, they were monitored by the translocation team and volunteers, with a total of 56 hours of night watches carried out. Accurate recording of the activities of exercising chicks was helped by access to 'night-vision' equipment, made available by a visiting documentary crew ("The Journey": producer Deirdre Brennan, a film on the Cahow supported by the Bermuda Audubon Society).

Some amazing behavior by Cahow chicks, never before observed, was recorded during



exercising periods. A number of chicks climbed trees or vegetation to either exercise or fledge (depart), with one individual recorded 3 m (10 feet) above the ground in a casuarina. Two chicks were observed exercising under tree cover during early morning or late afternoon periods. One chick was also recorded using a soil burrow the night before fledging, even carrying out burrowing activity!

All 14 translocated chicks fledged successfully from Nonsuch Island, the first on 27 May and the final chick on 10 June 2004. Translocated chicks varied between 82 and 92 days old when they fledged, with an average weight of 231 grams (range 188-278 grams) and mean wing chord of 250 mm (range 225-259 mm). This compares favorably with normal fledging chicks between 2002 and 2004, and seems to indicate that the translocation techniques resulted in normal fledging, healthy chicks.

In addition to the deliberately translocated chicks, one other Cahow chick departed from Nonsuch Island during 2004. In early June, normal weighing of non-translocated, 'control' chicks on one of the present nesting rocks revealed that one of these

chicks had stopped normal development and was seriously underweight. This was most likely a result of the death or premature abandonment of one of the adults. Since it requires both adults to successfully raise a chick, it became obvious that it would not survive without intervention. Efforts to feed the chick in situ at its burrow failed when it left the nest at night and disappeared for the next 4 days, despite intensive searching of the small nesting island. Imagine our surprise when the chick reappeared in its burrow, looking very bedraggled and now at a critically low weight of 146 grams (normal weight at this stage of development being 250-400 grams). Although our mutual feeling was that this chick was probably past saving, I made the decision to move the chick to the rehabilitation facility at BAMZ under the care of head aquarist Jennifer Gray, who has had considerable experience in nursing abandoned and underweight Cahow chicks back to health. Over the next several weeks, she was not only able to nurse this chick, now known as 'Pip-squeak', back to health but was able to bring its weight up to a peak of 435 grams, the second-highest recorded for any chick during 2004! Pip-squeak eventually recovered and developed its beautiful adult

plumage, enabling it to be moved to one of the translocation burrows (# R817) on Nonsuch Island on 7 July. That night, I watched the chick come out of the burrow for a short time, exercise and go back into its proper nest, indicating that it had accepted this as its new home base. The following night, Jennifer carried out the night watch and was rewarded by 'Pip-squeak' emerging, climbing into a Bay Grape tree, exercising and eventually taking off like a helicopter from a concrete nest lid on a neighbouring burrow. This chick, like the others, had been banded (or ringed) and we will watch with great interest for their eventual return. I would like to thank Jennifer for her dedication in enabling this chick to survive and fledge successfully. Special thanks also go to Mr. Nicholas Carlile and everyone that supported and assisted in this exciting and promising project, including my wife, Leila, who once again assumed her role as a 'Cahow widow', taking care of our children and enabling me to put in the long hours needed.

Opposite page: Nicholas Carlile and Jeremy Madeiros transfer Cahow chicks to new burrow on Nonsuch Island.

Above: Jeremy and Nicholas prepare to feed young Cahows.



Cahows are one of Bermuda's two endemic birds. Cahows live most of their time at sea. Cahow chicks fly for the first time when they depart for the sea. Nicholas Carlile also told me that he saw one climbing a tree to build muscle mass. I learned all these things at my cahow experience, which I won at the Audubon's 50th Anniversary Dinner's silent auction. We met Mr. Madeiros at Tucker's Town dock after school on Tuesday 8th June and The Governor and Lady Vereker also joined us.

My Cahow Experience

Nicholas Barton *(above with young Cahow)*

On our way to Nonsuch Island we passed Mr. Wingate and we stopped for a quick chat about the cahows. Before we got to Nonsuch, Mr. Madeiros told us about how badly the Hurricane Fabian had damaged some of the islands that the cahows nest on. He then told us that two pairs of Common Terns were breeding on an island nearby which he pointed out to us. When we arrived at the dock, Mr. Madeiros led us to the site where the cahow chicks had been relocated. Before we got to the burrows Mr. Carlile showed me the wax lined box that they used to translocate the chicks from the smaller islands to Nonsuch. The box was divided into two sections. One half had some nesting material from the burrows and the other side was bare except for a few feathers. When we got to the site, Mr. Madeiros showed us the three different types of burrows they had made for the cahow chicks. There were stone ones, plastic boxes and the hand-dug burrows. Only three of the almost twenty burrows in that area were occupied.

When we were settled, Mr. Carlile took me down to one of the burrows. As I held a bag, Mr. Carlile reached into the burrow and gently took out the cahow chick. This chick only had a few remains of it's down. The chick was put in the bag and he then weighed it and recorded its weight in his notebook. They did not

feed this chick because it had been fed on Monday the 7th of June. We placed the chick back into its burrow as we went to collect the second chick. This chick was very talkative and would not be quiet. Mr. Carlile then weighed the chick and passed it to Mr. Madeiros to be fed. Mr. Madeiros put the cahow into a 'cahow roll' and then fed it. To feed the chick he had to open its razor sharp beak and stuff the food down its throat. He then stroked it under the eyes to relax it and make it swallow. It then gave a slight burp! Mr. Madeiros then let me hold the chick. It felt very, very soft and warm. The chick was extremely strong and almost broke my grip. I felt very, very excited that I was actually holding a cahow.

Mr. Madeiros then showed us the third chick which did not need weighing or feeding. When we were finished at the burrows we went up to the house and had a beverage. While we were sitting at the table we saw a few other birds at the bird feeder. Mr. Carlile also showed me a very nice cahow shirt that he was given for helping out with the Cahows.

I had a very good time and I wish I could do it again. My cahow experience was very exciting and I felt pleased that I was able to do it.



The "Cahows" soccer team

Chapel Hill, North Carolina

The "Cahows" soccer team in Chapel Hill, North Carolina, decided to make a donation to the Bermuda Audubon Society of \$100 in honour of coach Ehren Hines who "retired" after coaching the team for a number of years. The team comprises girls aged 7-8 years of age, playing soccer in the local Rainbow League. The team's name was chosen after one of the coaches visited Bermuda and learned the fact that cahows spent some of their time in the Gulf Stream off the North Carolina coast. The girls were sent a photo of a cahow. We really appreciated their generous donation and support for conservation.



NIGHTWATCH

Spike rocks, damp mattress
Glasses misted by the soft west wind

Waiting

Waiting

Waves slapping, stars glitter

huge night sky

Settle lower - become a rock

Suddenly a moving presence

Darker shadow in the dark

The chick emerges from its burrow

Stumbling on the rocks

My breathing stops!

With a firmer footing now, wings beat
in practice flight - then cease

The shadow pauses, disappears

- where has it gone?

Lurching now towards me in the dark

Our figures turned to stone

Intent on flight, it clambers up beside me

- on my foot! Then off again

A better perch, facing the sea

Wings beat - an emptiness

The wanderer has flown

Penny Hill (1995)

GROWING UP WITH BOTH PARENTS WORKING AT THE AQUARIUM, AND A MOTHER WITH SUCH PASSION FOR AND ACCOMPLISHMENT IN THE ENVIRONMENTAL ARENA, IT IS ONLY NATURAL FOR ME TO HAVE AN INTEREST IN THE ENVIRONMENT. AFTER COMPLETING A YEAR OF THE JUNIOR VOLUNTEER PROGRAMME AT THE AQUARIUM AND ATTENDING THE ENVIRONMENTAL YOUTH CONFERENCE IN APRIL, I FINISHED OFF THE SCHOOL YEAR BY ATTENDING THE NONSUCH NATURAL HISTORY CAMP.



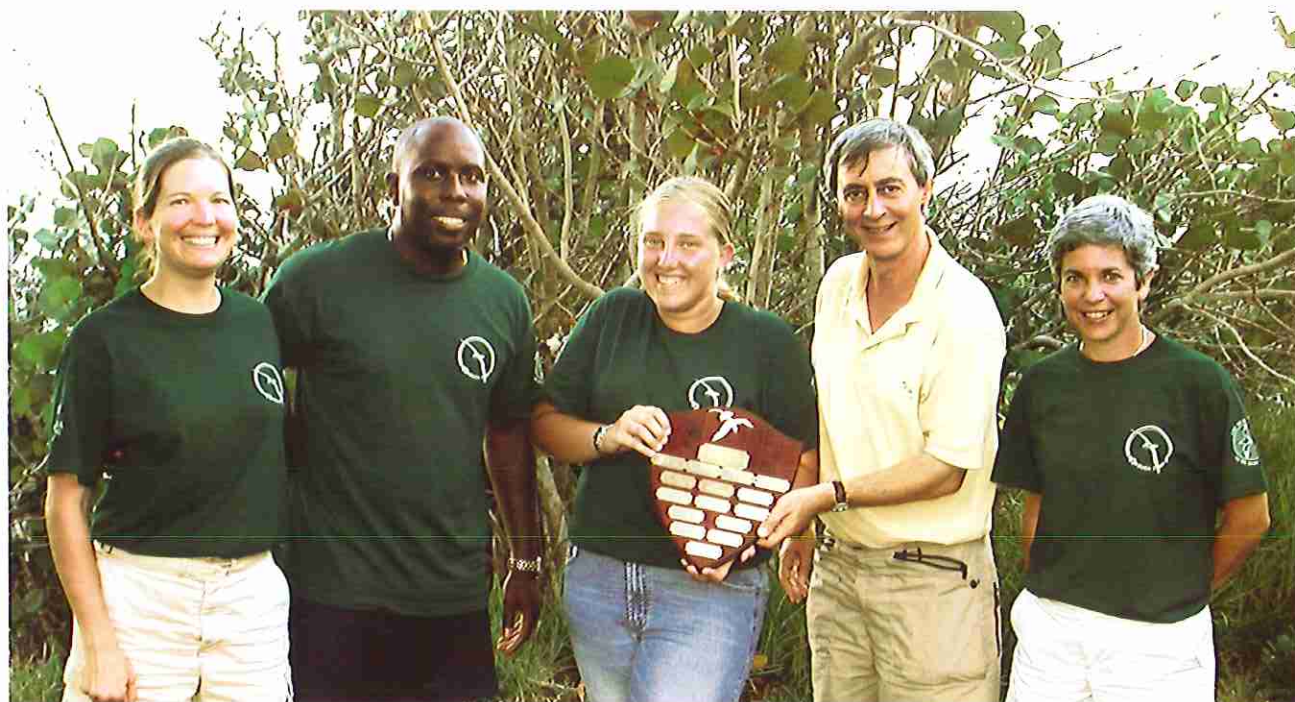
A MEMORABLE ENCOUNTER WITH NATURE

Michelle Conklin

While these experiences have further opened my senses to the wonderful islands we live in, the Nonsuch Camp was the most incredible experience of all. The copious amount of information I learned about Bermuda's environment in that one week is almost unbelievable. We learned

just about everything, from Bermuda's diverse habitats and geology, to the many details of her amazing flora and fauna. It is remarkable how much I learned in that one week. While I thought I had a fair knowledge of native and endemic plants before the camp, I came away with a truly

comprehensive understanding of the many species and their importance in the balance of nature. After just one week of learning I am in a position to challenge my mother, who has over 25 years experience in the environment, on the different names of various plants and animals.



MICHELLE CONKLIN (15) WAS SELECTED THE 'TOP STUDENT' ON THE 2004 NONSUCH CAMP

Having the environment as your classroom is one of the most significant benefits of attending the Nonsuch camp. What better place to learn about the environment than the great outdoors itself. We went deep into the mangroves to learn about wetland habitats and to the most northerly point of coral reefs in the world, North Rock, to learn about coral reef ecosystems. We were out experiencing it. Sure, we had classrooms sessions and lectures, but these were only to prepare us for what we were to feel, see and encounter in following trips. Nonsuch Island is the most wonderful island and calling it home for a week was such a privilege.

Another great asset of this course was the many teachers involved. We had over ten educators and lecturers sharing their extensive knowledge with us. This was beneficial because each specialized in a different area of Bermuda's environment. This allowed us the opportunity to learn the details of each topic from very devoted and enthusiastic individuals. It was interesting to watch as fellow

students became amazed with their own knowledge and the new language we were developing. We were now referring to sand as sediment, and testing each other on the names of different plants on our way down to the beach, rather than talking about boys or music. Not only did we learn about the environment, but we were having fun doing it.

Furthermore, the Nonsuch Camp was a memorable experience because I was given the opportunity to meet peers with similar environmental interests and concerns. Your dreams to make the world a better place seem within reach when others share the same vision. The memories of hard work, good fun and friendship that we take away from camp will never be forgotten. From the guys singing in snorkel gear while making music on buckets, to sand wrestling and girls huddling together in the middle of the floor protecting each other from imaginary intruders to the island, to the cake fights, and grape juice battles, to the various encounters with insects, spiders and "rare giant eels", these will all be fondly remembered.

A huge 'thank you' is due to everyone involved with the Nonsuch Natural History Camp. The Bermuda Audubon Society and the Bermuda Zoological Society should be commended for putting on this first class experience for youth and the sponsors deserve thanks for their contributions. To the Department of Conservation Services and the Madeiros family we appreciate you welcoming us to the wonderful facilities on Nonsuch and to all the counselors and lecturers, thank you for sharing knowledge and getting us to our designated sleeping areas at the right time. And last, but definitely not least, to all my fellow Nonsuch Natural History campers, thank you for the memories and the friendships. Without all of these people the camp would not have been the amazing and most memorable encounter, which I am now so proud to have experienced.

Above: Presentation of the Mervyn White Memorial Shield to Michelle Conklin. From Left to Right: Holly Holder, Joe Furbert, Michelle Conklin, Andrew Dobson, Fiona Doe



PAGET ISLAND BIRDING CAMP

Andrew Dobson

Hurricane Fabian had put paid to our annual birding weekend on Paget Island in 2003. There was therefore much enthusiasm for this year's camp at the beginning of October. Rain had held off all week until the moment we boarded the boat at 6.00 pm on the Friday evening. It wasn't until we had erected the tents that we learned that the 'disturbance' to our southeast had been named 'Tropical Storm Nicole'! Some folk managed to see out the night under canvass, while others sought the refuge of the dormitories. It rained most of Saturday and the maximum wind gust was about 50 knots. Needless to say we were marooned until Sunday – but so

what? We all enjoyed the experience, especially the dozen children – with huge supplies of food and endless chatter. Amazingly, we managed to see a quality 39 species despite the conditions, including five warbler species on Paget Island plus Merlin, Indigo Bunting and Baltimore Oriole. At the Bio Station we were treated to a Peregrine and empidonax flycatcher (Alder/Willow). The birding was officially abandoned shortly after the Black Horse fish sandwiches - David and Andrew having added a Black-throated Blue Warbler at Great Head Park.

Above: Early morning bird walk

ENVIRONMENTAL NGOs AND THEIR ROLE IN BERMUDA

Andrew Dobson

AS A STUDENT STUDYING POLITICS AND ECONOMICS, I WAS INTRIGUED BY THE TERM 'QUANGO' – A QUASI-AUTONOMOUS NON-GOVERNMENTAL ORGANISATION. WHAT WERE THESE MYSTERIOUS ORGANISATIONS HIDING BEHIND SUCH A STRANGE NAME AND FROM WHERE DID THEY RECRUIT THEIR MEMBERS? THE TERM NON-GOVERNMENTAL ORGANISATION (NGO) APPLIES MAINLY TO BRITAIN, A CHARITY THAT BEHAVES LIKE GOVERNMENT. SOME WERE REFERRED TO AS 'RINGOS' – NOTHING TO DO WITH THE FORMER BEATLES DRUMMER, BUT 'RELIGIOUS INTEREST NON-GOVERNMENTAL ORGANISATIONS'. THEN THERE WERE THE 'BRINGOS' – 'BRIEFCASE NGOS' THAT ONLY EXISTED WHEN THERE WAS A PARTICULAR PROJECT ON HAND. 'BINGOS' OR 'BIG INTERNATIONAL NGOS' GAINED AN UNCERTAIN LEVEL OF SUCCESS, AS THEIR NAME IMPLIES! IN NORTH AMERICA, THE SIMILAR ORGANISATION IS USUALLY REFERRED TO AS A 'NOT-FOR-PROFIT' CHARITY THAT BEHAVES LIKE A BUSINESS. WITH A KEEN INTEREST IN THE ENVIRONMENT, I SOON LEARNED THAT THERE WERE MANY SUCH NGOS CHAMPIONING THE CAUSE OF ENVIRONMENTAL CONSERVATION THROUGHOUT THE WORLD.

In Bermuda, there is a long history of NGOs campaigning for the environment. As early as 1903, the Bermuda Biological Station was established to carry out marine and atmospheric research and education in science. The Bermuda Garden Club was founded in 1921 to promote horticulture and improve the environment through gardening. The Bermuda Audubon Society was established in 1954 and has always been run by volunteers. With twelve nature reserves and about 500 members, the society has focussed on the protection of natural resources with a particular focus on birds and the restoration of wetland habitats. Keep Bermuda Beautiful (KBB) has campaigned for litter reduction and recycling of waste. KBB was originally part of the Garden Club but was established as a separate organisation in 1964. The Bermuda National Trust (BNT) works for the conservation and preservation of Bermuda's natural and man-made heritage. Following the National Trust Act of 1969, the newly formed Trust took over the properties and artefacts of the Bermuda Historical Monuments Trust. Today it holds about 160 acres in more than 50 separate properties, Bermuda's largest private landholder. With only a small paid staff, the Trust could not function without

its large core of volunteers. The Bermuda Zoological Society (BZS) was established in 1978 to support BAMZ in education and conservation programmes as well as research. Save Open Spaces (SOS) was formed in the early 1980s out of a concern for the dwindling amount of open space caused by rapid development. Friends of Fish appeared in the late 1980s, campaigning to safeguard the future of reef fish. Their efforts were largely responsible for the 1990 fish pot ban. Finally, the Bermuda Underwater Exploration Institute (BUEI) was established in 1992 (the building opened in 1997) to promote appreciation and protection of the marine environment.

Without a doubt, the many NGOs are crucial to the health of Bermuda's environment. Some have only a few members while others such as BZS can boast a membership of over 4,000. Some have full time paid staff while others rely solely on volunteers. Many people are members of two or more of these organisations. All the NGOs play an important role in conserving Bermuda's biodiversity but they shouldn't feel they have to take actions and responsibilities alone. In recent years there has been

increased collaboration between local NGOs. Audubon and the BNT worked closely together on the improvements to Paget Marsh Nature Reserve. The highly acclaimed boardwalk and attractive pond have enhanced the area for local people and provided an additional venue for eco-tourists in Bermuda. The two NGOs both campaigned successfully against the proposed development of Quarry Hill. The Audubon natural history camp offered to teenage students for more than 25 years now relies heavily on the support and involvement of BZS. Included amongst the many BZS educational courses are field trips to Audubon and BNT nature reserves. With no office of its own, Audubon is indebted to the BNT and BAMZ for use of their premises for committee meetings. Although there is an appreciation of sustainable development in Bermuda, NGOs have fought hard to prevent certain developments, which would have reduced Bermuda's limited natural resources. There has been close cooperation between NGOs and the Bermuda Government. The Audubon Society would be the first to acknowledge the work of the government's conservation department in its upkeep of Audubon nature reserves.



During my involvement with Audubon and BZS since 1990, I gradually became aware that the organisations were neither operating in an insular fashion, nor focussing on purely local issues. These two organisations and other NGOs have broadened their horizons to see how Bermuda's environmental concerns and challenges reflect those found in the rest of the world. Audubon, BNT and BZS are all associate members of the United Kingdom Overseas Territories Conservation Forum (UKOTCF). The Forum exists to promote the co-ordinated conservation of the diverse and increasingly threatened plant and animal species and natural habitats of UK's Overseas Territories. It aims to do this by providing assistance in the form of expertise, information and liaison between NGOs and governments, both in the UK and in the Territories themselves. Founded in 1987, the Forum has gained worldwide support and recognition as being the best source of information and expertise on conservation in UK's Overseas Territories by both Governmental and NGOs. Representatives of the three Bermuda NGOs worked closely with the Forum in hosting the successful 'Sense of Direction' environmental conference at Elbow Beach Hotel in 2003 (see photos).

Conservation NGOs can work together across different nations. BirdLife International is a worldwide partnership of conservation organisations working to protect the world's birds and their habitats. In 1998, BirdLife launched a very ambitious conservation project – 'the African NGO – Government Partnership

for Sustainable Biodiversity Action'. The project has the single aim of combining the efforts of conservation organisations across Africa to "implement site-based conservation action that would be of benefit to biodiversity and to people". With a budget of \$11 million, including major funding from the Global Environment Facility (GEF) through

the United Nations Development Program, and with additional funding from the RSPB (BirdLife in the UK) and DOF (BirdLife in Denmark) and other donors, the project began in 10 countries. Priority sites for biodiversity conservation have been identified by field surveys and a network of 518 Important Bird Areas (IBAs) have been identified. These IBAs are documented in 'Important bird Areas of Africa' (2001). The second stage is obviously to ensure adequate protection, especially recognition of the global significance of biodiversity of IBAs and their protection at local level. In only three years, many conservation projects have been initiated where Site Support Groups (SSGs) in the 10 participating countries promote conservation of their IBAs. The SSGs monitor sites, raise education awareness, generate income and lobby for protection. Much income has been generated from bird tours, a vital source of eco-tourism earnings for Third World countries. One great success of the project so far has been the establishment of a body of conservationists across Africa. How wonderful if these initiatives shown in Africa could be replicated in other parts of the world.

There are so many current environmental problems and potential threats in Bermuda. Many remaining open spaces are constantly being threatened with development. Cave systems are being damaged or destroyed. Invasive species of plants already dominate the landscape and feral animals endanger native and endemic species. Littering is widespread on both

land and marine environments. If there is a real desire to solve these problems, NGOs need to work together and in tandem with Government. How many more years will it take before there is a bottle bill? When will court fines be high enough to really deter cedar thieves and illegal fishing? How can responsible pet ownership be achieved? When will there be real penalties to prevent illegal construction and land development? Education is the key to increasing public awareness of environmental issues and gaining public support. The NGOs and Government were brought together during workshops run by the Biodiversity Strategy and Action Plan for Bermuda (BSAP). As part of the BSAP process, the Bermuda Biodiversity Country Study was published in 2001. The Country Study also recognises the need to raise the level of environmental awareness and the role that NGOs can play. Just as the Government has limited resources, so do the NGOs who depend largely on membership dues, corporate support and the work of volunteers. While the Government has much to gain from using the expertise found in many of the NGOs, the NGOs also need to work closely with Government. The UKOTCF acts as a useful liaison between NGOs and governments in the Overseas Territories. The recently formed Environmental Coalition (ECO) in Bermuda brings together representatives from environmental groups – a vital pro-active group which offers further hope for the future. The mission of ECO is to facilitate and promote responsibility for and stewardship of our Island environment through communication, collaboration, awareness and action.

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Above: 'Sense of Direction' Conference Team. From left, Mike Pienkowski (UKOTCF), Amanda Outerbridge (BNT), Andrew Dobson (BAS), Annie Glasspool (BZS), Jack Ward (Dept. of Conservation Services)