



BAHAMAS NATIONAL TRUST
Strategic Plan
2013-2017





The Bahamas National Trust

STRATEGIC PLAN 2013-2017

*Managing National Parks
Preserving Our Future*





The Bahamas NATIONAL PARK SYSTEM

Days Park
Philoo Cay
National Reserve
Park
Native
Reserve

ELEUTHERA

CAT
ISLAND

Conception Island
National Park

SAN SALVADOR

Marine Farm

LONG
ISLAND

RUM CAY

Great Hope House

SAMANA
CAY

MAYAGUANA

Little Inagua
National Park

AGGED
ISLAND

CROOKED
ISLAND

LITTLE
INAGUA

Union Creek
Reserve

Inagua
National Park

GREAT
INAGUA



The lasting pleasures of contact with the natural world are not reserved for scientists but are available to anyone who will place himself under the influence of earth, sea and sky and their amazing life.

-Rachael Carson, Silent Spring

Vision, Mission & Values

Vision:

A comprehensive system of national parks and protected areas, with every Bahamian embracing environmental stewardship

Mission:

To conserve and protect the natural resources of The Bahamas, through stewardship and education for present and future generations

Values:

- Passion for the environment and the conservation of our natural resources
- Education as a key to long-term conservation success
- Commitment to best practices in protected area management
- Respect for others as demonstrated through teamwork and partnerships
- Integrity, transparency and accountability
- Quality, consistent and reliable service to our constituents



Introduction

For more than half a century, The Bahamas National Trust has protected and managed designated land and sea areas of natural or historic interest for the benefit of Bahamians.

In 2010, the BNT's governing legislation was revised to formalise the organisation's role as an official advisor to government and the private sector on development, biodiversity, and heritage issues and policies.

Our scope of work has expanded exponentially since 1959, but our mission to protect natural habitats and open space is more urgent today than ever before.

The revised Bahamas National Trust Act was unanimously approved by parliament and plays a key role in helping to achieve our conservation goals, by providing for more effective management of more than a million acres of land and sea territory.

Most significantly, the BNT is now fully empowered to prohibit or regulate activities on land or on the seabed within national parks and protected areas throughout The Bahamas.

This five-year strategic plan outlines how we plan to work with local communities, the government, the scientific sector and international organisations to achieve our conservation goals through the implementation of six inter-related programmes.

The core programme is national park and protected area management. It will be accompanied by science, community outreach, and environmental education, and will benefit from environmental advocacy.

Three support programmes – membership growth and fundraising, financial development, and institutional development - will ensure effective implementation of the core programmes.

These work programmes are derived from an analysis of our strengths, weaknesses and opportunities, as well as the threats identified during the strategic planning process.

2013 – 2017 Strategic Plan

Goals and Objectives

GOAL 1: Expand and effectively manage an ecologically representative national parks system.

- Incorporate and effectively manage an ecologically representative national parks system
- Establish management plans and park policies for all existing national parks
- Implement annual workplans and long-term scientific monitoring programmes for all national parks

GOAL 2: Use scientific and traditional knowledge as the foundation to protect globally and nationally important biodiversity throughout The Bahamas.

- Establish a Bahamas-specific Red List (endangered species) by the end of 2017
- Incorporate key species and ecosystems protection, including action to reduce/eliminate exotic species into the national park management planning process
- Identify and promote conservation interventions to protect at least three priority species located outside national park boundaries, such as conservation forests and locally managed marine areas
- Conduct a biennial natural history symposium

GOAL 3: Engage the Bahamian public in national park and protected area management and environmental stewardship.

- Establish partnerships to assist with park management throughout the islands of The Bahamas
- Implement national awareness campaigns for three priority conservation species
- Foster youth leadership in environmental conservation by expanding the Discovery and Navigator's programmes to involve 1,000 students
- Encourage conservation-related careers through a summer science internship programme designed around national park management

GOAL 4: Enhance The Bahamas National Trust's position as the national leader on environmental education and best practices.

- At least 10 per cent of the BNT's environmental education students participate in the

conservation pin programme that supports the national park system

- Deliver nationally and culturally relevant training and materials to at least 100 teachers a year in communities around national parks, with emphasis on environmental education and priority ecosystems
- Establish demonstration programmes to showcase environmental best practices at all BNT offices and at least five national parks

GOAL 5: Continue to serve as a national advisor on balancing economic development with natural resource management

- Strengthen relationships with government agencies and enhance consultation on environmental decision-making
- Collaborate with, and encourage stakeholder participation on, critical environmental and conservation issues (non-government organizations, local/national/international agencies)

GOAL 6: Enhance and diversify financing mechanisms to support the Bahamas National Trust's ongoing national park initiatives and future growth.

- Raise \$32 million for the Preservation Partners Fund to support the long-term management needs of our national parks
- Raise \$5 million from private and corporate foundations
- Generate 25 per cent of the national park system's operating costs through user fees
- Increase membership and membership contributions by 20 per cent per year

GOAL 7: Ensure The Bahamas National Trust's organizational structure supports good governance, transparency, accountability and efficient and effective management for future growth.

- Guarantee appropriate oversight and institutional governance through the BNT Council
- Implement a comprehensive human resource programme, focusing on staff recruitment, career development and training



How We Work

Top left: Students from around the country learn about the ecology of Andros during the BNT's summer Eco-Camp at the Forfar Field Station near North Blanket Sound. Now in its fifth year, the Eco-Camp has received rave reviews from those who have taken part. Andros is home to five national parks and provides the ideal location for students to explore the Bahamian marine and terrestrial environment.

Top right: Communities in the Exumas are benefiting from specialised training to enable them to qualify as eco-tour guides in the Exuma Cays Land and Sea Park. Trainers include BNT officers Predensa Moore and Krista Sherman, along with Ministry of Tourism staff. The training is supported by the Global Environment Facility, a partnership of international institutions, civil society groups and the private sector, which funds environmental projects around the world.

Centre left: A research diver surveying coral reefs in the Exuma Cays Land and Sea Park. An estimated 500 million people around the world rely on reefs for their livelihood. The goods and services that reefs provide have been valued at \$375 billion per year.

Centre right: Volunteers are key to raising much-needed funds in support of the BNT's environmental education programmes. Here Manuel Cutillas, former chairman of Bacardi and chairman of the University of Miami's International Advisory Board, helps out with colleagues at the annual Cuban pig roast at the Maillis farm on New Providence.

Bottom: The BNT co-sponsored an international symposium on the flora of the Bahamas held at the College of the Bahamas. Other sponsors included Florida International University and Miami's Fairchild Tropical Garden. Pictured at the conference are: Dion Hepburn of the COB, Environment Minister Ken Dorsett, botanist Hardy Eshbaugh of Miami University in Ohio, BNT officer Tamica Rahming, and BNT executive director Eric Carey.



Financial Outlook 2013-2017

The financial climate that prevailed over our last strategic plan presented significant challenges for achieving financial sustainability. This was however not unique to BNT, as both the non-profit and private sectors were affected.

As a consequence, we fell somewhat short of our fundraising goals, and were therefore challenged to meet strategic objectives. The government’s commitment to the BNT was an important stabilizing factor, allowing us to execute many of our plans. Our staff remained resourceful; the high quality of executed programmes meant that we were yet able to achieve many successes.

While this plan covers our activities for the next five years, effective conservation of our natural resources requires us to look much further into the future. Long-term success will be measured in large part by the financial stability of the BNT. To secure this foundation we have started the Preservation Partners Fundraising Campaign with a targeted goal of \$32million. This goal will cover our capital need of \$12million - to increase our endowment to \$15 million, as well as the \$20million required to fund programmatic activities through 2017. This will allow BNT to maintain and expand national parks, to grow our excellent education and public awareness programmes and to continue effective advocacy for the sustainability of our natural resources. Priority parks for investment include the Exuma Cays Land & Sea Park, The Retreat and those on Grand Bahama, Abaco and Inagua. To meet this goal, we will increase our efforts to engage public support through memberships and general donations. We will also deepen philanthropic efforts to support specific programmes. User fees, special events and merchandise sales from our national parks will continue to fund our conservation work.

To ensure financial accountability and transparency to donors and the general public, we are strengthening our financial policies and controls. In addition, we will continue our longstanding tradition of providing annual audited financial statements that are widely circulated.

2013-2017 Financial Projections

Anticipated Expenditure

Endowment Growth	\$ 12,000,000
Programmatic Activities	20,000,000
Total Expenditures	\$ 32,000,000

Anticipated Revenues

Government Grant	5,000,000
Earned Revenue and Secured Programme Funding	4,500,000
Endowment Fund Income	500,000
Total Revenues	\$ 10,000,000

Net Fundraising Goal	\$ 22,000,000
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Adaptive Management of Natural Resources

A concept that accounts for uncertainty in the way ecosystems respond to human intervention. Since our understanding of nature is imperfect, attempts to manage nature must be experimental. Adaptive management is a structured process of decision-making aimed at reducing uncertainty over time via system monitoring. The reward is improvement of long-run management outcomes, while the challenge is finding a balance between gaining new knowledge and achieving short-term results based on current knowledge. Adaptive management promotes shared understanding of ecosystems by stakeholders, scientists, policymakers, and managers.

Conservation Strategies

This strategic plan is founded on the BNT's role as a non-profit, membership organization established by an Act of Parliament – a unique collaboration of the private, non-profit, scientific, and government sectors.

We actively involved the individuals and entities in these sectors to help define and shape our strategy and programme of work for the upcoming five years.

While much has been achieved during the last 50-plus years, there are monumental environmental and conservation challenges facing the BNT, the country as a whole, and the world in which we live. Over the next five years our efforts will focus on five strategic goals:

- **Building an Ecologically Representative National Park System**
- **Protecting Globally and Nationally Important Biodiversity**
- **Expanding Public Participation in Environmental Stewardship**
- **Promoting Environmentally Friendly Practices**
- **Balancing Development with Resource Management**

The overarching goal is to integrate our work into the culture and life of as many Bahamians as possible, as we develop long-term sustainable financing mechanisms to support our work and build our capacity to face the future.



1. Observation tower at Leon Levy Native Plant Preserve
2. Boardwalk, Lucayan National Park
3. Boardwalk, Harrold & Wilson Pond National Park
4. Observation deck, Blue Hole National Park, Andros

1



2



3



4

Many more improvements are planned over the next five years to develop infrastructure, support ecotourism entrepreneurs, and expand nature-oriented activities for visitors and residents.

AN ECOLOGICALLY REPRESENTATIVE NATIONAL PARK SYSTEM

Our 27 national parks and protected areas encompass nearly two million acres of pine and coppice forest, blue holes, coral reefs and tidal creeks. Protected in these territories are parrots, flamingos, iguanas, and an abundance of marine species.

Expanding and managing this park system to meet national goals set by the United Nations Convention on Biodiversity requires increased co-operation with local communities. The goal is to integrate our parks into the culture and life of as many Bahamians as possible.

The distinct Bahamian environment gives rise to numerous irreplaceable habitats and species. There are vast stretches of pine forest, tidal flats with schools of bonefish, extensive barrier reefs, the highest concentration of blue holes in the western hemisphere, and critical marine wetlands that contribute to fisheries throughout the region.



Observation deck, Bonefish Pond, New Providence.

Among the rare, endangered and endemic species found in The Bahamas are the Bahama Parrot, several species of rock iguana, the Kirtland's Warbler, the West Indian Flamingo, the Smalltooth Sawfish, the Queen Conch, and Loggerhead, Hawksbill and Green Turtles.

The BNT works to support the government's solemn commitment to meet conservation targets set by the UN biodiversity convention - including a comprehensive, effectively managed and ecologically representative national protected area system.

The most pervasive and destructive threats to this national protected area system over the next five years are anticipated to be :

1. Population growth and infrastructure development.
2. Inadequate environmental management policies.
3. Climate-change related storms and alteration of habitat due to sea level rise.
4. Introduction of exotic or invasive plant and animal species.
5. Inappropriate tourism or commercial development near parks.

To address these threats, the BNT has evaluated



Students use Harrold & Wilson Ponds National Park as an outdoor classroom.



Economic Value of Protected Areas

Healthy ecosystems are key to a sustainable economy, and protected areas are an important tool to maintain healthy ecosystems.

Global estimates of coral reef net value are on the order of half a million dollars per square kilometre per year, while the management costs of marine protected areas can be less than \$800 per square kilometre per year - a pretty good bargain.

Coral reefs in the Caribbean generated net revenues of \$2 billion in 2000 from dive tourism alone. Reef fisheries are estimated to be worth as much as \$150,000 per square kilometre per year. Bahamian reefs account for roughly 5 per cent of the world total, surpassing that of Australia's Great Barrier Reef.

Recent studies demonstrate that ecosystems on Andros are worth about \$260 million a year - 5 per cent derived from forests, 23 per cent from wetlands and 7 per cent from reefs. Commercial fishing (including crabbing and sponging) generates \$70 million a year, while tourism produces \$43.6 million.

The long-term impact of depleting these resources will affect everyone's livelihood, so their future security should be addressed by protecting forests, reefs, creeks, crabs and bonefish. The bottom line is that a fine balance must be struck between enabling development and protecting heritage.

The Exuma Cays Land and Sea Park, created in 1959, was the first of its kind in the world. In 2009 this park generated some \$9 million, directly supporting over 100 jobs and almost 20,000 visitors. With secondary impacts, the net economic value was in the range of \$12-20 million in 2009 - or as much as \$374 million over the next 25 years.

The 11-acre Retreat Garden is the site of the BNT headquarters, and one of the few large green spaces left in the city of Nassau. The direct economic impact of the Retreat was more than half a million dollars in 2009 (almost two thirds of which was captured by the BNT itself).

Taking into account secondary impacts, the total economic impact over the next 25 years is estimated at \$10 million. The Retreat is the only BNT park to generate a large profit, and its full revenue potential has yet to be reached.

the current level of protection for major habitats and species throughout the country. From this extensive analysis, new priority areas have been identified for national park status.

These include biodiversity hotspots on San Salvador and extensive areas on Grand Bahama, specific habitat for the endangered Bahama Oriole and wintering Piping Plovers on Andros, as well as an important network of mangrove wetlands on Abaco.

The BNT will work with key stakeholders to develop and implement management plans for these parks. Conservation goals and sustainable financing will be incorporated into the overall planning process.

An effective monitoring and evaluation system is key to protected area management. Our new Science Division will incorporate conservation goals for key species and ecosystems into park management plans. Knowledge gained from the monitoring process will be applied using adaptive management techniques.

Every national park will have its own unique management plan and regulations, formulated with input from local communities and stakeholders. The goal of each plan is to balance the needs of local communities with preservation of the surrounding environment.

These BNT-managed protected areas bring huge advantages to nearby communities. They incorporate significant recreational opportunities and remove the threats of over-development, commercialization and exclusive use.

The BNT has invested millions of dollars to improve accessibility and upgrade the visitor experience at key national parks on New Providence, Grand Bahama, Andros, Exuma and Eleuthera.

These improvements include boardwalks, interpretive signage, publications, moorings, and a native plant preserve that is unique to the region - all testimony to our commitment to preserve biodiversity while using the parks as outdoor classrooms and recreational destinations.

Many more improvements are planned over the next five years to develop infrastructure, support ecotourism entrepreneurs, and expand nature-oriented activities for visitors and residents.

Wildlife viewing trails and visitor centres are planned for the Abaco and Lucayan National Parks. Camp Vernay in the Inagua National Park will be rebuilt to provide overnight stays for visitors, and we will continue to improve the visitor experience on New Providence, with special emphasis on the Retreat Garden.



Endangered Piping Plover



Guided by Science

At The Bahamas National Trust, our conservation decisions are guided by our science-based approach. This approach uses scientifically rigorous surveying techniques to collect data pertaining to the distribution and status of key species, habitat condition and the identification of current and future threats. These ecological assessments enable The Bahamas National Trust to identify conservation gaps and establish priorities for protection.

To effectively manage our resources, it requires an understanding of what exists. Here at the BNT, we collaborate with numerous scientists and partners to gain the knowledge required to make informed decisions. Before any recommendations are made to the government to have an area protected under our National Park System, the first step in the process is to conduct a Rapid Ecological Assessment, also known as an REA. This process is rigorous but a necessary one to determine the overall ecological importance of an area and its conservation value in addition to the identification of proposed boundaries for the government's consideration. More importantly, the data collected provides a baseline for which future monitoring can be conducted to determine changes in both habitats and important species.

Supporting our work, we have a Science Advisory Committee of more than 40 Bahamian and international academic and public agency scientists. The mandate of this group of highly skilled scientists is to advise BNT on conservation issues from a scientific perspective. Through this group, BNT has access to the best science and scientists in areas critical to future conservation efforts, to guide us towards sound strategic decisions.

PROPOSED NATIONAL PARKS

The Bahamas government has pledged to preserve 20 per cent of the country's marine and terrestrial ecosystems by the year 2020. While about 19 per cent of Bahamian land area is currently protected, less than 1 per cent of our marine areas are protected. A master plan for the Bahamas Protected Area System was developed in 2010 by the BEST Commission, the BNT, the Department of Marine Resources and The Nature Conservancy. All of the proposed protected areas help to meet our international obligations.

Moriah Harbour Cay National Park

Expansion to incorporate the Exuma Sound, east of Man-O-War Cay; approximately 500 metres north of the eastern shore of Great Exuma; and bounded by the Ferry Cut to the southeast. This area was advanced in the BNT's 2001 proposal, but the finalised lease covered an area that was significantly smaller and compromised the ecological support of important species.

West New Providence Marine Managed Area

Extending from Balmoral Island off the north-western coast, west to Goulding Cay, and south-west to include the area known as Shark Arena/ Shark Wall. A multi-zoned approach will preserve the health of coral reefs and protect important marine species while permitting sustainable fishing, tourism, transport and development. Protected coastal wetlands nearby are replenishment areas for the offshore reefs of this proposed park.

East Abaco Creeks National Park

This near-intact network of wetlands comprising the Snake Cay Creek (Angel Cays), the Bight of Old Robinson, and Cherokee Sound is threatened by incompatible development pressures. The entire area is connected underground by a high density network of blue holes, which contributes to the health of the overlying ecosystem. The creeks are important nursery habitats for marine species, including conch, grouper and turtles. A multi-use park is proposed to allow for recreational activities and ecotourism.

South Abaco Blue Holes Conservation Area

This zone is proposed to protect an extensive series of blue holes and underwater caves located on public lands between Bahama Palms Shores and the Crossing Rocks settlement. This will help preserve the unique lifeforms and historical data found in four inland and 13 offshore blue holes, connected by miles of scientifically significant underwater passages.



Snake Cay area of Abaco.



Tourism and National Parks

With over two million annual cruise visitors to New Providence and 775,000 to Grand Bahama, there is a rising demand for quality nature tourism experiences that can benefit both the BNT (through user fees, etc) and local communities (through tours, concessions, etc). We are working with the Ministry of Tourism to train eco-tour guides, and will strengthen this partnership by developing and marketing park visitation experiences. We will also build on the 'Parks Pal Experience' developed with Bahamas Ferries, which has introduced thousands of New Providence schoolchildren to Blue Hole National Park on Andros. As we develop new partnerships, we will work closely with local communities and tourism providers to manage the negative impacts of tourism and promote sustainable use of our natural resources.

Grand Bahama

Several new protected areas have been proposed for Grand Bahama, to meet national conservation goals for key habitats and biodiversity hotspots that are currently under-protected. The Lucayan National Park will be expanded to incorporate the remaining karst cave system to the north, as well as a portion of the offshore reef. The North shore/ Gap area will protect prime bonefish habitats, tidal creeks, mangrove forests and seagrass meadows. A system of four blue holes at Sweeting's Cay is proposed for protection, the archipelago of cays and channels adjacent to the Deep Water Cay area and the Peterson Cay National Park will be expanded to incorporate offshore seagrass meadows and reef formations.

San Salvador National Park

Four areas on this island will be protected. Grahams Harbour, protected by fringing reefs, contains the most extensive seagrass meadow



Bahamian rock iguana.



Reddish egret.

around the island, and Green Cay is home to iguanas and seabirds. Pigeon Creek and Cay and the other small islets nearby also feature iguanas and large colonies of seabirds. The creek and the offshore waters are important nursery areas. Green's Bay also features iguana, seabird colonies and reefs that would be damaged by sediment infusion if Storrs Lake was opened to the sea. Dive sites along the west and south coasts are important visitor attractions.

Joulter Cays National Park

This proposed park north of Andros would incorporate a large intertidal to shallow subtidal area of sand flats, fringed by roosting habitats for shorebirds and a ridge of vegetated islands. Other islets are scattered among the sand flats. This is an important fishing ground for communities on Andros, as well as a wintering habitat for the endangered Piping Plover. The area has been nominated as an Important Bird Area by BirdLife International.

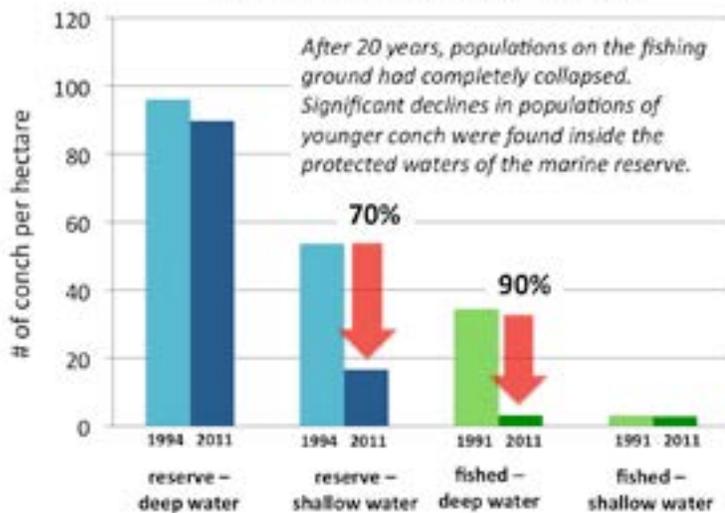


The problem with Conch

The BNT is working with the non-profit group, Community Conch, and with the Department of Marine Resources over the last three years to research our conch fishery. A summary of the current state of knowledge of Bahamian conch resources and management options submitted to the government in 2011 contained the following conclusions:

- Conch densities are decreasing in commercially fished areas to levels that will not sustain the populations. Fishing grounds in Abaco, Berry Islands, Andros and Lee Stocking Island all show evidence of collapsing populations.
- Conch densities at the Exuma Cays Land and Sea Park study area have decreased 35 per cent over the last two decades. Although the park protects existing conch, there is not sufficient recruitment from outside the protected area to maintain conch populations within the park, and further decline is expected without new fishery management policies.
- Conch populations are rapidly declining below the critical threshold for reproduction, and they are being harvested before sexual maturity. Experience in Florida and elsewhere in the region show that recovery of conch populations is slow after populations fall below those thresholds.

Queen conch density on a fishing ground and in a marine reserve in the Exuma Cays.



- Releases of hatchery-reared conch in Florida, Mexico, Puerto Rico and The Bahamas have not been able to rebuild stocks.

Due to the ecological, economic and cultural importance of this species, the BNT has joined key stakeholders to advocate new management and enforcement policies and create wider public awareness of the issues in order to ensure a sustainable fishery for this iconic species. The campaign, while focused on conch, will address the need for sustainable management of other aggregatory species such as Grouper, Mutton fish and Lane Snapper.

PROTECTING GLOBALLY AND NATIONALLY IMPORTANT BIODIVERSITY

The Bahamas faces significant challenges to conservation and sustainability. Fishery stocks are beginning to decline, and invasive species are increasingly evident throughout the islands.

For example, conch and grouper are both culturally important foods for Bahamians. But populations are falling here while both are already commercially extinct elsewhere in the region. The BNT is working to build a network of marine protected areas over the next five years as a key goal of marine conservation.

The sustainability of our marine resources is an urgent consideration for policymakers and fishermen alike. These challenges must be addressed holistically and strategically through enhanced collaboration with communities, non-government and government agencies to bring about a substantive change in behaviour in the harvesting of these resources.



Bahama Oriole.

We will seek to build support for new fisheries regulations to protect our declining populations of conch, grouper and other aggregatory marine species. This is a vitally important task.

Two types of forest are present in The Bahamas. The dry broadleaf evergreen forest known as coppice is by far the most diverse terrestrial habitat found in our islands. Bahamian pine (*Pinus caribea* var. *bahamensis*) is a variety of Caribbean pine occurring in the northern Bahamas - on Andros, Abaco, Grand Bahama and New Providence.

These two forest habitats provide breeding and foraging grounds for a large number of bird species, as well as the largest iguana species found here (*Cyclura cychlura*). These habitats provide ecological corridors for key species, which use components of each for food and shelter.



Iguana being tagged on Andros.

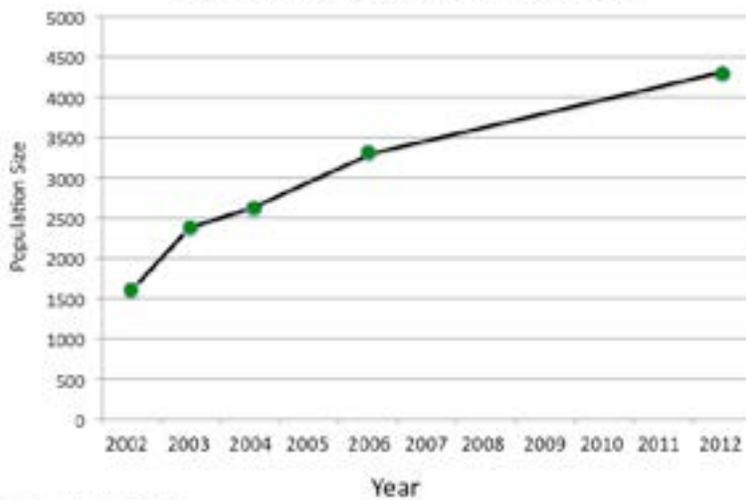
Birds and Biodiversity

Birds are one of the best-known and most highly valued groups of animals, and over 300 species have been recorded in The Bahamas. One hundred and nine species breed on the islands. The others are migrants that pass through or winter here. Some 45 are vagrants that have occurred only a few times each.

The Bahama Oriole (*Icterus northropi*) is one of the rarest birds in the Caribbean. It is found only on Andros, and the population is in decline. The Bahama Yellowthroat (*Geothlypis rostrata*) and Bahama Swallow (*Tachycineta cyaneoviridis*) are endemic to certain islands. The Brace's Emerald was a national endemic, but is now extinct.

There are 43 Important Bird Areas in The Bahamas, which are international priorities for bird conservation. They include nine BNT-managed protected areas, but only two of these areas are protected in their entirety. Seven are partly protected, while 30 currently have no legal protection.

Abaco Parrot Population Estimates



● Survey point estimate

Significant populations of key bird species are found in two or more IBAs. Also, as the IBAs are almost evenly split between the northern, central and southern Bahamas, there is good geographic representation for most species (where this is possible) throughout the archipelago.

For sheer numbers, both the North Atlantic Abaco Cays IBA and the Cay Sal IBA stand out as supporting the largest numbers of seabirds, while the Great Inagua IBA is home to the largest congregation of waterbirds. Important Bird Areas are priorities for protection and incorporation into the national park system.



The Bahama Parrot

The impact of protection can be clearly seen in the survival of our national bird - the West Indian Flamingo.

In the early years of the 20th century this bird was on the edge of extinction throughout the region due to indiscriminate hunting, the depredations of invasive species, and disturbance of habitat.

Scientists persuaded The Bahamas to ban hunting and establish reserves to help stem the decline, but there were only a few thousand flamingos left when the BNT assumed responsibility for conservation in the 1950s.

Lake Rosa, a huge wetland in the centre of Inagua that was the flamingo's last refuge, was incorporated into a 184,000-acre national park in 1965, and this proved to be the tipping point. Today, there are more than 60,000 flamingos and they have begun to breed again on other Bahamian islands.

Research and monitoring are important tools in the conservation of protected areas. In order to effectively manage protected areas it is necessary to understand the local ecology, as well as the expectations and demands of visitors.

The role of research is to solve problems arising from the ongoing management of protected areas. In contrast, monitoring helps to assess whether a protected area achieves its conservation goals under current policies. Protected areas are also preferred locations for international research and monitoring programmes that aim to detect large-scale environmental change.

In areas that protect necessary habitat for endangered or threatened species, special management plans are put in place which speak to the monitoring of specific populations and set conservation goals for each species. These plans also cover enforcement of wildlife regulations and seek to set recovery goals for endangered species.

The BNT Science Division will evaluate the extinction risk of Bahamian species and subspecies in order to convey the urgency of conservation issues that affect these species to the public and policymakers. Creating an awareness of the status of our special island species and drawing attention to our threatened biodiversity is important if we are to influence national policy- and decision-making.

Some species are vital to an ecosystem and its proper functioning. These species are referred to as keystone species. If a keystone species disappears from an ecosystem, the result can be the virtual or actual disappearance of other species. Keystone species can include predators that help to maintain levels of prey, or pollinators like bees and bats that help plants to reproduce. Keystone species should be given priority in conservation efforts.

In designating protected areas for conserving biodiversity, priority may be given to ecosystems that contain many species, that contain species which occur nowhere else, that are representative samples of major or rare ecosystems, or that contain large numbers of genetic lineages of economic value.

Unfortunately, not all areas that are important for species survival can be protected. Sometimes important habitat is privately owned. In order to fill gaps in coverage and create functional ecological corridors, non-traditional forms of protection need to be explored. The BNT will work with landowners to create private protected areas and conservation easements.

Restoring degraded habitats is generally more costly. However, the BNT is committed to working with local communities to restore critical habitats that would support endangered species as well as provide habitat for important commercial species. An example of this would be mangrove wetland restoration. These highly productive ecosystems act as nurseries for fishery species such as conch, crawfish and grouper.



Government and conservationists joined to ban shark fishing throughout The Bahamas.



Summer Camps Teach Ecology

Week-long safari camps for younger children are held annually on islands where national parks are located. Activities are environmentally themed and include guided visits to the parks. The BNT runs the Bahamas Eco Camp for 13- to 15-year-olds annually on the island of Andros. The camp encourages a deeper appreciation for the natural environment and a commitment to conservation and sustainable development. These camps provide immersion experiences for students in all of the Bahamian ecosystems – coral reefs, mangrove wetlands, rocky and sandy shores, coppice and pine forests. Eco camps are coordinated with the Bahamas Hotel Association, the Ministry of Tourism and corporate sponsors.

EXPANDING PUBLIC PARTICIPATION IN ENVIRONMENTAL STEWARDSHIP

Initially, national parks were created to conserve the floral and faunal biodiversity of The Bahamas by protecting habitats in these natural areas.

Today these parks provide recreational opportunities and important ecosystem services such as water catchment, soil stability, pollination of economic species, and nurseries for commercial marine species.

Overall, national parks are an important resource for scientists, educators and the community due to the variety of aesthetic, recreational and economic uses they offer. They help to mitigate human impacts by protecting natural areas that provide food and shelter to important animals and plants.



Volunteers help clear trash and invasives, build trails and boardwalks at our national parks.

Public involvement in the long-term sustainability of our national parks is critical to help overcome threats from overfishing, habitat destruction, development, pollution and climate change. Environmental stewardship is vital for the support of national conservation programmes and policies.

Our Partnership for the Parks programme provides an avenue for BNT members and corporate citizens to help with national park infrastructure and fundraising activities, or serve as volunteer visitor guides.

Public advocacy campaigns for the conservation of endangered species, the removal of invasives, or the creation of new protected areas, offer further opportunities for environmental stewardship.

Fostering youth leadership has always been a key goal of the BNT. Our educational programmes for young people include the Discovery Club, an





*Discovery
Club
Spotlight:
Nassau
Christian
Academy*

Nassau Christian Academy launched a Discovery Club in 2008 with a dozen members. Today the club has mushroomed to 60 members led by an energetic teacher named Lethera Bodie, who stimulates interest with an array of field trips to local destinations like the Retreat Gardens, Rocky Farms and the Maillis Farm. Meetings are held every Friday afternoon. Among the badges that Discovery Club members work to acquire are the Bugs badge, the Flora badge and the Endangered Species badge. Discovery Clubs offering a fun outdoor learning environment, combined with enthusiastic teachers who love nature and thrive on the excitement of their students are key ingredients for successful environmental education.

after-school natural history badge programme catering to students aged 6-12.

Introduced in 1995, the club's goal is to help members acquire the knowledge, values and skills needed to generate respect for nature, people and history.

These features make Discovery Club unique in The Bahamas. Some 35 chapters have been established on New Providence, Grand Bahama, Abaco, Andros, Eleuthera, Exuma and Inagua. They promote the ideals of community service, outdoor learning and environmental stewardship.

The newly introduced Navigators level, for ages 13 to 25, is a three-year certification programme designed to prepare students for careers in eco-tourism and the environmental sector. Members participate in BNT events and are encouraged to organize conservation projects at their schools or churches.

Citizen science is a way to integrate public outreach with scientific data collection. By involving volunteers directly in the monitoring and active management of national parks, the BNT seeks to create a source of information that will lead to positive and measurable impacts on biodiversity.



Shorebirds forage in coastal areas in many of our national parks. The BNT is working on shorebird educational initiatives with National Audubon on Andros.



One of our largest citizen science initiatives is the Annual Christmas Bird Count. Since 1995 this event has become an international activity, and the data gathered show trends in bird populations on New Providence, Abaco and Grand Bahama.

As part of the Shorebird Conservation in The Bahamas Initiative, in partnership with the Audubon Society, the BNT Education Office works with students and teachers to develop citizen-science skills in shorebird identification.

The goal is to support a local monitoring initiative to record wintering shorebirds in The Bahamas, with emphasis on the Piping Plover—one of the most endangered shorebirds in North America. Previous conservation has focused on their breeding ground habitats in the northern US, but evidence suggests that their survival depends in large part on the health of their winter habitats, such as The Bahamas.

Sustained monitoring of important coastal wetlands will identify changes in the environment that could negatively affect this species and help spread local awareness about other threatened wildlife.



The Nassau grouper—threatened throughout its regional range.

*We generate our own environment.
We get exactly what we deserve.
Who's to blame, who's to credit, but us?"*

-Bruce Dawes

PROMOTING ENVIRONMENTALLY FRIENDLY PRACTICES

Education has always been at the top of the BNT's list of priorities. We recognize that environmental awareness is important to effect the behavioural changes needed to achieve long-term sustainability.

Our natural resources are under pressure, with many ecosystems already degraded and likely to be seriously impacted by climate change in the mid-term future. Sustainable development emphasizes the need for a long-term planning horizon, and the adoption of a development path that improves the quality of life of current generations, while leaving future generations with at least the same capacity and options for development.

Key threats to environmental sustainability in The Bahamas include the over-exploitation of our marine resources, the destruction or degradation of natural habitats and ecosystem services, and the failure to integrate development with conservation.

To help address these threats, the BNT's Education Office works with teachers and Ministry of Education curriculum planners to develop classroom materials that focus on endangered species, local ecosystems, fisheries and other key themes for primary and secondary students.

Award-winning teacher resources such as *Wondrous Wetlands*, *the Bahamian Pine Forest*, and *Treasures in the Sea* are the result of wide collaboration. Partners have included the Society for the Conservation and Study of Caribbean Birds, the American Museum of Natural History, the Ministry of Education, the Bahamas Reef Environment Educational Foundation, and Abaco Friends of the Environment.

The BNT also develops educational programmes to support wetland conservation, marine resource protection and other priorities. There are workshops for teachers and field trips to national parks for students. Meanwhile, more broad-based advocacy initiatives help form public opinion on conservation issues.

A BirdSleuth Programme is being developed in partnership with the Society for the Conservation and Study of Caribbean Birds and Cornell University. This will bring citizen science, inquiry, and outdoor experiences to young people throughout the region.

BirdSleuth supports students through the entire scientific process: observing birds, collecting data, asking questions, drawing conclusions, and publishing results. In this way, students will become practicing scientists.

The Education Office is also developing an Environmental Best Practices Demonstration Programme for our national parks.

In an effort to lead by example, we have banned the use of styrofoam food containers at all BNT events.



Birdwatching in the islands.



A tortoise T1 in bottom sediment in Sawmill Sink, Abaco

Bahamas National Natural History Conference

Long-term studies on sea turtles, conch, flamingos and other regional species have been taking place in the Bahamas for years, but the information has not been widely known.

The effective management of national parks and the biodiversity they protect requires baseline data to compare with current data, and communication with the scientists conducting research in The Bahamas. Beyond the needs of the BNT are the national needs of understanding our complex and important ecosystems in the context of making sustainable development decisions for the country.

In an effort to bring the scientific, academic, governmental and general public together, the BNT collaborated with the College of The Bahamas, Fairchild Tropical Garden and Florida International University to hold the first Bahamas National Natural History Conference (BNNHC) in Nassau, on in March 2013.

Under the theme was “Highlighting the Importance of Research, Conservation, and Environmental Stewardship”, the conference attracted local and international researchers, educators, natural resource managers, students and naturalists. With over 100 abstracts received, the conference created a forum to encourage interdisciplinary research and marked the beginning of a more direct dialogue between the scientific community and national decision-makers.

Plans are to host a similar conference in 2014 and then move to a two- to three-year cycle, with the goal of expanding the involvement of COB students and creating opportunities for more research in national parks and protected areas.

And reusable water bottles are provided at all summer camps as a lesson to students on ways to reduce landfill waste.

Staff are trained to recognise and remove invasive species, and the BNT is part of a region-wide programme to mitigate the spread of alien species.



Banding turtles at Union Creek, Inagua.

Lionfish removal and monitoring is a particular focus of this programme and we have made a significant impact in controlling this destructive fish in our national parks.

Removal of invasive Casuarinas is also a focus, and was one of the first activities undertaken at the Leon Levy Native Plant Preserve on Eleuthera.



Searching for flamingoes at Inagua.

These invasive and destructive trees were removed and mulched to provide wood chips for nature trails. Casuarina removal has also taken place at the Lucayan National Park, the Rand Nature Centre in Freeport, and the Exuma Cays Land and Sea Park.

Invasive species removal is an ongoing management priority at all national parks in The Bahamas.



Mulched casuarinas make a comfortable trail at Leon Levy Native Plant Preserve.



Harrold and Wilson Ponds National Park

BirdLife International Partnership

The BNT shares values and objectives with BirdLife International, a global network of more than 100 national conservation groups that focuses on birds and wider biodiversity on every continent. As a BirdLife partner we work through an international alliance to improve bird and biodiversity conservation within our region. Specific conservation efforts have focused on the West Indian Whistling Duck, the Kirtland's Warbler, the Bahama Parrot and the White-crowned Pigeon. Locally, the project has identified 43 Important Bird Areas, or biodiversity hotspots, that are priorities for protection. The partnership has also supported the management of Harrold and Wilson Ponds National Park, a wetland home to more than 100 bird species in central New Providence. Training for support groups at several national parks has also taken place through this partnership, and we are working with the Ministry of Tourism to develop a fully accredited birding tour-guide course, in recognition of the growing importance of eco-tourism to the economy.

BALANCING ECONOMIC DEVELOPMENT WITH NATURAL RESOURCE MANAGEMENT

We live in a world of expanding populations, evolving socio-political landscapes, and a changing climate, all of which increase pressure on the planet's finite natural resources and delicate ecosystems.

To create sustainable solutions, we must partner with government, private sector, nongovernmental, and community stakeholders. Sustainable solutions are those that promote livelihoods, protect precious freshwater supplies, conserve natural environments and biodiversity, and reduce our vulnerability to climate change.

It is imperative for national stakeholders and conservation professionals to come together to formulate a realistic national development plan that takes full account of conservation values. Protected areas are important, but our most vital task lies in creating an understanding of sustainable development at all levels.

Our governing legislation mandates the BNT to advise the Bahamian public and private sectors on development issues and policies. This requires us to effectively articulate the environmental issues that pose the greatest threat to sustainable development in our islands.

The BNT must be in a position to provide information on environmental best practices and the latest scientific research in order to create a dialogue that will help decision-makers to balance economic growth with conservation of the environment.

The Planning and Subdivision Act, which came into effect in 2011, is a significant effort to address development issues throughout our archipelago, and is therefore of great interest to the BNT.

The law consolidates all aspects of town planning and subdivision development, expands public participation in the approval process, and mandates land use plans for every island, based on a national land development policy that is yet to be promulgated. All future development and zoning must conform to the approved land use plan for each island.

The law is being implemented in phases, beginning with New Providence, where most Bahamians live, and moving on to islands like Abaco and Eleuthera, where the development pressures are greatest. A preliminary land use plan for New Providence was completed to allow the law to take effect.

The main goal is to prevent the indiscriminate division and development of land while protecting the country's natural and cultural heritage. Developers will be required to meet minimum standards, install infrastructure, provide access to utilities, preserve wetlands and minimize and manage the impact of the project on the environment.

For significant developments, special approval is now needed for excavation or landfilling, quarrying or mining, or for the harvesting of protected trees. There are also provisions for the preservation of existing mature vegetation and tree cover, as well as for public access to the sea.

The new law should bring clarity to the development process and have a positive impact on our communities. Our fragile islands are facing an enormous onslaught from development that will only grow worse over time. If we want to maintain our quality of life, we must avoid thoughtless destruction of the natural environment which underlies that quality of life.



A restored wetland at Cable Beach.



The Retreat Gardens on Village Road, Nassau.

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