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Country facts at a glance

Area:	13,940 km²
Population:	330,550
Capital:	Nassau
Altitude:	0–63 m
Number of IBAs:	31
Total IBA area:	457,190 ha
IBA coverage of land area:	21%
Total number of birds:	300
Globally threatened birds:	2
Globally threatened birds in IBAs:	2
Country endemics:	3 ¹

General introduction

The Commonwealth of The Bahamas is an archipelago of c.700 islands and c.2000 cays and rocks extending over 1100 km in length. The archipelago, which lies north and east of Cuba, runs from east of the southern end of Florida (USA), southeast until it terminates at the Turks and Caicos Islands (to the UK) which are geologically a continuation of the islands. The Bahamas are exposed parts of a limestone platform that is divided into several shallow banks. Little Bahama Bank is located along the northern coasts of Grand Bahama and encompasses all of Abaco and its North Atlantic offshore rocks and cays. The Great Bahama Bank (which is rich in marine life) stretches from north of the Biminis and Berry Islands, southward to hug the southern shoreline of New Providence and the western shores of Andros, Eleuthera, Cat Island, the Exumas, Long Island and the Ragged Islands. The Cay Sal Bank (which is biologically impoverished) is located at the extreme western sea border of The Bahamas, very close to Cuba. The islands of the Bahamas are low and flat with ridges that usually rise to no more than 15–20 m. However, there are precipitous slopes under water, between and within the convoluted banks. The Tongue of the Ocean is a 30-km wide trench between New Providence and Andros which drops to depths of 2000 m. The islands have no rivers or streams and the soil is fertile but thin, and often lodged in shallows and "banana holes" within the harsh limestone rock. A freshwater lens exists close to the surface, resting on the underlying salt-water.

The Bahamas are often divided, ecologically, into three regions: Northern Bahamas (Grand Bahama, Biminis, Berry Islands, Abacos, North Andros, and New Providence) where all the larger islands are covered primarily by Caribbean pine (*Pinus caribaea*) woodland (with a broadleaf shrub and palm understorey), although much of this woodland was logged in the mid-twentieth century; Central Bahamas (South Andros, Eleuthera, Cat Island, the Exumas, Ragged Islands, Long Island, Rum Cay, Conception Island and San Salvador), in which the islands are covered primarily in broadleaf "coppice" - a dense, low semi-evergreen forest; and Southern Bahamas (Crooked Island, Acklins Island, Samana Cay, Mayaguana, Little and Great Inagua), where the islands are drier and support dry shrubland. New Providence, in spite of being one of the smaller islands, is home to c.69% of the Bahamian population and the nation's capital. Grand Bahama is second only to New Providence in terms of development, and it supports 16% of the population. It is also home to the longest underwater cave system in the world. The rest of the Bahamas islands are called the "Family Islands" which are sparsely populated and retain their natural beauty. Of these Family Islands, Great and Little Abaco (and its cays) are considered "the sailing capital of the world", and the islands have a booming tourist trade. Andros is the largest island in the Bahamas, with extensive creeks, interlacing channels, bays, bights and inlets. It is also home to many blue holes and as a result is renowned for its cave-diving. Inagua is the southernmost island in the Bahamas with the nation's only Ramsar site—Inagua National Park—which is home to over 40,000 Caribbean Flamingos (*Phoenicopterus ruber*) and many other waterbirds. The com-

pany Morton Bahamas Ltd. produces salt from the salinas at one end of Lake Rosa (which occupies c.30% of the island). Morton is one of the largest salt producers in North America.

The Bahamas has the third highest per capita income in the western hemisphere (after the USA and Canada). Tourism is the primary economic activity, accounting for c.65% of the gross domestic product (GDP). The government's current economic thrust is to put an anchor resort on each of the major Family Islands which will have huse implications for the

which will have huge implications for the biodiversity of these otherwise relatively untouched islands. Offshore finance is the nation's second largest industry, accounting for c.15% of GDP. The settlement history of the



The Exuma Cays Land and Sea Park (BS020) in the northern Exumas, Central Bahamas Photo: Olga Stokes

Important Bird Areas AMERICAS

Bahamas is convoluted and often different on each island. Plantations were established on some of the islands during the late 18th century, and large-scale agriculture was trialed in the mid-20th century when much of remaining virgin pine forests in the Northern Bahamas were logged. Subsequent development (especially on New Providence and Grand Bahama, but also locally on the other inhabited islands) has had a profound negative impact on the surrounding habitats. The climate of the Bahamas is subtropical to tropical, and is moderated significantly by the waters of the Gulf Stream

which keeps the islands warmer than Florida in the winter and cooler in the summer. Summer is the rainy season with June and October the wettest months. However, the Southern Bahamas only get half the rainfall that the northern Bahamas receive. The islands are frequently hit by hurricanes; for example, Hurricane Andrew in 1992, Floyd in 1999, Frances and Jeanne in 2004, and Wilma in 2005. Low-pressure systems associated with tropical waves and resulting in strong winds and drenching rain are a regular feature in the Bahamas.

Conservation and protected area system



In the Bahamas, the Ministry of Environment is currently the principal government department involved in conservation and the environment. Within this ministry is the Bahamas Environment Science and Technology Commission, also known as the BEST Commission, which was established in 1994. The BEST Commission manages the implementation of multilateral environmental agreements and reviews environmental impact assessments and environmental management plans for development projects within the Bahamas. The Bahamas National Trust (BNT) was established in 1959 under the Bahamas National Trust Act. It is a non-profit organization, funded by private donations, an endowment fund and a significant subvention from the Government of the Bahamas. BNT advises the government on conservation policies and is charged with safeguarding the nation's environmental heritage. One of its statutory roles is to hold environmentally important lands in trust for the country. BNT also has the responsibility for managing the national park system. The park system now consists of 25 parks and protected areas (10 parks were designated in 2002), covering 283,400 ha throughout the archipelago. Many of these extraordinary and often innovatively managed parks are also IBAs (further details in BirdLife International 2008). BNT works in partnership with the Bahamas government, local business, national and international conservation organizations, schools and the community.

In the Bahamas, there is a constant quest for economic advancement, but without the necessary knowledge and appreciation that the nation's environment has limitations, this could have catastrophic long-term consequences. In the past, valuable timber (pine and coppice) were cut, monoculture agriculture was practiced, and introduced livestock (goats) and slash-and-burn agriculture expanded to less arable areas. At the same time, subsistence, commercial and recreational hunting and fishing, introduction of alien species, urban sprawl, road works, careless tapping of the freshwater lens, interference with natural drainage, dredging and reclamation of wetlands and tidal mangroves, pesticide spraying to eradicate mosquitoes, malaria, yellow fever, crop pests, problems of sewage and solid waste disposal and many other human intrusions have all taken a huge toll on local biodiversity, and thus threaten the essence of the nation's valuable tourism product.



Infrastructure for visitation (and education and awareness) is being put in place by BNT in a number of IBAs such as this viewing platform and boardwalk in the Blue Holes National Park (BS009), Central Andros. Photo: Shelley Cant

In order to promote appropriate development for the Family Islands (which have previously been little impacted by development), there is an urgent need for a national land management or development plan. This would help identify sensitive areas (such as the IBAs) which should be subject to limited exploitation and/or should be placed in the protected

area system. As an island archipelago, the Bahamas needs to be particularly sensitive to the tourism carrying capacity, water resource use and wetland destruction. Strategic planning for the marina needs for the entire archipelago could effectively limit destruction of mangrove wetlands and tidal creeks. However, for such planning to be adopted there needs to be a clear appreciation and understanding of the need to limit or mitigate the effects of development on the biodiversity of the islands.

"There is an urgent need for a national land management plan to promote appropriate development for the Family Islands."

Lack of environmental legislation and, more importantly, the lack of enforcement of environmental legislation continue to be an obstacle for conservation in the Bahamas. The very nature of the archipelagic nation creates enforcement problems compounded by insufficient human resources in both the Royal Bahamas Police Force and the Royal Bahamas Defense Force. Draft enabling legislation for the environment has recently been developed by the BEST Commission, and includes Environmental Impact Assessment Final Draft Regulations; Pollution Control and Waste Management Final Draft Regulations; Draft National Environmental Policy; and Environmental Management Final Draft Legislation. Enactment of such legislation will provide the basic framework for the coherent management of the nation's unique environment.

All conservation partners in the Bahamas agree that a stronger environmental ethic needs to be established. This can only be accomplished through a major public outreach campaign targeting both school-age and adult citizens. In particular, decision-makers need to be made aware of our environmental responsibilities so that collectively the threats outlined below can be addressed. Government agencies and the BNT are faced with a paucity of trained environmental staff. Many of those that are trained seek employment in unrelated but higher salaried professions in the financial or legal sectors. Even in-country field research capacity is minimal but vital to inform regulations for marine and terrestrial natural resource management. However, there is growing awareness that visiting researchers and international projects have a responsibility to help with this training and capacity issue. The Kirtland's Warbler Training and Research Program, a collaboration between BNT, U.S. Forest Service, The Nature Conservancy and the College of the Bahamas has been exemplary in providing opportunities for Bahamian students to gain expert field and academic training.

Habitat destruction and degradation caused by human population growth and extensive changes in land use practices is impacting on the birdlife and other biodiversity. Local species extinctions are happening, e.g. the Great Lizard-cuckoo (Saurothera merlini) has been extirpated from New Providence over the last 10 years. While the habitat loss that leads to such extinctions is best addressed through improved planning, legislation, protection and enforcement, the BNT is working to engage local communities in the protection of critical areas. For example, local Site Support Groups in Abaco, New Providence and Inagua are working with the BNT to develop native tree nurseries and to re-plant areas with native vegetation. BNT is also working with local nurseries to promote the propagation of native trees and vegetation by these private sector businesses. In the Bahamas, it is common practice to treat the wetlands as wastelands to be filled in to provide more land or to be dredged for canals and marinas. The work of the BNT through the West Indian Whistling-duck and Wetlands Conservation Program (a program of

the Society for the Conservation and Study of Caribbean Birds) has gone some way to raising awareness of the critical importance of wetlands for biodiversity, as nursery grounds for economically important fisheries, and for coastal zone protection (including flood and hurricane damage mitigation). BNT has recently partnered with RARE Conservation to implement a Pride Campaign, a social marketing campaign to educate Bahamians about the value of wetlands and change the perception of them as "wastelands" or dumping grounds. The site focus for this Pride Campaign is Harrold and Wilsons Ponds National Park and IBA (BS014).

Biodiversity in the Bahamas is facing a constant threat by introduced or invasive species, both plants, e.g. Brazilian pepper (*Schinus terebinthe*-

folius) and casuarina (Casuarina equisetifolia) and animals, e.g. feral cats (Felis catus), raccoons (Procyon lotor) and wild hogs (Sus scrofa) alike. The historic and cultural practice of using small islands as natural corrals for goats has impacted the vegetation on many remote cays. The BNT is working with a Site Support Group to manage invasive plants at Harrold and Wilsons Ponds National Park, and with Friends of the Environments (another Site Support Group) in Abaco to manage the feral cat population. In the last two years, feral cats predated 50% of "Bahama Parrot" (Amazona leucocephala bahamensis) nests on the island. Conservation agencies in conjunction with the BEST Commission have adopted, and are promoting, a National Invasive Species Policy.

Ornithological importance

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Over 300 species of bird have been recorded from the Bahamas, 109 of which breed on the islands, 169 are migrants that pass through the islands or winter, and 45 are vagrants that have occurred only a few times each. Only three breeding landbirds are summer visitors: Antillean Nighthawk (Chordeiles gundlachii), Grey Kingbird (Tyrannus dominicensis) and Black-whiskered Vireo (Vireo altiloquus). However, many of the seabirds are only present during their spring and summer breeding seasons. Neotropical migrants (that breed in North America) comprise c.50% of the total land bird population in the northern islands from November through March. The number and diversity of migrants declines from north to south through the islands. There are seven extant restricted-range bird species in Bahamas Endemic Bird Area (EBA 026).

The Bahama Yellowthroat (Geothlypis rostrata; left) is endemic to the Bahamas while the Bahama Woodstar (Calliphlox evelynae; right) occurs also in the Turks and Caicos Islands.

Photos: Anthony Hepburn

The Bahamas EBA includes the Turks and Caicos Islands (to the UK) with which the Bahamas share four of the restricted-range birds, namely Bahama Woodstar (Calliphlox evelynae), Bahama Mockingbird (Mimus gundlachii), Pearly-eyed Thrasher (Margarops fuscatus) and Thick-billed Vireo (Vireo crassirostris). Of the remainder, Olive-capped Warbler (Dendroica pityophila) occurs also in Cuba, but Bahama Yellowthroat (Geothlypis rostrata) and Bahama Swallow (Tachycineta cyaneoviridis) are endemic to the islands. The yellowthroat is common on Grand Bahama and Abaco, less common on Andros and Cat Island, uncommon on New Providence and non-existent on the other islands. The swallow is locally common and breeds on Grand Bahama, Abaco and Andros, less common on New Providence, and uncommon to non-existent in the central and southern Bahama Islands. An eighth restricted-range bird (and third national endemic) was Brace's Emerald (Chlorostilbon bracei) which is now extinct. It was known only from a single specimen collected in 1877. A subspecies of the Greater Antillean Oriole, (Icterus dominicensis northropi) is found only on Andros (where it is threatened), having been extirpated from Abaco.

Globally threatened and Near Threatened birds in the Bahamas include the Vulnerable West Indian Whistling-duck (*Dendrocygna arborea*) and Bahama Swallow, the Near Threatened White-crowned Pigeon (*Patagioenas leucocephala*), Cuban Amazon or "Bahama Parrot" (*Amazona leucocephala bahamensis*), Piping Plover (*Charadrius melodus*) and Kirtland's Warbler (*Dendroica kirtlandii*). West Indian Whistling-duck only occurs on Andros, Inagua, Cat Island, Long Island and Exuma where significant numbers occur in a few areas (such as Hog Cay off Long Island). The species is protected by law under the Bahamas Wild Birds (Protection) Act. Bahama Swallow relies on pine forests for breeding, but the movements of

the species outside the breeding season are poorly known although it appears that significant numbers over-winter in the country. White-crowned Pigeon is a target for recreational hunting, but poaching and excessive hunting is common because although laws exist for the species' protection, enforcement is inadequate. Piping Plover is an uncommon winter resident in the Bahamas although some specific beaches and tidal flat areas (which need to be designated as protected areas) do support significant numbers. Eleuthera supports the largest population of wintering Kirtland's Warbler currently known, and is the focus of a multi-institutional initiative, the Kirtland's Warbler Training and Research Program.

"Eleuthera supports the largest known population of wintering Kirtland's Warbler."

Over 14 species of seabirds breed in the Bahamas, but their preferred habitats of isolated cays with steep cliffs or rocky shorelines, and with low vegetation near to deep water, are being lost due to increased human use of coastal areas through resort developments, disturbance, and increased pollution of near-shore waters. Seabird eggs (and adults) are also collected. Recent (2002–2006) surveys in the Northern Bahamas identified over 60 seabird breeding locations in Grand Bahama, Biminis, Berry Islands and Abacos showing just how important these northern islands are for their seabird populations.



Brown Noddy (*Anous stolidus*) nesting in Graham's Harbour, San Salvador: the Bahamas islands support significant populations of many seabird species.

Photo: William Haves

The Bahama islands are of great importance to wetland birds, but their usage of individual wetland sites varies seasonally and between years depending on weather and local conditions. This suggests that a network of protected wetland sites is critical to the long-term viability of the nation's waterbird populations. Large numbers of migratory shorebirds use these wetlands as stop-over sites and as wintering grounds, as do ducks and significant numbers of resident egrets and herons and other species. However, these waterbirds face many threats including draining and filling of wetlands, contamination of food supplies, oil spills, introduced mammalian predators, disturbance, and hunting. However, conservation efforts can have a profound impact. In 1905, the National Audubon Society (BirdLife in the US) requested the Government of the Bahamas to provide legal protection for the Caribbean Flamingo (Phoenicopterus ruber). The government responded by passing the Wild Birds (Protection) Act. An initial attempt to save the flamingo breeding colonies on Andros failed in the 1950s, but a research program was established and a colony was discovered on Great Inagua. A 99-year lease was agreed, the Inagua National Park was established, and the flamingo colony (over the next 40 years) increased from less than 10,000 birds to over 40,000. Conservation of birdlife in the Bahamas has been concentrated on a few high-profile species such as the Caribbean Flamingo (*Phoenicopterus ruber*), West Indian Whistling-duck (*Dendrocygna arborea*), Cuban

Amazon (Amazona leucocephala bahamensis), White-crowned Pigeon (Patagioenas leucocephala) and Kirtland's Warbler (Dendroica kirtlandii). However, more attention is now being paid to critical sites (such as IBAs) and habitats (such as the dry forests) as well as the species themselves.

IBA overview



The Bahamas' 31² IBAs (Table 1, Figure 1) include nine of the BNT-managed national parks and protected areas. However, just three IBAs are protected in their entirety. Six are part protected, while for 22 of the IBAs there is currently no legal protection. The IBAs have been identified on the basis of 21 key bird species including six globally threatened and Near Threatened birds (two Vulnerable and four Near Threatened), all seven restricted-range species, and 11 congregatory waterbirds/ seabirds.

The IBAs are almost evenly split between the Northern, Central and

"There is currently no legal protection for 22 of 31 IBAs in the Bahamas"

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 (BS005) and Cay Sal IBA (BS025) stand out as supporting the largest numbers of seabirds, while Great Inagua IBA (BS039) is home to the largest congregation of waterbirds.

Figure 1. Location of Important Bird Areas in the Bahamas

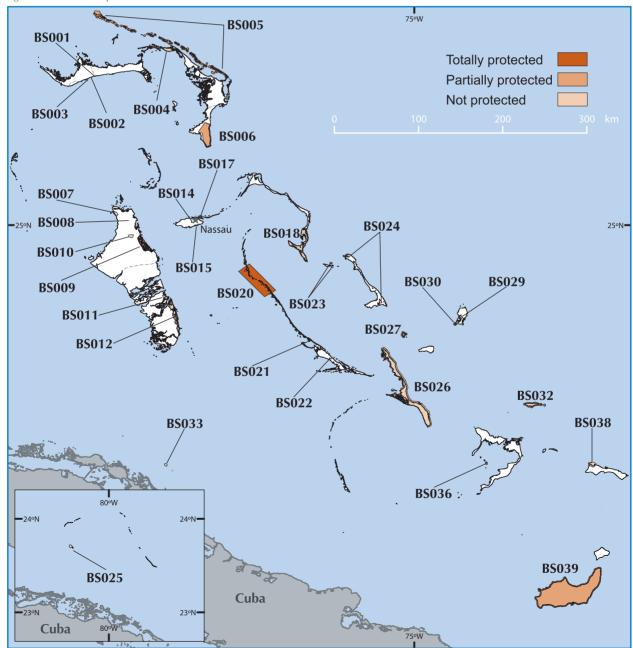


Table 1. Important Bird Areas in the Bahamas

IBA code	IBA name	Adm unit	Area (ha)	A1		A2 A3	A3 A4	
				CR EN VU	NT		A4i	A4ii A4iii A4iv
BS001	Lucayan National Park	Grand Bahama	16	1		X		
BS002	Peterson Cay National Park	Grand Bahama	435				X	
BS003	Grand Bahama Southern Shore	Grand Bahama	44		1		X	
BS004	Little Abaco	Abaco	6,428		1	X		
BS005	North Atlantic Abaco Cays	Abaco	41,165				X	
BS006	Southern Abaco	Abaco	23,836		2	X		
BS007	Red Bays	Andros	1,369	1	1	X		
BS008	San Andros Pond	Andros	1	2		X		
BS009	Stafford Creek to Andros Town	Andros	8,536	1	1	X	X	
BS010	Owenstown (abandoned)	Andros	1,535			X		
BS011	Mangrove Cay	Andros	2,228		1	X		
BS012	Driggs Hill to Mars Bay	Andros	10,060		2	X	X	
BS014	Harrold and Wilson Ponds National Park	New Providence	81	1	1	X	X	
BS015	South Beach Tidal Flats	New Providence	376		1		X	
BS017	Booby Island	New Providence	825				X	
BS018	South Tarpum Bay	Eleuthera	17,505		2	X		
BS020	Exuma Cays Land and Sea Park	Exumas	60,830					X
BS021	Lee Stocking Island	Exumas	144	1	1			
BS022	Grog Pond	Exumas	245	1	1		X	
BS023	Tee Cay, Goat Cay and Long Rocks	Cat Island	820		1		X	
BS024	Cat Island Wetlands	Cat Island	1,730	1		X	X	
BS025	Cay Sal	Cay Sal Bank	859		1		X	
BS026	Long Island and Hog Cay	Long Island	81,010	1			X	
BS027	Conception Island	Conception Island	2,905					X
BS029	Southern Great Lake	San Salvador	1,530			X	X	
BS030	Sandy Point	San Salvador	885			X		
BS032	Samana Cay	Acklins	8,650				X	
BS033	Cay Lobos	S. Great Bahama Bank	700				X	
BS036	Guana Cays	Acklins	682				X	
BS038	Booby Rocks and Pirates Bay	Mayaguana	3,620		1			
BS039	Great Inagua	Inagua	178,140	1	2		X	X

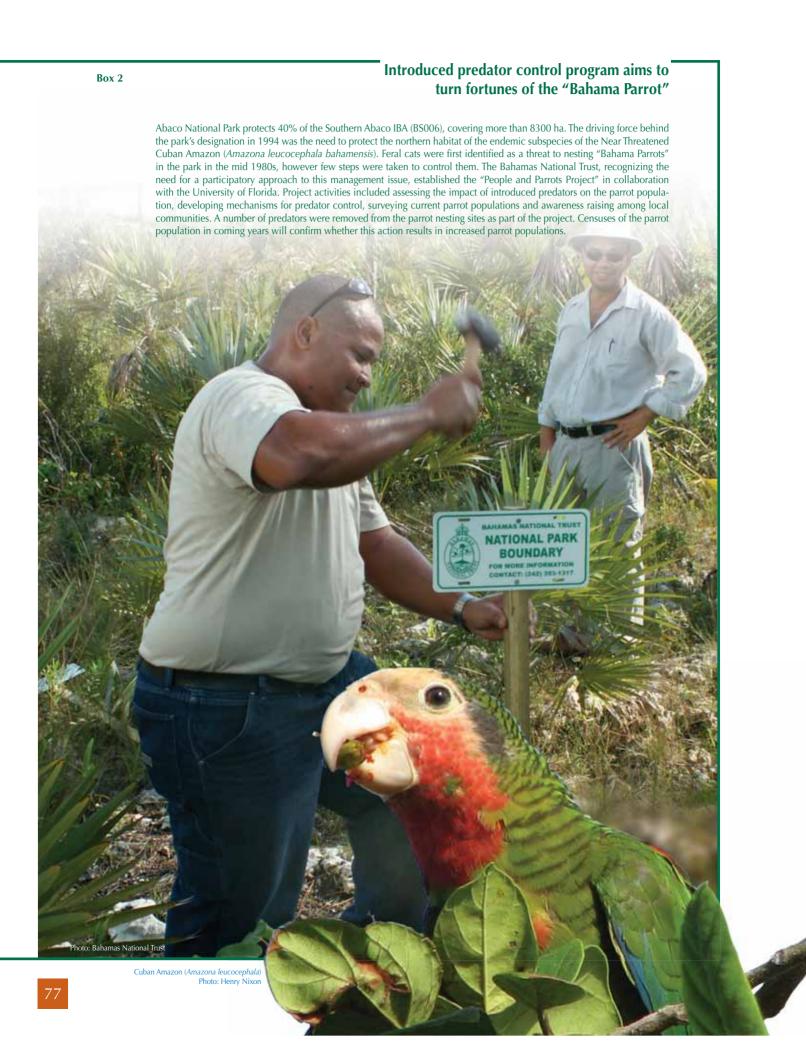
For information on trigger species at each IBA, see individual site accounts at BirdLife's Data Zone: www.birdlife.org/datazone/sites/

Citizen science training provides economic Box 1 opportunities for local people About 50% of the Great Inagua IBA (BS039) is protected by the Inagua National Park, famous for its breeding colony of more than 40,000 Caribbean Flamingos (Phoenicopterus ruber) as well as a breeding population of Cuban Amazon "Bahama Parrot" (Amazona leucocephala bahamensis). However, the park faces several problems, including lack of sufficient personnel for monitoring and management (only one warden is assigned for the entire park). Recognizing these issues, the Bahamas National Trust embraced the Birdlife Site Support Group initiative in 2003 and began working on a citizen science programme with the Sam Nixon Bird Club. This initiative has transformed the local bird group from a loose organization of Inaguans interested in bird watching to a well-organized and recognized group supporting the island's environment. Activi-Great Inagua IBA (BS039) supports huge numbers of waterbirds. Photo: Lynn Gape ties within the project included a surveying and monitoring workshop, presentations and field trips

for community members as well as an ecotourism business and marketing course. As a result of the training, five members of the Sam Nixon Bird Club have developed fledgling businesses, including a thriving food establishment which provides fresh-from-

the-sea native dishes for locals and visitors, covering a previously significant gap in tourism infrastructure.

Photo: Olga Stokes



Opportunities



Monitoring currently being undertaken by local Site Support Groups, and also on some of the high profile species should be used to feed into the annual assessment of state, pressure and response variables at each of the Bahamas' IBAs in order to provide an objective status assessment, and highlight management interventions that might be required to maintain these internationally important biodiversity sites. With over 70% of IBAs unprotected, key species monitoring and status assessments will be critical to lobby for protection and develop conservation strategies.

Further information



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Over 40,000 Caribbean Flamingos (*Phoenicopterus ruber*) breed in Great Inagua as a result of successful, long-term conservation action on the island. Photo: Olga Stokes