ST KITTS & NEVIS

LAND AREA **261 km²** ALTITUDE **0–1,156 m**
HUMAN POPULATION **42,700** CAPITAL **Basseterre**
IMPORTANT BIRD AREAS **3, totalling 65.7 km²**
IMPORTANT BIRD AREA PROTECTION **90%**
BIRD SPECIES **196**
THREATENED BIRDS **0** RESTRICTED-RANGE BIRDS **10**

NATALIA COLLIER AND ADAM BROWN
(ENVIRONMENTAL PROTECTION IN THE CARIBBEAN)

St Kitts Central Forest Reserve. (PHOTO: KATE ORCHARD)

INTRODUCTION

The Federation of St Kitts and Nevis comprises two islands in the Leeward Islands at the northern end of the Lesser Antilles. The islands lie c.13 km south-east of St Eustatius, 67 km west of Antigua and 25 km north-west of Redonda (to Antigua and Barbuda). St Kitts is the larger island (168 km²) supporting c.75% of the population, and is separated from Nevis (93 km²) by a shallow 3-km channel called "the Narrows". Nevis is south-east of St Kitts. The islands constitute the smallest nation in the Americas in terms of both area and population, and were also among the first islands in the Caribbean to be settled by Europeans.

Both islands are volcanic in origin. The northern end of St Kitts is dominated by the dormant volcano Mount Liamunga (1,156 m) which is cloaked in tropical moist forest at higher elevations while the lower slopes have been cleared for agriculture (sugarcane production ended in 2007). Streams flow down the numerous ghauts on the sides of the volcano. The northern coastline of St Kitts is primarily cliffs of up to 15 m high. The south-east of the island comprises low hills supporting dry thorn-forest along a tapering peninsula used for grazing livestock and for tourism development. The southern coastline is characterised by sandy or rocky shores with saline coastal ponds. Nevis is a conical-shaped island formed by an extinct volcano that rises to 985 m at Nevis Peak, and is similarly vegetated to northern St Kitts. The island is fringed on three sides by long sandy beaches, and protected by (intermittent) fringing coral reefs. St Kitts and Nevis have a tropical maritime climate. Average annual rainfall is 1,300 mm although low-lying areas can receive as little as 200 mm and it can reach over 3,800 mm on the volcanoes (up to 6,000 mm has been recorded). Most of the precipitation arrives during hurricane season in late summer and fall. Modern land-use (on St Kitts) includes agricultural plantations in the lowlands, local market agriculture, tourism development (especially from Basseterre to Frigate Bay and the South-east Peninsula), fishing, and light manufacturing.

Conservation

On St Kitts the Central Forest Reserve was created as a result of the Forestry Ordinance (1904) which legislates for the protection of areas above 300 m. This ordinance was enacted to prevent further deforestation (at the hands of the sugarcane industry) and thereby also protect soil and water sources. The Wild Birds Protection Ordinance (1913) prohibits the hunting of 18 species of bird, and established a regulated hunting season for another nine species, reflecting the number of bird

species known on the island at this time. The National Conservation and Environment Protection Act (1987) legislates for further protection of c.90 species. However, the extent to which these laws are enforced is unknown. There are no known officially protected areas in Nevis, but there is also no hunting of any species on the island. The Brimstone Hill Fortress National Park (on the west slope of Mount Liamuiga, but outside the Central Forest Reserve) is a World Heritage Site.

There is little systematic bird research or bird-specific conservation action currently being undertaken on the islands. Environmental Protection in the Caribbean (EPIC) conducted a survey of the South-east Peninsula Ponds and Booby Island in May 2004, and Steadman *et al.* (1997) provides data from their research on St Kitts in the 1970s and 1980s. Birds have been documented informally for many years on Nevis (e.g. through the maintenance and provision of birding lists for visitors). The NGO Nevis Historical and Conservation Society are active on the island, especially with education and awareness efforts and community conservation action.

Much of St Kitts was converted (by the British) to agricultural land dominated by sugarcane. St Kitts became Britain's most productive Caribbean supplier of sugar. Even though lands were abandoned as the sugar market fluctuated in the 1830s, much of the island remained cleared for sugarcane cultivation through the nineteenth century. Pesticides (such as DDT) were used on the sugarcane fields during the 1960s and impacted the bird populations of St Kitts. Nevis had abandoned the mass monoculture by this time. In spite of the clearances for agriculture, upper elevation forests have been spared and are largely protected. However, throughout all areas (including these montane forests) alien invasive predators are a problem. Of particular concern are the African green monkey *Cercopithecus aethiops* (brought by the French as a pet and established as a wild population since the 1700s) and the small Indian mongoose *Herpestes auropunctatus*, brought by the British from Jamaica in 1884 to reduce rat damage to sugarcane. These two species have undoubtedly reduced populations of native amphibians, reptiles and birds. Other invasives such as cows, goats and white-tailed deer are widespread, but their presence along pond shorelines (e.g. in the South-east Peninsula) means that they impact nesting shorebirds and terns through trampling. These ponds should be fenced to prevent trampling from these livestock. Development for the tourism industry (which takes little account of global biodiversity priorities) poses a huge threat to the future ecological integrity of the South-east Peninsula, and presumably other areas. The government has recently undertaken a campaign to remove unfenced and feral livestock from the peninsula in preparation for tourism development of the South-east Peninsula.

Birds

Over 190 species of birds have been documented (as certainly or hypothetically) occurring on St Kitts and Nevis, 37 are breeding residents (23 of which are landbirds). The majority are Neotropical migrants (or vagrants). Ten (of the 38) Lesser Antilles EBA restricted-range birds occur on both of the islands, none of which is endemic to the country. A number of these species (especially Bridled Quail-dove *Geotrygon mystacea* and Antillean Euphonia *Euphonia musica*) are restricted to the moist forested slopes and ghauts of the volcanoes. St Kitts did support an endemic subspecies of the Puerto Rican Bullfinch *Loxigilla portoricensis* (one of the Puerto Rico and the Virgin Islands EBA restricted-range birds). The "St Kitts" Bullfinch *L. p. grandis* was last recorded in 1929. Its apparent extinction was

Bridled Quail-dove.
(PHOTO: JIM JOHNSON)

Table 1. Key bird species at Imortant Bird Areas in St Kitts and Nevis.

Key bird species	Criteria	National population	St Kitts and Nevis IBAs: Criteria	KN001	KN002	KN003
				■	■	■
Brown Pelican *Pelecanus occidentalis*	■	168			168	
Laughing Gull *Larus atricilla*	■	375				375
Least Tern *Sterna antillarum*	■	200–250			195	15–255
Bridled Tern *Sterna anaethetus*	■	180				180
Bridled Quail-dove *Geotrygon mystacea*	■			✓		
Purple-throated Carib *Eulampis jugularis*	■			✓		
Green-throated Carib *Eulampis holosericeus*	■			✓		
Antillean Crested Hummingbird *Orthorhyncus cristatus*	■			✓		
Lesser Antillean Flycatcher *Myiarchus oberi*	■			✓		
Scaly-breasted Thrasher *Margarops fuscus*	■			✓		
Pearly-eyed Thrasher *Margarops fuscatus*	■			✓		
Brown Trembler *Cinclocerthia ruficauda*	■			✓		
Lesser Antillean Bullfinch *Loxigilla noctis*	■			✓		
Antillean Euphonia *Euphonia musica*	■			✓		

All population figures = numbers of individuals.
Restricted-range birds ■. **Congregatory birds** ■.

probably due to a combination of habitat loss (especially for sugarcane) exacerbated by forest-damaging hurricanes, and predation by non-native mammals, including monkeys, mongoose, cats, and rats. However, further searches for this taxon are probably warranted.

No globally threatened birds are present in significant numbers on the islands. The Vulnerable West Indian Whistling-duck *Dendrocygna arborea* may have nested on St Kitts in the past and was been seen "occasionally" up until the 1980s. The Near Threatened Piping Plover *Charadrius melodus* was recorded on St Kitts for the first time in 1988, and the species does occur on Nevis, albeit involving very small numbers. Waterbirds, seabird and shorebirds in the Federation are concentrated in the salt ponds of the South-east Peninsula IBA (KN002), on Booby Island IBA (KN003), and in Nevis' coastal lagoons and ponds. However, there seem to be considerable fluctuations and declines in the numbers of birds breeding. For example, 21 pairs of Snowy Plover *C. alexandrinus nivosus* were counted at Little and Great Salt Pond in 1985, but none were seen in 2004, then small numbers have been recorded since. Similarly, Roseate Tern *Sterna dougallii* breeds on the South-east Peninsula with 100–200 pairs estimated in the mid-1990s, but just 12 individuals found there in 1998 and 2004. There is a clear need for a regular census in order to better estimate species populations, breeding sites, and local movements. Magnificent Frigatebirds *Fregata magnificens* and Laughing Gulls *Larus atricilla* are reported to nest in the Hurricane Hill–Newcastle area, but in unknown numbers. Least Tern *Sterna antillarum* are reported to breed at the north end of White Bay, but again, numbers are unknown. A survey of nesting seabirds on Nevis is long overdue.

IMPORTANT BIRD AREAS

St Kitts and Nevis' three IBAs—the nation's international priority sites for bird conservation—cover 6,575 ha (including marine areas), and c.24% of the country's land area. While the St Kitts Central Forest Reserve IBA (KN001) is protected, neither of the congregatory bird IBAs receives any form of protection or conservation management at the current time.

The three IBAs have been identified on the basis of 15 key bird species that variously trigger the IBA criteria. The restricted-range landbirds are represented only in the Central Forest Reserve IBA and almost nothing is known about their status or abundance within the reserve. For example, the Bridled Quail-dove *Geotrygon mystacea* was hunted (legally) on St Kitts, but little is known of what impact this had, or whether hunting still occurs. Many of the restricted-range species occur also on Nevis. With further details of their distribution and status it might be appropriate to define a terrestrial IBA for the island (and a second internationally-recognised area for these species within the Federation).

In order to maintain the Federation's biodiversity, there is an urgent need to instigate protective measures for the South-east Peninsula Ponds IBA, and for Booby Island IBA. The annual take by hunters of *G. caniceps* on St Kitts and its current status need to be determined. Similarly there is a need for some baseline assessments of congregatory bird populations on Nevis, and for regular monitoring of these same species groups on St Kitts. Such monitoring should be used to inform the assessment of state, pressure and response variables at each of the Federation's IBAs in order to provide objective status assessments and highlight management interventions that might be required to maintain these internationally important biodiversity sites.

Figure 1. Location of Important Bird Areas in St Kitts and Nevis.

South-east Peninsula with Nevis on the horizon. (PHOTO: KATE ORCHARD)

Great Salt Pond, South-east Peninsula. (PHOTO: KATE ORCHARD)

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KN001 St Kitts Central Forest Reserve

Forest Reserve

COORDINATES 17°21′N 62°47′W
ADMIN REGION St Kitts
AREA 5,960 ha
ALTITUDE 300–1,156 m
HABITAT Tropical forest

THREATENED BIRDS
RESTRICTED-RANGE BIRDS 10
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

St Kitts Central Forest Reserve IBA comprises the north–south mountain range in the north of St Kitts. It embraces all areas over 300 m elevation from Mount Liamuiga—the highest point on the island—south to Mount Olivee. Canyons, or ghauts, radiate from the peak, and tropical forest (including areas of palm brake and elfin forest) covers the majority of the IBA. The Brimstone Hill Fortress National Park (and World Heritage Site) is located on the western slope of Mount Liamuiga but is not included within the IBA boundary.

Birds

This IBA is significant for its populations of restricted-range species, with all 10 of the Lesser Antilles EBA birds occurring, a number of which are confined to these forests on the island. Specific locations and populations for these species are unknown although it has been reported that all except the Green-throated Carib *Eulampis holosericeus* are common in undisturbed moist forest on St Kitts. Six Neotropical migrant species are known from the tropical moist forest on the island.

Other biodiversity

No endemic or threatened plant species are reported for St Kitts. Restricted-range bats and herpetofauna are likely to exist within the IBA.

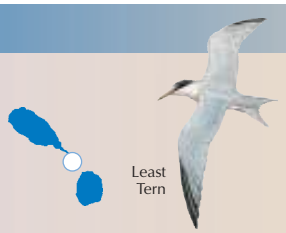
Conservation

This IBA is state owned and protected as the Central Forest Reserve. This reserve is part of the Organization of Eastern Caribbean States Protected Areas and Associated Livelihoods Project which aims to develop sustainable resource extraction which benefits local residents. There is no ongoing avian research taking place in the IBA. Human settlement is limited to the lower elevations—where sugarcane was farmed—while villages are confined to coastal areas. Although various laws protect many bird species from hunting, the degree to which these laws are enforced is unknown. The Bridled Quail-dove *Geotrygon mystacea* is considered a game bird, but it is not known if hunting is posing a threat to the species' long-term survival on the island.

KN002 South-east Peninsula Ponds

Unprotected

COORDINATES 17°15′N 62°39′W
ADMIN REGION St Kitts
AREA 315 ha
ALTITUDE 0–5 m
HABITAT Coastal ponds, scrub, beach



THREATENED BIRDS
RESTRICTED-RANGE BIRDS
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS ✔

Site description

South-east Peninsula Ponds IBA encompasses an arid area of low hills, eight salt ponds, coastal cliffs, and beaches on the South-east Peninsula of St Kitts. The peninsula is c.15 km long, widening to c.4 km wide at the south-eastern tip although the narrowest point is less than 1 km wide. A road runs the length of the peninsula which supports thorn forest dominated by *Acacia* spp. and grassland. Ponds of importance to birds on the peninsula include Greatheeds Pond and beach, Half Moon, Friar's Bay, Great Salt, Major's Bay, Mosquito Bay, Little Salt, and Frigate Bay Ponds. The IBA is delimited by boundaries 30 m from the high water line of each pond.

Birds

South-east Peninsula Ponds IBA is important for breeding seabirds and waterbirds. The populations of Least Tern *Sterna antillarum* and Brown Pelican *Pelecanus occidentalis* are regionally significant. The *S. antillarum* colonies have used a number of sites within the IBA suggesting that all eight ponds are important for this population. The current status of Roseate Tern *S. dougallii* on the peninsula (juveniles were seen in the mid-1990s) needs to be determined. Up to 2,000 shorebirds and hundreds of ducks have been recorded.

Other biodiversity

The Critically Endangered leatherback *Dermochelys coriacea* and hawksbill *Eretmochelys imbricata*, and Endangered green *Chelonia mydas* turtles are known to nest in this IBA.

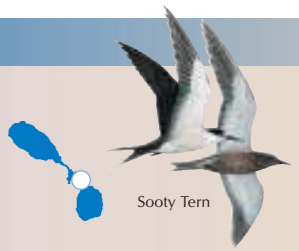
Conservation

The South-east Peninsula Ponds IBA is not protected, although building is prohibited on steep slopes. There is no ongoing research or conservation work in the IBA, although EPIC has recently undertaken periodic bird surveys. The St Kitts Historical Society has conducted sea turtle conservation activities. Tourism is currently concentrated in the northern section of the peninsula, which is dominated by resorts, a golf course, and restaurants. Existing developments on the peninsula are limited to snack bars and restaurants on the relatively isolated beaches. It is unknown if hunting is a threat to the breeding seabirds, but grazing is a serious threat to the nesting *S. antillarum*. Colonies are marked with a high density of cattle tracks and it is likely nests are frequently trampled. A mega resort (Christophe Harbour), which will impact the entire peninsula, is already in the planning stages. It plans to include a golf course, multiple hotels and villas, and will have to dredge an unidentified pond for a mega-yacht marina.

KN003 Booby Island

Unprotected

COORDINATES 17°14′N 62°37′W
ADMIN REGION —
AREA 300 ha
ALTITUDE 0–40 m
HABITAT Rocky areas, scrub



THREATENED BIRDS
RESTRICTED-RANGE BIRDS
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS ✔

Site description

Booby Island IBA is a small (1-ha), circular islet located in "the Narrows", approximately half-way between the islands of St. Kitts and Nevis. A shoreline comprising large rocks encircles a steep hillside that supports a mix of dense, brushy vegetation and rocky outcroppings. The islet is uninhabited. The IBA includes all marine areas up to 1 km from the island.

Birds

This IBA is significant for its breeding seabirds—c.425 pairs of various species. The colony of Laughing Gulls *Larus atricilla* is globally important, while the Bridled Terns *Sterna anaethetus* are of regional significance. Other species that breed on Booby Island include Red-billed Tropicbird *Phaethon aethereus*, Roseate Tern *S. dougallii*, Sooty Tern *S. fuscata* and Brown Noddy *Anous stolidus*. It is the only recorded breeding site within the Federation of St Kitts and Nevis for a number of these species.

Other biodiversity

Nothing recorded.

Conservation

Booby Island is unprotected and appears to be the property of the Federation (i.e. it is state owned). There is no easy boat access to the island and visitors must swim onto the rocks. Fishermen are reported to collect seabird eggs at this site, especially those of *L. atricilla*. The impact of this is unknown. No mammals were recorded during the one known survey of the island in 2004.