SABA

LAND AREA **13 km²** ALTITUDE **0–887 m**
HUMAN POPULATION **1,420** CAPITAL **The Bottom**
IMPORTANT BIRD AREAS **1, totalling 20 km²**
IMPORTANT BIRD AREA PROTECTION **65%**
BIRD SPECIES **87**
THREATENED BIRDS **0** RESTRICTED-RANGE BIRDS **8**

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Saba coastline at Spring Bay. (PHOTO: BERT DENNEMAN)

INTRODUCTION

Saba is small, round island in the northern Lesser Antilles. It is situated c.45 km south-west of St Maarten, and c.25 km north-west of St Eustatius, and together these three islands form the Windward Islands of the Netherlands Antilles[1]. Saba is an extinct volcanic peak, rising steeply to 887 m at the top of Mount Scenery, and with a coastline dominated by agglomerate cliffs. Coral reefs surround most of the island. Saba's climate is generally dry, with an average of 1,000 mm of rain falling predominantly between August and November. Vegetation in the interior of the island comprises scrub and grassland which transitions to secondary rainforest and tree-fern brakes at mid elevations, and ultimately elfin woodland at the top of the mountain. There are no terrestrial wetlands on the island. Ecotourism is a significant part of Saba's economy: scuba-diving on the island's reefs and hiking up Mount Scenery are among the primary reasons for tourists to visit the island.

1 At some point in the near future the "Netherlands Antilles" will be dissolved. St Maarten and Curaçao will become separate countries within the Kingdom of the Netherlands (similar to the status currently enjoyed by Aruba). The islands of Bonaire, Saba and St Eustatius will be linked directly to the Netherlands as overseas territories.

Conservation

The Netherlands Antilles have a draft Island Nature Protection Ordinance which must be approved by each island's government in order to facilitate the creation of island-specific conservation legislation. This process is ongoing within the Saba government, but at the present time there is no legislation in place for the designation of terrestrial protected areas or for the conservation of species. However, legislation does exist for marine areas and the 1,300-ha Saba National Marine Park was legally established in 1987. The park encompasses areas (including the seabed and overlying waters) from the high-tide mark to a depth of 60 m around the entire island. The park is administered by the NGO Saba Conservation Foundation, and is one of the few self-sustaining marine parks anywhere in the world, with revenue raised through visitor fees, souvenir sales, and donations.

No terrestrial areas on Saba are legally protected. However, there is *de facto* (and government-recognised) conservation management at a number of sites. The Saba Conservation Foundation, by way of a donation from the Thissell family, owns 35 ha of land on the north side of the island at the former sulphur mine, and manages this as a park. The island government provides an in-kind subsidy to support the management of this area, as well as for the Saba

Seabird signage along one of the trails managed by the Saba Conservation Foundation. (PHOTO: BERT DENNEMAN)

Red-billed Tropicbird. (PHOTO: BRENDA AND DUNCAN KIRKBY)

Conservation Foundation's other responsibility, namely the maintenance and repair of the public hiking trail system. A management plan has been prepared for "Thissell Park" and legislation to formally designate the area as a National Land Park will be submitted to the island government as soon as the Island Nature Protection Ordinance has been prepared. The "Elfin Forest reserve" is an 8.6 ha plot of montane cloud-forest at the top of Mount Scenery that the island government intends to claim title to by prescriptive rights, and in due course designate as a National Land Park (also to be managed by the Saba Conservation Foundation).

Other than the management of areas outlined above, conservation actions on Saba have included a feral cat sterilisation program (that has sterilised at least 200 cats), and a government sponsored rodent control program (active in localised areas). However, it is not clear if either of these efforts is having a positive conservation impact. A multi-year Red-billed Tropicbird *Phaethon aethereus* nest productivity and site/mate fidelity study at a colony near the Fort Bay landfill was undertaken by Martha Walsh McGehee of the NGO Island Conservation Effort (which is no longer active on Saba). Environmental Protection in the Caribbean (EPIC) has continued checks of the tropicbird study area when possible, and has also conducted searches for Audubon's Shearwater *Puffinus lherminieri*. Ethan Temeles (Amherst College, USA) has recently studied the Purple-throated Carib *Eulampis jugularis* and its *Heliconia*-based diet.

The primary threats to Saba's birds, particularly the burrow-nesting seabirds, are alien invasive species. Evidence of rats has been found in areas reported to be shearwater nesting sites, and feral cats are also a serious concern. Goats roam freely, trampling nests and possibly consuming unattended eggs, as well as impacting the vegetation through uncontrolled grazing. Current eradication efforts are too limited to reduce the populations of these invasive animals. However, the Exotic Species Ordinance and Ordinance on the Identification and Registration of Livestock and Domestic Animals represent positive legislative efforts to recognise and control these threats.

Birds

Of the 87 species of bird recorded from Saba, just 26 breed, and 36 are regular Neotropical migratory birds (although Saba is too small to hold significant populations of these migrants). Eight (of the 38) Lesser Antilles EBA restricted-range birds occur on the island, although none of these is endemic to Saba. A ninth restricted-range species, the Antillean Euphonia *Euphonia musica* has not been recorded on the island since 1952 and is probably extirpated. The Bridled Quail-dove *Geotrygon mystacea* may also be heading for extinction on the island, having declined dramatically over the last 10 years as a result of hurricane impacts and predation.

Table 1. Key bird species at the Important Bird Area in Saba.

Key bird species	Criteria	National population	Saba IBA AN006 Criteria	Saba IBA AN006
Audubon's Shearwater *Puffinus lherminieri*	■	1,000		1,000
Red-billed Tropicbird *Phaethon aethereus*	■	2,250–3,000		2,250–3,000
Bridled Quail-dove *Geotrygon mystacea*	■			✓
Purple-throated Carib *Eulampis jugularis*	■			✓
Green-throated Carib *Eulampis holosericeus*	■			✓
Antillean Crested Hummingbird *Orthorhyncus cristatus*	■			✓
Caribbean Elaenia *Elaenia martinica*	■			✓
Scaly-breasted Thrasher *Margarops fuscus*	■			✓
Lesser Antillean Bullfinch *Loxigilla noctis*	■			✓

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

It is for the breeding seabirds—Red-billed Tropicbird *Phaethon aethereus* and Audubon's Shearwater *Puffinus lherminieri*—that Saba is most noted (see Table 1 for national population estimates). *Puffinus lherminieri* is the national bird of Saba and is familiar to residents across the island, although predation from rats and cats could be significantly impacting the population (as it could be with the population of *Phaethon aethereus*). Assessing the population of the shearwater on the island is difficult due to the extent of breeding habitat, the lack of an obvious peak breeding season (birds are known to be present between at least December and May) and the nature of the terrain (e.g. steep dirt "cliffs" that are unsuitable for rope work). The use of monitoring technology, such as autonomous audio recorders, may provide more consistent and unbiased data than nest searches or the call/playback method.

IMPORTANT BIRD AREAS

The Saba coastline IBA (AN006)—the island's site priority for bird conservation—has been identified on the basis of nine key bird species (listed in Table 1) that variously trigger the IBA criteria. The IBA covers 2,000 ha of critical terrestrial and marine habitats that support the entire island's population of breeding seabirds, and also the full complement of the restricted-range birds that still occur on the island. The lack of any legal protection for terrestrial areas is a concern that must be addressed to facilitate pro-active conservation of Saba's terrestrial biodiversity (including breeding seabirds).

At present, it seems that the globally significant populations of Audubon's Shearwater *P. lherminieri*, Red-billed Tropicbird *P. aethereus* and the restricted-range Bridled Quail-dove *G. mystacea* in the IBA are declining (or are at least limited) as a result of predation from cats and rats (exacerbated by trampling and grazing from goats). Saba is small enough that complete eradication of some invasive species may be feasible, given sufficient funding, time and local support. In anticipation of both formal protection of terrestrial habitats within the IBA, and a possible eradication program, there is an urgent need to determine the population of *P. lherminieri* and *G. mystacea*, and to continue monitoring the population of *P. aethereus*. Monitoring these populations within the IBA should be used to inform the assessment of state, pressure and response variables at each IBA in order to provide objective status assessments and inform management decisions (such as the necessity for invasive species control) that might be required to maintain this internationally important biodiversity site.

Rainforest Ravine at "Thissell Park". (PHOTO: BERT DENNEMAN)

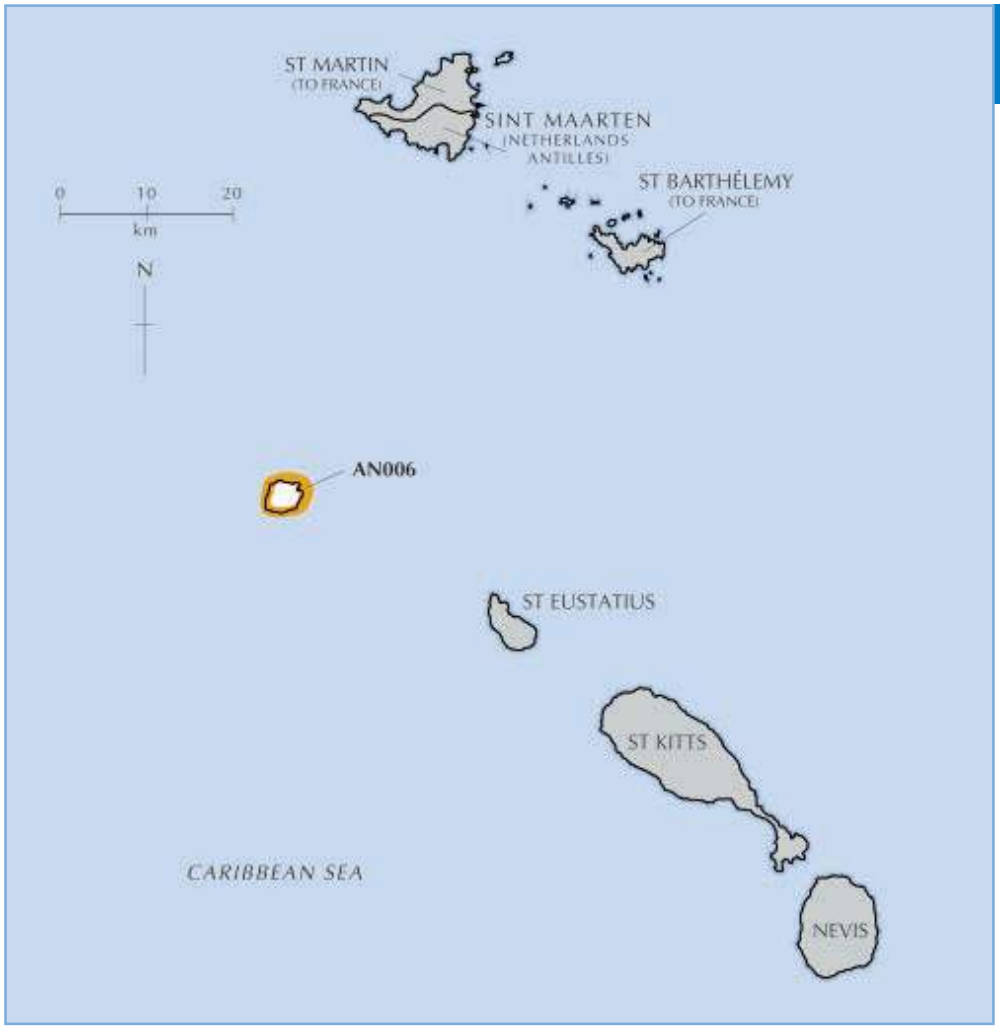

Figure 1. Location of the Important Bird Area in Saba.

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AN006 Saba coastline

Marine Park/Unprotected

COORDINATES 17°38′N 63°14′W
ADMIN REGION Saba
AREA 2,000 ha
ALTITUDE 0–887 m
HABITAT Rocky areas, grassland, shrubland

Audubon's Shearwater

THREATENED BIRDS
RESTRICTED-RANGE BIRDS 7
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS ✔

Site description

Saba coastline IBA includes all land areas from the coast to 400 m inland around the perimeter of this small island, and all sea areas up to 1 km from the coast. It also includes the rainforest ravine at "Thissell Park" (site of a former sulphur mine) and the Elfin Forest reserve at the top of Mount Scenery. The coastline comprises rocky cliffs, 100-m high and over. The only human settlements along the coast are at Fort Bay, where a dock, several buildings, a rock quarry, and landfill exist.

Birds

This IBA is significant for all seven of the Lesser Antilles EBA restricted-range birds that occur in the vegetated ghauts, the rainforest ravine and elfin forest. However, it is the seabirds that best characterise this IBA. A population of 750–1,000 pairs of Red-billed Tropicbird *Phaethon aethereus* nest around the island in coastal cliffs and xeric, rocky hills. The nesting population of Audubon's Shearwater *Puffinus lherminieri* in the IBA is thought to be c.1,000 individuals although this is very hard to estimate with accuracy. "Thissell Park" is the only confirmed, current breeding site.

Other biodiversity

The Critically Endangered hawksbill *Eretmochelys imbricata* and Endangered green *Chelonia mydas* turtles occur, as does the Endangered red-bellied racer *Alsophis rufiventris* (endemic to Saba and St Eustatius). The island endemic lizard *Anolis sabanus* occurs, as does a restricted-range gecko *Sphaerodactylus sabanus*. The bat *Natalus stramineus stramineus* is endemic to Saba.

Conservation

This IBA is a mix of state and private ownership. A proposed National Land Park would encompass the 35-ha Saba Conservation Foundation-owned land at "Thissell Park". It would also include the Elfin Forest reserve, but legislation is not yet in place to allow for legal protection of these terrestrial areas. Saba National Marine Park covers 1,300 ha of sea around the entire coast. Saba Conservation Foundation oversees the management of these areas. Free roaming goats cause erosion and trample seabird nesting burrows. Introduced predators (rats and cats) consume nest contents and attack fledged seabirds. A multi-year tropicbird study (by the NGO Island Conservation Effort) at a colony near the Fort Bay landfill recently concluded. EPIC has continued to monitor the study area when possible, and has also searched for nesting shearwaters.