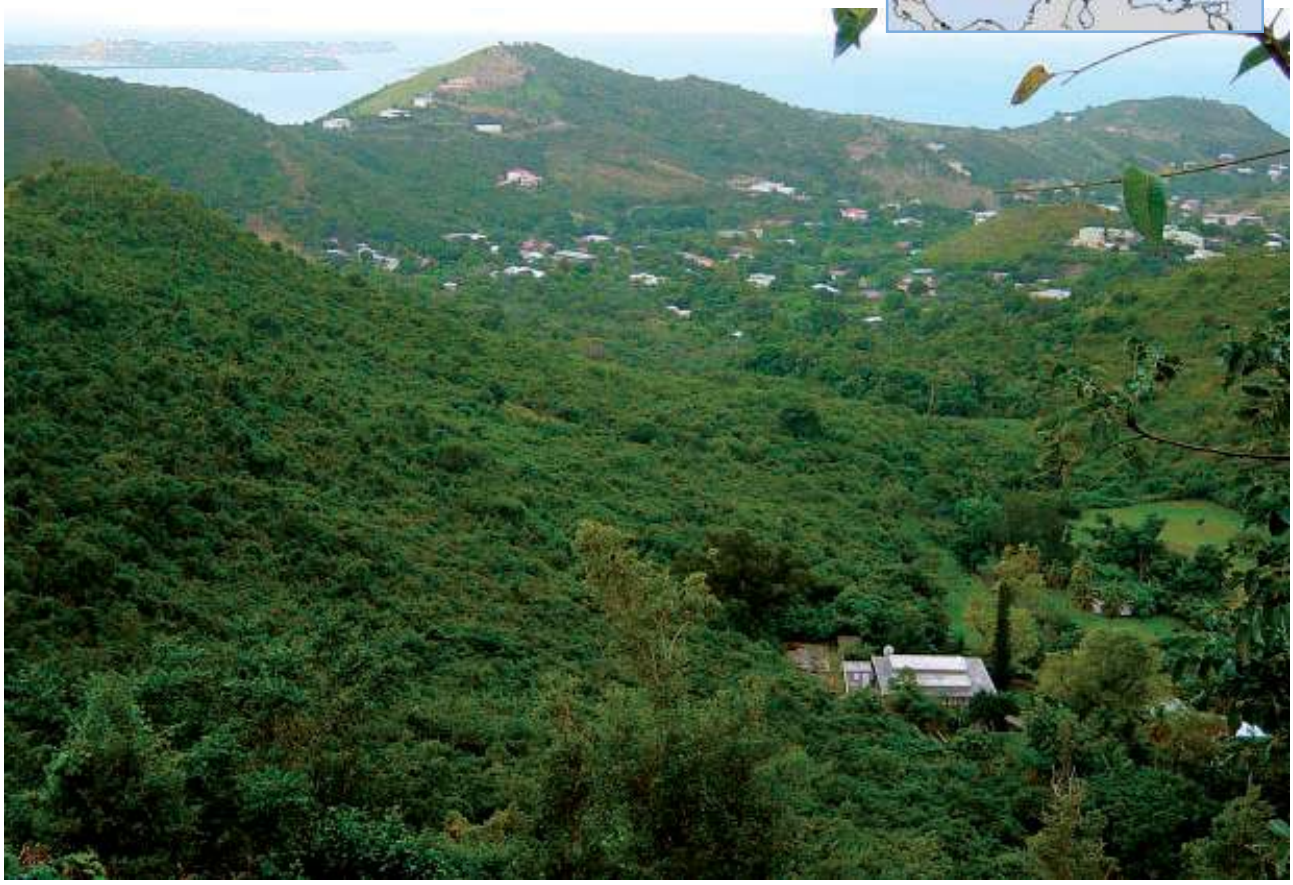
ST MARTIN

LAND AREA **56 km²** ALTITUDE **0–425 m**
HUMAN POPULATION **36,000** CAPITAL **Marigot**
IMPORTANT BIRD AREAS **3, totalling 8.9 km²**
IMPORTANT BIRD AREA PROTECTION **67%**
BIRD SPECIES **164**
THREATENED BIRDS **0** RESTRICTED-RANGE BIRDS **8**

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



Pic Paradis and the lowlands of St Martin. (PHOTO: NATALIA COLLIER/EPIC)

INTRODUCTION

The island of St Martin is situated just 8 km south of Anguilla (to UK) and 20 km west-north-west of St Barthélemy (to France). The northern, French half is called St Martin and is in the process of becoming a *collectivité d'outre-mer* (COM, overseas collectivity) of France (and not an integral part of the European Union)[1]. The southern, Dutch half is called St Maarten. The French and the Dutch have shared the island—the smallest land mass in the world to be divided between two governments—for almost 350 years.

The centre of the island (across which the political boundary runs) is composed of a mountainous spine rising to 425 m (at Pic Paradis). The coastal areas are characterised by low hills or flat areas punctuated by numerous ponds (most of which are highly saline). Shorelines are either sand or rocky beaches with interspersed cliffs. Simpson Bay Lagoon, one of the largest lagoons in the Lesser Antilles, is a dominant feature of the island and a major yachting centre. The French side of the lagoon is less polluted than the St Maarten side and the yachting industry is less developed. St Martin supports two significant areas of mangrove. One is located in the Simpson Bay Lagoon, the other at Etang aux Poissons. The terrestrial vegetation is thorny woodland, dominated by scrub in the lowlands and low forest cover in the mountains (with small patches of the original semi-evergreen forest on the highest ridges). Average annual rainfall is 1,770 mm, much of which arrives during the hurricane season in late summer and fall. St Martin is less densely populated than the Dutch half of the island, but the population increases greatly during the influx of seasonal visitors and tourists which form the base of the economy.

Conservation

There are two main protected areas in the French section of the island. The national Nature Reserve of St Martin (Réserve Naturelle, created in 1998) covers 154 ha of terrestrial habitat representing c.3% of the land area and including beaches, mangrove forests, and saline ponds. It also embraces 2,796 ha of marine habitats, including those around Tintamarre Island (IBA MF003). The second area is owned

1 St Martin has been in the process of changing its status since July 2007 from a *département d'outre-mer* (DOM, overseas department) of France (and an outermost region of the European Union, EU) to a *collectivité d'outre-mer* (COM, overseas collectivity) of France (and not an integral part of the EU). Currently its status with respect to the EU is unclear. Long-term it may become an overseas country and territory of France.

Searching for Red-billed Tropicbird nests on Tintamarre IBA.
(PHOTO: NATALIA COLLIER/EPIC

by the "Conservatoire du Littoral" and embraces 14 pools and ponds (totalling 200 ha and including Grand Etang IBA, MF001) protected by a local decree (Arrêté Préfectoral de Protection de biotope). The office of the Réserve Naturelle manages these protected areas. The Loterie Farm ecotourism site (see Pic Paradis IBA, MF002) contains secondary dry forest in a canyon with a seasonal creek. The lower reaches have been converted to an aerial rope course for tourists but the upper area remains a relatively pristine (forested) hiking area. Although forest at Loterie Farm has no legal protection, it is expected to remain undeveloped.

Environmental Protection in the Caribbean (EPIC) has conducted bird research and monitoring on the island for the past seven years. Research has included pond water quality testing. Nesting success of Red-billed Tropicbird *Phaethon aethereus*, Least Tern *Sterna antillarum* and Wilson's Plover *Charadrius wilsonia* has been monitored for one season. EPIC coordinates this work with funding from private donors and local companies, and many volunteer hours. The French government and the Réserve Naturelle also sponsor periodic wetland and marine bird surveys (often conducted by Gilles LeBlond from Guadeloupe).

The primary threat to biodiversity on St Martin is development, most of which is associated with the tourism industry. Unauthorised filling in or encroachment of wetlands (pond and lagoons) occurs in some areas, and building takes place on steep hillsides (leading to erosion and siltation of wetlands). Land based pollution via sewage and refuse is a visible problem, and disturbance from watercraft, 4x4 vehicles, and other recreational activities is significant due to the high concentration of residents and tourists. Nest predation by introduced species appears to be a limiting factor to reproductive success on St Martin, and populations of forest birds, particularly game birds such as Bridled Quail-dove *Geotrygon mystacea*, are reduced through hunting.

The main obstacles to protection are inadequate legislation and insufficient enforcement of existing regulations. Funding is not available for essential projects such as sewage treatment and predator eradication. The eradication of invasive predators from offshore islands and wetlands would reduce a significant threat to breeding species, particularly *S. antillarum* and Audubon's Shearwater *Puffinus lherminieri*. Also, given the pressures already placed on avian populations by the limited remaining habitat, hunting should be prohibited or further restricted. Sewage systems need to be upgraded or repaired in order to reduce contaminated effluent entering local waters.

Birds

Of the 164 bird species recorded from St Martin, c.50 are Neotropical migrants. The most important habitats for the birds in St Martin (including the Neotropical migrants) are the saline ponds, mangroves, and secondary dry forest of the mountains. Eight (of the 38) Lesser Antilles EBA restricted-range birds occur in St Martin, none of which is endemic to the island. Scaly-breasted Thrasher *Margarops fuscus* and Bridled Quail-dove *Geotrygon mystacea* are only recently confirmed as present on the island, with both occurring in the montane forests on Pic Paradis (IBA MF002) near the border with St Maarten. The island is important for

Loterie Farm ecotourism site and the Pic Paradis IBA.
(PHOTO: NATALIA COLLIER/EPIC)

Table 1. Key bird species at Important Bird Areas in St Martin.

Key bird species	Criteria	National population	Criteria	St Martin IBAs MF001	MF002	MF003
	■			■	■	■
	■					■
Red-billed Tropicbird *Phaethon aethereus*	■	200				180
Least Tern *Sterna antillarum*	■	250		246		
Brown Noddy *Anous stolidus*	■	450				420
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*	■				✓	
Pearly-eyed Thrasher *Margarops fuscatus*	■			✓	✓	✓
Lesser Antillean Bullfinch *Loxigilla noctis*	■			✓	✓	✓

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

waterbirds (in spite of the severe alteration and destruction of wetland habitats), with 50 species recorded (13 of which breed). The pond Grand Etang (IBA MF001) is an important breeding area for Least Tern *Sterna antillarum* and shorebirds while the offshore island of Tintamarre (IBA MF003) supports important seabird populations including Red-billed Tropicbird *Phaethon aethereus*, terns, noddys and Audubon's Shearwater *Puffinus lherminieri*. National population estimates for the key seabird species are given in Table 1.

IMPORTANT BIRD AREAS

St Martin's three IBAs—the country's international site priorities for bird conservation—cover 890 ha (including marine areas), and about c.6% of the country's land area. Only portions of Tintamarre IBA (MF003) are protected within the national Réserve Naturelle St Martin, and the Grand Etang IBA (MF001) is protected by local decree. The IBAs have been identified on the basis of 11 key bird species (listed in Table 1) that variously meet the IBA criteria. Both Grand Etang IBA (MF001) and Tintamarre IBA (MF003) are primarily congregatory bird sites—identified on the basis of their breeding seabird populations, although IBAs also support many of the country's restricted-range birds. However, Pic Paradis IBA (MF001) is the main terrestrial IBA in the country and its forests are home to the more specialised (forest-dependent) species such as Scaly-breasted Thrasher *Margarops fuscus,* Bridled Quail-dove *Geotrygon mystacea* and Purple-throated Carib *Eulampis jugularis*.

The IBAs are threatened by multiple factors which are described in the IBA profiles below. However, they can all be addressed given the necessary commitment and some funding. Making the Grand Etang tern colony inaccessible to dogs would reduce predation; re-routing the power cables would eliminate unnecessary mortality; and providing sewage treatment facilities for the surrounding communities would eliminate the contamination of this wetland. The nesting seabird populations on Tintamarre Island would benefit from a highly feasible rat eradication program, and also the removal of goats. The more vulnerable game birds (e.g. *G. mystacea*) in the country's montane forests would benefit from better regulated hunting practices (or indeed a cessation of hunting particular species).

The regular monitoring of the birds at St Martin's IBAs (e.g. as has been undertaken by EPIC) and the monitoring of the other key bird species 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 that might be required to maintain these internationally important biodiversity sites.

Figure 1. Location of Important Bird Areas in St Martin.

Purple-throated Carib, dependent on the Pic Paradis forest.
(PHOTO: GREGORY GUIDA)

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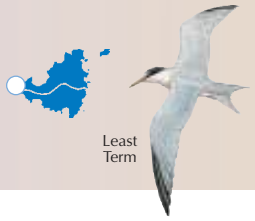
MF001 Grand Etang

Arrêté Préfectoral de Protection de Biotope

COORDINATES 18°03′N 63°09′W
ADMIN REGION —
AREA 18 ha
ALTITUDE 0–5 m
HABITAT Inland wetland, shrubland



THREATENED BIRDS
RESTRICTED-RANGE BIRDS 5
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS ✔

Site description

Grand Etang IBA is a large saline pond located in a residential area of the gated Lowlands subdivision of St Martin (at the western end of the island). The pond is highly saline (>100 parts per thousand) and supports little aquatic vegetation. Vegetation begins c.5 m from the waterline and comprises *Acacia*-dominated thorn scrub. The pond is surrounded by scrub-covered low hills interspersed with roads and large residential estates. A dirt road runs next to the shore on one side of the pond, and an exclusive resort borders this road. In some areas, the gardens of upmarket houses back onto the pond. At the western end of Grand Etang, a small pond is separated from the larger pond by a narrow strip of land.

Birds

This IBA is significant for its regionally important population of Least Tern *Sterna antillarum*. Over 80 pairs have been recorded breeding on a sandy spit located in the smaller pond of Grand Etang. Wilson's Plover *Charadrius wilsonia* also nests in this area. The shrubland surrounding the pond supported populations of five (of the eight) Lesser Antilles EBA restricted-range birds.

Other biodiversity

Nothing recorded.

Conservation

Grand Etang IBA is afforded some legal protection under a local decree "Arrêté Préfectoral de Protection de Biotope". EPIC has monitored this IBA (and the nesting terns) regularly since 2001, and sponsor free educational bird walks at the site each year. Heavy rains increase the water level of Grand Etang and have flooded c.10% of *S. antillarum* nests in the past. Introduced predators are also a major concern for nesting birds: at least 5% of all tern nests are predated by dogs and rats (*Rattus* spp.). Birds collide with (and are periodically found dead beneath) the power lines that cross between the ponds. Garbage is dumped in the pond and often burnt along the shore, and the resort which borders the pond periodically allows its septic system to empty across the road into the pond.

MF002 Pic Paradis

Unprotected

COORDINATES 18°05′N 63°04′W
ADMIN REGION —
AREA 205 ha
ALTITUDE 300–427 m
HABITAT Dry forest

THREATENED BIRDS
RESTRICTED-RANGE BIRDS 8
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

Pic Paradis IBA is in central St Martin on the forested western side of the island's highest mountain. The IBA extends from 300 m to the summit, with the ridgeline forming the southern edge of the IBA. To the north, the IBA ends at the Pic Paradis road. The Loterie Farm ecotourism site borders the IBA below 300 m. The IBA comprises secondary dry forest (dominated by mango *Mangifera* and *Ficus* spp.) characterised by almost complete canopy cover and little understorey or ground cover. A seasonal boulder creek flows for much of the year, depending on rainfall levels. The lower parts of the IBA support a restaurant and adventure rope course (part of the Loterie farm enterprise), while the upper elevations are undeveloped hiking areas.

Birds

This IBA supports all eight of the Lesser Antilles EBA restricted-range birds. Recent mist-netting studies confirmed Scaly-breasted Thrasher *Margarops fuscus* as a breeding species in St Martin (in 2002) and also provided the first record of Bridled Quail-dove *Geotrygon mystacea* for the island (in 2006).

Other biodiversity

The island-endemic lizard *Anolis pogus* is present in the IBA.

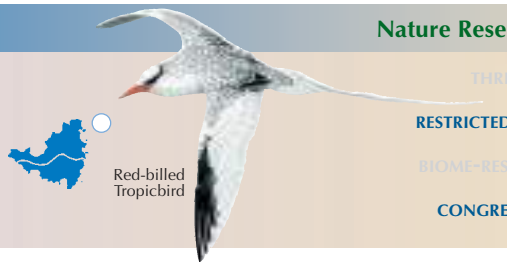
Conservation

Pic Paradis IBA is privately owned, much of it by the Loterie Farm ecotourism site. There is no legal protection for the IBA although Loterie Farm intends to preserve the forest portions of its property. Land use plans for the other landowners are not known. Winter bird ringing and monitoring undertaken by EPIC since 2001 has resulted in many new island and regional records of species (e.g. *G. mystacea*). School groups and the general public are taught about birds during visits to the study site. Hunting is permitted in the IBA but does not appear to be regulated and could be affecting populations of species such as the quail-dove. Invasive mammalian predators (such as mongoose *Herpestes auropunctatus* and African green monkey *Cercopithecus aethiops*) occur throughout the IBA and presumably impact some bird species. Hiking trails are used by paying individuals and guided tours for groups.

MF003 TIntamarre

Nature Reserve/Unprotected

COORDINATES 18°07′N 62°58′W
ADMIN REGION —
AREA 665 ha
ALTITUDE 0–30 m
HABITAT Rocky areas, coastline, shrubland



THREATENED BIRDS
RESTRICTED-RANGE BIRDS 5
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS ✔

Site description

Tintamarre IBA is a 100-ha island (also known as Flat Island) situated 3 km from north-easternmost point of St Martin. The IBA includes marine areas up to 1 km from the island. Tintamarre is essentially flat, but with coastal cliffs (on the west coast) rising to 30 m. Vegetation comprises scrub (up to 3 m high). There is an abandoned air strip in the centre of the island and one unused residence. Human activity is limited to the grazing of goats and recreation. The recreational activities are heavily concentrated on the southern beach, where tourists are brought on day trips to snorkel and sunbathe. Private yachts also anchor at this beach.

Birds

This IBA is significant for its breeding seabirds. The Red-billed Tropicbird *Phaethon aethereus* is globally significant, while that of Brown Noddy *Anous stolidus* is regionally so. An estimated 60 pairs of *Phaethon aethereus* nest on the western cliffs where Audubon Shearwater *Puffinus lherminieri* breeds in unknown numbers. Small numbers of Roseate Tern *Sterna dougallii* and Bridled Tern *S. anaethetus* nest on the eastern side of the island with *A. stolidus*. American Oystercatcher *Haematopus palliatus* may also breed. Five (of the eight) Lesser Antilles EBA restricted-range birds occur on the island.

Other biodiversity

The island's beaches are sea-turtle nesting grounds. The Critically Endangered hawksbill *Eretmochelys imbricata* and leatherback *Dermochelys coriacea* turtles and Endangered loggerhead *Caretta caretta*, green *Chelonia mydas* and Olive Ridley *Lepidochelys olivacea* turtles all occur although it is unclear which nest. The Vulnerable Lesser Antillean iguana *Iguana delicatissima* occurs on Tintamarre.

Conservation

The coastline of Tintamarre Island is part of the national Réserve Naturelle St Martin which extends 82 m inland and prohibits wildlife disturbance, plant collection, mining, fishing, jet skiing, and littering. The island's interior is privately owned, but building is prohibited. EPIC has conducted summer and winter seabird surveys of the island. Staff of the nature reserve monitor sea-turtles and whales, and the government periodically hires avian researchers to survey the island. Predation of seabirds by rats (*Rattus* spp.) is the primary threat on the island. A proposal for rat eradication has been developed but has yet to be funded. Trampling of nests by goats is also a concern, and grazing by goats has almost certainly changed the island's vegetation. Coastal zone disturbance is a potential threat to nesting seabirds.