Important Bird Areas **AMERICAS**

FRENCH OVERSEAS DÉPARTEMENTS AND TERRITORIES

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Semipalmated Sandpiper (*Calidris pusilla*) can gather in numbers of up to 1,000,000 individuals at Littoral (GF002), one of three IBAs covering almost the entire French Guianan coast, a vital staging and wintering site for vast numbers of shorebirds.
Photo: Jean-Pierre Policard/GEPOG

Territory facts at a glance

No. of territories:	6
Total area:	87,136 km^2
Total population:	1,104,494
Number of IBAs:	35
Total IBA area:	2,785,388 ha
IBA coverage of territory area:	32%
Globally threatened birds:	4
Globally threatened birds in IBAs:	3
Country endemics:	5

General introduction

The French overseas *départements* in the Americas consist of French Guiana in northern South America and the Caribbean islands of Martinique and Guadeloupe in the Lesser Antillean chain. French overseas *collectivités* consist of St Barthélemy and St Martin, also in the Caribbean, and the North American islands of St Pierre and Miquelon, off the southern coast of Newfoundland, Canada (Table 1).

Pointe des Châteaux (GP007) is the most visited tourist site in Guadeloupe and regulations on access to beaches, dunes and off-road vehicles are enforced to minimize impacts on the site.
Photo: Frantz Duzont

French Guiana has been a French *département d'outre-mer* (DOM, overseas department) since 1946 and as such is the largest French department, measuring a sixth of the size of metropolitan France. With Guadeloupe and Martinique, these three departments are considered outermost regions of the European Union (EU). St Barthélemy and St Martin were under the jurisdiction of Guadeloupe until February 2007 when they were officially detached and are now administratively separate. St Barthélemy is now a *collectivité d'outre-mer* (COM, overseas collectivity) of France and St Martin is in the process of becoming so, and thus neither are an integral part of the European Union. However, St Martin's current status with respect to the EU is unclear, in the long term it may become an overseas country and territory of France. The southern, Dutch half of the latter island 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 islands of St Pierre and Miquelon are also an overseas *collectivité*, and not an integral part of the EU.

IBA identification started in metropolitan France during the 1980s following the European Union's Birds Directive (79/409/EC - 1979). In 1994, the Ligue pour la Protection des Oiseaux (BirdLife in France; LPO), together with the National Museum of Natural History, published an IBA directory of continental France, with notable support for data collection from regional ornithological groups, and financial support from the French Environment Ministry. In metropolitan France, IBA identification was based on criteria using species of Global, Pan-European and European Community interest. In the overseas *départements* and *collectivités*, IBA identification began in 2000 in St Pierre and Miquelon, followed by the French Caribbean islands in 2007, and French Guiana in 2008 (Table 1).

Table 1. Summary information for the French Overseas *Collectivités* and *Départements* in the Americas

Territory	Area (km^2)	Population	Capital	Altitude (m)	No of IBAs	Total IBA area (ha)	Percentage of total land area
French Guiana	84,000	209,000	Cayenne	0–800	12	2,675,301	32%
Guadeloupe	1,713	453,000	Basse-Terre	0–1,467	6	49,907	26%
Martinique	1,100	391,000	Fort-de-France	0–1,397	10	54,512	28%
St Barthélemy	25	8,450	Gustavia	0–104	2	730	4%
St Martin	56	36,000	Marigot	0–425	3	888	7%
St Pierre and Miquelon	242	7,044	Saint-Pierre	0–240	2	4050	0.2%

French Overseas Départements and Territories

INSULAR TERRITORIES

Guadeloupe Woodpecker (*Melanerpes herminieri*)
Photo: Anthony Levesque

General introduction

The French Caribbean *collectivités* and *départements* all lie in the Lesser Antillean chain, a partly volcanic island arc, stretching from Trinidad and Tobago, off the northern coast of South America to the Virgin Islands, to the east of Puerto Rico. The southernmost French *département* in the Caribbean arc is Martinique, a mountainous, volcanic island surrounded by numerous small islets. It is approximately 40 km south of Dominica and 28 km north of St Lucia. North of Dominica and 100 km south of Antigua and Barbuda lies Guadeloupe, an archipelago consisting of six groups of islands, of which, the largest two (Grande-Terre and Basse-Terre) are separated from each other by a narrow sea-channel, but are also connected by road. Further to the north, on the exposed parts of the Anguilla bank are the islands of St Barthélemy (also known as St Barts) and neighboring St Martin.

France's only North American *collectivité* is St Pierre and Miquelon, an archipelago of eight islands lying off Canada's east coast, at a distance of approximately 25 km from the Burin Peninsula on the southeastern extreme of Newfoundland Island.

The largest and most densely populated of the islands is Guadeloupe (with more than twice the population of French Guiana in only 2% of its area). St Barthélemy is the smallest island at only 25 km² (Table 1).

Les Petite Saints (part of IBA BL002), just south of the entrance to Gustavia harbor.
Photo: Anthony Levesque

Only one IBA has been identified on St Pierre to date, but more are likely when population information is established for other IBA trigger species.
Photo: Gord McKenna

Both Guadeloupe and Martinique have active volcanoes, with some mountainous and rugged regions on both islands, including the highest point in the French American *collectivités* and *départements* at 1467 m on La Soufrière, an active volcano on Basse-Terre. Mountainous areas generally have a cooler climate with wet tropical forest vegetation and much higher rainfall than lowland regions, reaching highs of 10,000 mm on Montagne Pelée on Martinique. In contrast, Grande-Terre and its dependencies as well as St Barthélemy are limestone islands influenced by the trade winds. Precipitation is significantly lower and vegetation is consequently xerophytic, with mangroves on the coast. St Martin has a mountainous spine rising to 425 m with coastal areas characterized by low hills and numerous ponds. Shorelines are either sandy or rocky beaches with interspersed cliffs. St Pierre and Miquelon are bleak, windswept islands with large areas of barren rock. Climate is generally cold and wet, especially during the long winters, often with mist and fog.

Conservation and protected area system

The foothills of Pic Paradis (MF002), on the forested western side of the St Martin's highest mountain.
Photo: Natalia Collier/EPIC

National protected areas exist in all of France's insular *collectivités* and *départements* in the Americas. There are three nationally protected areas on Guadeloupe (one national park and two national nature reserves); on Martinique, more than 40 sites are covered by at least six different protection categories; on St Barthélemy at least four sites are protected under different categories, as well as areas of special biological importance (ZNIEFF, in French; Natural Sites of Biological Interest) albeit with no legal protection status; St Martin has two main protected areas; and there are six hunting and wildlife reserves on St Pierre and Miquelon. Management of many of these areas fall to the French National Forest Office (Office National des Forêt) and the Coastal Protection Agency (Conservatoire du littoral). The French Ministry of Ecology and Sustainable Development is represented in the *départements* (not in the *collectivités*) by a Regional Department for the Environment (DIREN, in French). DIREN officials, as well as other organizations play a leading role in enforcing protected area status in Guadeloupe and Martinique. Protected areas are also managed by NGOs, such as Grenat Association on St Barthélemy and the St Martin National Nature Reserve office. International conservation areas include a 72,380 ha biosphere reserve on Guadeloupe.

Several NGOs work on conservation or environmental issues, including avian-based projects across the islands. AMAZONA, on Guadeloupe, established a bird research program including banding (ringing), specific terrestrial studies and shorebird monitoring on Grande-Terre in 2006. A three-year study of the Guadeloupe Woodpecker (*Melanerpes herminieri*) was also conducted in the 1990s. Additionally, Société d'etude, de Protection et d'aménagement de la Nature de Martinique (SEPANMAR), Association Ornithologique de Martinique (AOMA) and Association Le Carouge on Martinique have begun monitoring some bird species. Environmental Protection in the Caribbean (EPIC) has conducted bird research and monitoring on St Martin over the past seven years. EPIC's research has included passerine banding, quality testing of pond water and monitoring the nesting success of Red-billed Tropicbird (*Phaethon aethereus*), Least Tern (*Sterna antillarum*) and Wilson's Plover (*Charadrius wilsonia*). The French government and Réserves Naturelles de France (the coordinating organization for national nature reserves in France) also sponsor periodic wetland and marine bird surveys on St Martin.

"Poaching and hunting threaten many species, adherence to hunting seasons, listed "game" birds and bag numbers is often poor."

Threats to biodiversity include poaching of adult birds and eggs, introduced species, legal hunting, urban encroachment and development, agriculture, pesticide use and uncontrolled grazing leading to habitat loss. Poaching and hunting threaten many species, but in particular, the globally threatened Forest Thrush (*Cichlherminia lherminieri*), West Indian Whistling-duck (*Dendrocygna arborea*) and the Near Threatened White-crowned Pigeon (*Patagioenas leucocephala*) and Caribbean Coot (*Fulica caribaea*). Buff-breasted Sandpiper (*Tryngites subruficollis*) is threatened by hunting on irregular occasions on Guadeloupe; snipe, herons, pelicans and terns are poached on Martinique; Bridled Quail-dove (*Geotrygon mystacea*) on St Martin; and seabirds on St Barthélemy. Often, adherence to hunting seasons, listed "game" birds and bag numbers is poor.

Introduced species such as rats (both *Rattus norvegicus* and *R. rattus*), mongoose (*Herpestes auropunctatus*) and domestic cats (*Felis catus*) affect diverse populations of birds across the territories, including seabird colonies, particularly Least Tern (*Sterna antillarum*) and Audubon's Shearwater (*Puffinus lherminieri*). On Martinique, the Shiny Cowbird (*Molothrus bonariensis*), which has arrived through natural range expansion, is a nest-parasite of the Vulnerable Martinique Oriole (*Icterus bonana*). Natural events, such as volcanic eruptions, are also potential threats to biodiversity (the 1902 eruption on Martinique was responsible for the extinction of an endemic rodent, *Megalomys desmarestii*).

Rocher du Diamant IBA (MQ008) is protected under various designations but seabirds are still at risk of disturbance from fishermen and invasive alien predators.
Photo: SEPANMAR

Ornithological importance

The majority of bird species recorded on the French Caribbean islands are Neotropical migrants, with as many as 72% of all recorded birds being migrants on Guadeloupe. Another component of the avifauna are exotics, with 21 exotics introduced by man on Martinique and others naturally colonizing the island, including Cattle Egret (*Bubulcus ibis*), Eared Dove (*Zenaida auriculata*), Eurasian Collared Dove (*Streptopelia decaocto*), Spectacled Thrush (*Turdus nudigenis*) and Shiny Cowbird (*Molothrus bonariensis*). Habitat degradation has reduced the representation of breeding landbirds on some islands, such as overgrazing by goats on St Barthélemy. Almost 47% of St Pierre and Miquelon's avifauna are waterbirds or seabirds.

On the French Caribbean islands, 22 species restricted to the Lesser Antilles Endemic Bird Area (EBA 030) are present, of which three are globally threatened. Martinique has the highest number of restricted-range species with 19, followed by 17 on Guadeloupe, eight on St Martin and four on St Barthélemy. The French islands have two extant endemic species, the Vulnerable Martinique Oriole (*Icterus bonana*) and the Near Threatened Guadeloupe Woodpecker (*Melanerpes herminieri*). Three further endemics became extinct by the end of the 18th century: Martinique Amazon (*Amazona martinicana*), Guadeloupe Parakeet (*Aratinga labati*) and Guadeloupe Amazon (*Amazona violacea*). The extinct Lesser Antillean Macaw (*Ara guadeloupensis*) was once shared by Martinique and Guadeloupe (Table 2). Among the restricted-range species are four almost endemic species: Blue-headed Hummingbird (*Cyanophaia bicolor*) is restricted to Martinique and neighboring Dominica, while Grey Trembler (*Cinclocerthia gutturalis*) and White-breasted Thrasher (*Ramphocinclus brachyurus*) are shared between Martinique and St Lucia. Plumbeous Warbler (*Dendroica plumbea*) is restricted to Guadeloupe and neighboring Dominica. There are no restricted-range species on St Pierre and Miquelon.

"Deforestation on Martinique has facilitated the spread of the recently established Shiny Cowbird, which parasitizes 75% of the threatened Martinique Oriole nests annually."

Red-necked Grebe (*Podiceps grisegena*) triggers the A4i criterion at Miquelon Island (Northeast Coast; PM001).
Photo: Patrick Boez

Sooty Tern (*Sterna fuscata*)
Photo: Vincent Lemoine

Restricted-range species in the French islands (from left to right): the endemic and Vulnerable Martinique Oriole (*Icterus bonana*), Plumbeous Warbler (*Dendroica plumbea*), shared by Guadeloupe and Dominica; and the Endangered White-breasted Thrasher (*Ramphocinclus brachyurus*), present only on Martinique and St Lucia.

Photo: Vincent Lemoine

Photo: Frantz Duzont

Photo: Vincent Lemoine

The French islands in the Americas support four globally threatened birds and one regularly occurring Near Threatened species (Table 2). Martinique has the only Endangered species: White-breasted Thrasher, which is found exclusively in Presqu'île de la Caravelle IBA (MQ004) where its population is estimated at 200–400 individuals. The Endangered Black-capped Petrel (*Pterodroma hasitata*) has occasionally been recorded on Martinique but not in sufficient numbers for IBA identification. Three Vulnerable species occur regularly on the islands: Forest Thrush (*Cichlherminia lherminieri*), Martinique Oriole (*Icterus bonana*) and Rusty Blackbird *(Euphagus carolinus*). Forest Thrush is principally found within woodland and swamp-forest on Guadeloupe. A new regulation forbids the hunting of this species on Grande-Terre whereas a bag limit has been set for Basse-Terre of eight birds per day (only on Saturdays, Sundays and public holidays) between October and December. The endemic Martinique Oriole is found in various habitats but it has been suggested that dry forests and mangroves are most important for the bird. The total population of the species is estimated at 10,000–19,000 individuals. Deforestation on Martinique has facilitated the spread of the recently established Shiny Cowbird, which parasitizes 75% of oriole nests annually. However, a recent decline in cowbird numbers has allowed for a slight oriole population recovery. Rusty Blackbird breeds on St Pierre and Miquelon, although its population numbers are unknown. The Vulnerable West Indian Whistling-duck (*Dendrocygna arborea*) is trying to colonize Guadeloupe but some are hunted when arriving from neighboring islands. The first breeding report for Guadeloupe of this species (with nine ducklings) was documented from Petite-Terre Islets National Nature Reserve (GP008) in February 2008.

The only regularly occurring Near Threatened species in the French Caribbean is the island-endemic Guadeloupe Woodpecker (*Melanerpes herminieri*). It inhabits semi-deciduous forest on igneous and clay soils, and evergreen forest, mangroves and swamp forests, occurring from sea-level to the tree-line at 1000 m, but is most common between 100–700 m. Main threats to birds come from clear-cutting and the removal of dead trees, but also from hurricane damage, road construction, airport enlargement and land development. A further four Near Threatened species occur on St Pierre and Miquelon and others occur as vagrants throughout the islands.

"An important migratory corridor for thousands of shearwaters is located between Petite-Terre IBA, Désirade islets and Pointe des Châteaux on Guadeloupe."

All islands are important for breeding seabirds, with at least 20 regularly or occasionally breeding species, although only six in sufficient numbers for IBA identification. Seabird colonies are the main ornithological interest on both St Martin and St Barthélemy with 13 regularly breeding species forming colonies on their offshore islands. The latter territory has a strong potential to support larger numbers if pressures to nesting birds are reduced. An important migratory corridor for Procellariidae is located between Petite-Terre (IBA GP008), Désirade islets and Pointe des Châteaux on Guadeloupe with thousands of shearwaters (and some petrels) passing through.

Table 2. Total numbers of birds, threatened and endemic species in the French overseas insular départements and territories in the Americas[1]

Territory	No of Species	CR	EN	VU	NT	Endemics[2]
Guadeloupe	251	-		1+(1)	1+(4)	3
Martinique	180	-	1+(1)	1	(3)	2
St Barthélemy	80	-	-	-	-	-
St Martin	164	-	-	-	-	-
St Pierre and Miquelon	248	-	-	1	4	-
Total nos. of species	-	**0**	**1+(1)**	**3+(1)**	**1+(4)**	

IBA overview

A total of 23 IBAs, covering 110,087 ha have been identified in the French overseas insular *départements* and *collectivités* in the Americas (Table 1, 3, Figure 1, 2). Currently, all but four of these areas are formally protected over at least part of their area. Eight IBAs have been confirmed under the A1 criterion covering three globally threatened species and one Near Threatened. Thirteen sites have been confirmed for the A2 criterion, covering 22 species corresponding to the Lesser Antilles Endemic Bird Area (EBA 030). Twelve IBAs have also been triggered by A4 criteria for seven species of waterbird or seabird. There are six sites for A4i, five for A4ii and two for A4iii.

Table 3. Important Bird Areas in the French overseas insular *départements* and territories in the Americas

IBA code	IBA name	Adm unit	Area (ha)	A1				A2	A3	A4			
				CR	EN	VU	NT			A4i	A4ii	A4iii	A4iv
Guadeloupe													
GP002	Massif forestier de l'île de Basse-Terre	Basse-Terre	38,705			1	1	X					
GP003	Falaises du Nord Grande-Terre	Anse-Bertrand Petit-Canal	3,960								X		
GP005	Grand Cul-de-Sac Marin's eastern coastline	Petit-Canal Port-Louis Abymes Morne-à-l'Eau	2,785			1	1	X					
GP007	Pointe des Châteaux	Saint-François	1,292					X			X		
GP008	îlets de la Petite-Terre	La Désirade	1,385					X					
GP009	Falaises Nord et Îlet de Vieux-Fort de Marie-Galante	Saint-Louis de Marie-Galante	1,780								X		
Martinique													
MQ001	Forêts du Nord et de la Montagne Pelée	L'Ajoupa-Bouillon Basse-Pointe Grand Rivière Le Prêcheur Macouba Le Morne Rouge Saint-Pierre	9,262			1		X					

[1]Numbers in brackets refer to vagrant species or those whose regular presence in the territory has not been confirmed.
[2]Includes the extinct endemics (see text).

IBA code	IBA name	Adm unit	Area (ha)	A1 CR	A1 EN	A1 VU	A1 NT	A2	A3	A4 A4i	A4 A4ii	A4 A4iii	A4 A4iv
MQ002	Pitons du Carbet	Gros Morne Fonds St Denis Fort-de-France Le Lorrain Le Marigot Le Morne Rouge Le Morne Vert Schœlcher St Joseph	12,423			1		X					
MQ003	Pointe Pain de Sucre	La Trinité Sainte-Marie	8,700							X			
MQ004	Presqu'île de la Caravelle	La Trinité	960		1	1		X					
MQ005	Ilets Boiseau et Petit Piton	Le François Le Robert	7,300							X			
MQ006	Mangrove de Fort de France	Le Lamentin Ducos Rivière Salée Les Trois-îlets	3,361			1		X					
MQ007	Massif forestier entre Le Diamant et les Trois-Îlets	Les Anses d'Arlet Le Diamant Les Trois-îlets	6,619			1		X					
MQ008	Rocher du Diamant	Les Anses d'Arlet Le Diamant	4,130							X			
MQ009	Grand Macabou	Le Marin	157			1		X					
MQ010	Îlets et falaises de Sainte Anne	Sainte-Anne Le Marin	1,600										X
St Barthelemy													
BL002	Îlets les Petits Saints et Gros Islets		360							X			
BL003	Îlet Tortue		370							X			
St Martin													
MF001	Grand Etang		18					X					
MF002	Pic Paradis		205					X					
MF003	Tintamarre		665					X			X		
St Pierre and Miquelon													
PM001	Miquelon Island (Northeast Coast)		4,000							X			
PM002	Grand Colombier Island		50								X		X

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

Guadeloupe's six IBAs[3] have been identified on the basis of 18 key bird species, including two (of the seven) globally threatened and Near Threatened birds (see Ornithological importance above), all 17 restricted-range bird species, and Red-billed Tropicbird (*Phaethon aethereus*) under the congregatory seabirds criterion. The IBAs of Basse-Terre (GP002) and Grand Cul-de-Sac (GP005) are critical for supporting populations of restricted-range birds, and are the only two IBAs designated for globally threatened species.

Most of Guadeloupe's IBAs lack formal protective designation (Figure 1). Only the central areas of forest habitat on Basse-Terre IBA (GP002) are protected by the National Park of Guadeloupe. Portions of Grand Cul-de-Sac (GP005) and Petite-Terre Islets (GP008) are protected within the Grand Cul-de-Sac Marine National Nature Reserve and the Îlets de la Petite-Terre National Nature Reserve, respectively. North cliffs of Grande-Terre (GP003), Pointe des Châteaux (GP007) and Marie-Galante North Cliffs and Îlet de Vieux-Fort (GP009) are Littoral Conservation Areas belonging to the Coastal Protection Agency where lands up to 15 m from the coast (the littoral zone) are protected by law. The protection of most of these IBAs is part of the commitments and responsibilities of the French government under the 1976 Nature Protection Law, and to international conventions (e.g. 1992 Convention on Biological Diversity and the 1971 Ramsar Convention). These international commitments are particularly important since the European Union Birds (79/409/EC) and Habitats (92/43/EC) directives are not applicable to the French Overseas *Départements* as tropical species are not mentioned in their annexes.

Most of **Martinique's** 10 IBAs have some protection (Figure 1). Sites have been identified on the basis of 21 key bird species, including two (of the six) globally threatened birds recorded on the island (see Ornithological importance above), all 19 restricted-range species, and two congregatory waterbirds/seabirds. Presqu'île de la Caravelle IBA (MQ004) is critical for supporting the only population of the Endangered White-breasted Thrasher (*Ramphocinclus brachyurus*), as well as populations of other restricted-range species including the Vulnerable Martinique Oriole (*Icterus bonana*). Five other IBAs have been identified on the basis of supporting a significant portion (between 52% and 95%) of the Lesser Antilles EBA restricted-range species that occur on the island (including, in each case, the Vulnerable Martinique Oriole). The remaining four IBAs support significant breeding populations of Bridled Tern (*Sterna anaethetus*) and Roseate Tern (*Sterna dougallii*), highlighting the importance of Martinique's international conservation responsibilities for these species.

St Barthélemy's two IBAs[1] have been identified on the basis of two breeding marine birds, Laughing Gull (*Larus atricilla*) and Common Tern (*Sterna hirundo*) representing globally significant colonies, all of which are on St Barthélemy's satellite islands. The cliffs and land up to 15 m from the coasts of these IBAs are within Littoral Conservation Areas, giving them some legal protection from development. Both IBAs are also within the marine Réserve Naturelle de St Barthélemy which covers a number of areas and satellite islands around the coast of the "mainland", and also offers some protection from disturbance.

[3]This directory only includes global IBAs, for regional IBAs using "B" or Caribbean criteria, see BirdLife International (2008).

Figure 1. Location of Important Bird Areas in the French overseas départements and territories in the Caribbean

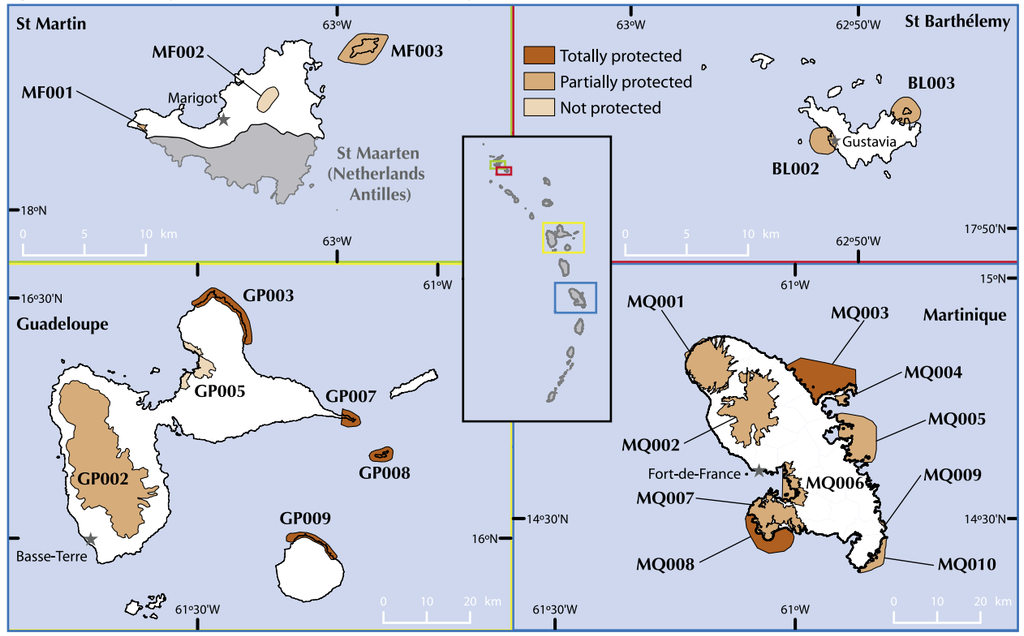
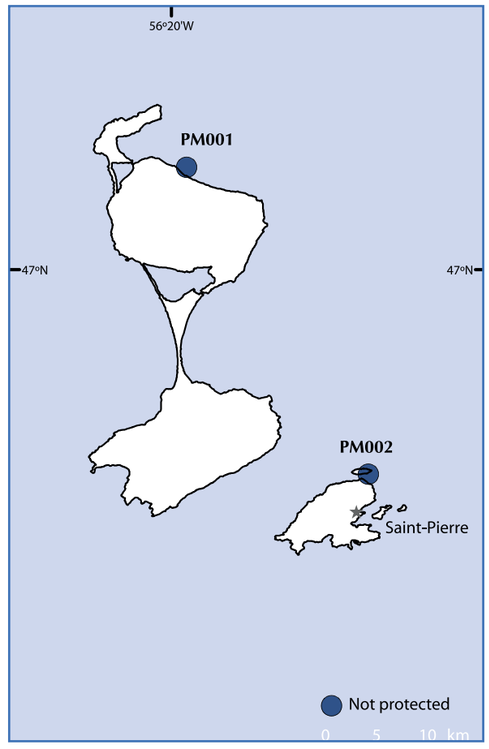


Figure 2. Location of Important Bird Areas on St Pierre and Miquelon



Of **St Martin's** three IBAs, only portions of Tintamarre (MF003) are protected within the national Réserve Naturelle St Martin, and Grand Etang (MF001) is protected by local decree (Figure 1). The IBAs have been identified on the basis of nine key bird species, in the case of Tintamarre (MF003), for a breeding population of Red-billed Tropicbird (*Phaethon aethereus*). The other IBAs all support many of the country's restricted-range birds. However, Pic Paradis (MF001) is the main terrestrial IBA in the country and its forests are home to the more specialized (forest-dependent) species such as Scaly-breasted Thrasher (*Margarops fuscus*), Bridled Quail-dove (*Geotrygon mystacea*) and Purple-throated Carib (*Eulampis jugularis*).

"IBA identification on St Pierre and Miquelon is still ongoing, given that more sites are likely to be identified when more detailed information is available on populations of threatened or Near Threatened species."

St Pierre and Miquelon's two IBAs identified to date are especially important for congregatory waterbirds and seabirds. They have been identified on the basis of two key species, Leach's Storm-petrel (*Oceanodroma leucorhoa*) and Red-necked Grebe (*Podiceps grisegena*) with 100,000 breeding pairs of the former species recorded on Grand Colombier Island (PM002). IBA identification on St Pierre and Miquelon is still ongoing, given that more sites are likely to be identified when more detailed information is available on populations of threatened or Near Threatened species.

Opportunities

Some priority actions are outlined below to improve the conservation of birds and their habitats on each of the French islands.

It is clear that a coherent monitoring program is urgently needed on **Guadeloupe** for some species such as Forest Thrush (*Cichlherminia lherminieri*), other hunted species, seabirds and waterbirds. Surveys to establish a robust population estimate for Forest Thrush throughout Guadeloupe will be essential to determine its status and set appropriate conservation measures.

"The Near Threatened Buff-breasted Sandpiper is an irregular visitor to Guadeloupe, but known to be hunted."

Hunting is a particular issue for Forest Thrush, West Indian Whistling-duck (*Dendrocygna arborea*), White-crowned Pigeon (*Patagioenas leucocephala*) and Caribbean Coot (*Fulica caribaea*) and their protection must be enforced if Guadeloupe is to retain these species in the long term. The Near Threatened Buff-breasted Sandpiper (*Tryngites subruficollis*) is an irregular visitor to the island, but known to be hunted. Targeted research and monitoring programs for these threatened species are urgently needed to complement the enforcement of hunting regulations. Environmental educational programs are required to highlight the main threats to the avifauna (including the impacts of alien invasive species), to raise awareness of the need for environmental protection, and to promote an understanding of the richness of Guadeloupe's natural environment.

On **Martinique,** it is essential that hunting regulations are developed and applied for protected (e.g. Near Threatened White-crowned Pigeon; *Patagioenas leucocephala* and Buff-breasted Sandpiper; *Tryngites subruficollis*) and restricted-range birds. It will also be important to educate hunters on the regulations they are legally obliged to adhere to, and on bird identification. To provide further protection for IBAs, further planning regulations will be needed, additional lands acquired, more important stopover sites for migrating birds (e.g. Habitat Protection bylaw areas) should be designated, and new posts for environmental guardians remain to be created. In Martinique, eradication of rats (*Rattus* spp.) should be undertaken where necessary in IBAs holding seabird colonies, along with continued monitoring. Further public education actions are needed to raise awareness of the richness and fragility of the island's biodiversity.

"To provide added protection for IBAs on Martinique, further planning regulations, additional land acquisition and designation of important migratory stopover sites are needed."

IBAs on **St Barthélemy** and their populations of seabirds are threatened by disturbance and egg collecting. It is unknown whether rats (*Rattus* spp.) are present within IBAs, and this should be a priority to assess, both within the IBAs and on the other satellite islands. Eradication efforts where rats are present would be feasible and would boost the recovery of seabird populations while they are also benefitting from the relatively recent removal of goats from some breeding islands. An assessment of the presence of goats on the satellite islands would also be worthwhile as a precursor to the development of broad seabird conservation strategy for St Barthélemy.

Monitoring seabird populations on satellite islands will also be important to determine the extent to which species might, between years, use a larger network of breeding locations to sustain the local population. Such monitoring will also be essential to assess the impact of any future management activities (such as rat or goat eradications) on these islands.

Protection of seabird colonies should be put in place, consisting of a ban on approaching closer than 100 m to the islets, as well as prohibiting landing. On the recent establishment of St Barthélemy as a French overseas *collectivité*, a promise was made to regenerate natural habitats in the islands. A seabird conservation and restoration plan would provide an excellent focus for the implementation of such a promise. Restoration efforts will need to focus on goat eradications on the islets to allow assisted re-colonization of the vegetation, and alien predator eradication (where necessary).

IBAs on **St Martin** are threatened by multiple factors which could be addressed with the necessary commitment and funding. Making the Grand Etang (MF001) 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 villages would eliminate the contamination of this wetland. The nesting seabird populations on Tintamarre Island (MF003) would benefit from a highly feasible rat eradication program, and also the removal of goats. The more vulnerable game birds (e.g. Bridled Quail-dove; *Geotrygon mystacea*) in the country's montane forests would benefit from better regulated hunting practices (or indeed a cessation of hunting particular species), given the pressures on avian populations due to limited remaining habitat.

The main obstacles to protection are inadequate legislation and insufficient enforcement of existing regulations. Locally, 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 Least Tern (*Sterna antillarum*) and Audubon's Shearwater (*Puffinus lherminieri*).

"The main obstacles to protection on St Martin are inadequate legislation and insufficient enforcement of existing regulations."

Population estimates and status of globally threatened and Near Threatened birds on **St Pierre and Miquelon** should be ascertained, potentially leading to the designation of further IBAs. Species of particular interest are the Vulnerable Rusty Blackbird (*Euphagus carolinus*) and the Near Threatened Buff-breasted Sandpiper (*Tryngites subruficollis*), Sooty Shearwater (*Puffinus griseus*), Olive-sided Flycatcher (*Contopus cooperi*) and Piping Plover (*Charadrius melodus*).

The monitoring of globally threatened, restricted-range, hunted birds, seabirds and waterbirds should be continued or implemented where they do not exist. They should be expanded at IBAs on all French islands in the Americas. Results should be used to inform the annual assessment of state, pressure and response variables at each IBA which will provide an objective status assessment for these internationally important biodiversity sites and highlight management interventions required to maintain their integrity.

French Overseas Départements and Territories

FRENCH GUIANA

Guianan Toucanet (*Selenidera piperivora*).
Photo: Thomas Luglia/GEPOG

General introduction

French Guiana is a unique territory, at 84,000 km^2, it is the largest French *département*, measuring a sixth of the size of metropolitan France. As a overseas *département*, it is the only European Union territory in South America. French Guiana is bounded by the river Maroni to the west on the border with Suriname, by the river Oyapock and the Tumuc-Humac mountains to the east and south, respectively, on the border with Brazil.

French Guiana has been a French département since 1946. Although the same laws apply as in metropolitan France, some modifications have been made to take into account local conditions. The territory's political organization also matches the mainland's with the election of two parliamentary representatives and two senators for the *département*. French Guiana is subdivided into 22 municipalities, governed by regional councils. However, the overseas *département* does not show the same levels of development as mainland France; there is high unemployment (almost 30% in 2006), a €643 million trade deficit, little or no industrial development and 54% of 15-59 year-olds are without secondary education. Although the territory attracts many immigrants, the standard of living is not comparable with mainland France. In a regional context, French Guiana is a symbol of prosperity, particularly due to the structures set up by the government in areas of education, health and social services.

French Guiana's population is composed of a diverse mix of communities with Creole (32%), metropolitan French (8%), Afro-French Guianan (or *Bushinenge*, 7%), Amerindians (3%) and HMong (1%) as the major groups. It is also estimated that around 22% are foreigners, made up of Haitians (9%), Brazilians (6%), Chinese (1%), Surinamese (2%), Guyanese (1%) and Dominicans (0.5%). This diversity is the reason behind some thirty languages being spoken in the region, including twenty regional languages. The majority of French Guiana's population only occupies 5% of its total land area, and is concentrated on the coast, as is the case with the Creole and metropolitan communities. Other communities are settled near rivers: the majority of Amerindians on Oyapock river, southern Maroni and Awala region, while the *Bushinenge* are found north of Maroni. The entire *département's* population is young (45% were under 20 in 2005), and there is a high birth rate (almost 31‰ in 2005).

French Guiana has a tropical, humid climate, with a long rainy season from April to July and a dry season from August to December. Average annual temperature is 26 °C, while average humidity varies between 80% and 90% depending on the season. Annual rainfall is high and follows a northwest (1700 mm) to east (3800 mm) gradient, however, insolation remains high at 2200 hours/year. Although French Guiana does not lie within the hurricane belt it does receive trade winds from the east.

Geologically, French Guiana is part of the Guiana Shield, lying across northern South America between the Amazon and Orinoco. This geological formation covers approximately 1.5 million km^2 in east Colombia, southeast Venezuela, Guyana, Suriname, French Guiana and northern Brazil.

Apart from a coastal strip of land, approximately 15 to 50 km wide, situated north of the coastal plains, 90% of French Guiana is covered by tropical rainforest and associated ecosystems (*terra firme* forests, plains, rivers, *cambrouses* or dense grass ecosystems and inselbergs). The "highland" region consists of a succession of small low-lying hills, punctuated by three higher mountain ranges. The highest point occurs at 800 m on a table mountain, in the center of the territory. The coastline also has a wide variety of habitats: mangroves, lagoons, *pripris* or marshes, swamps and savannas, all of which are unremittingly threatened. This mosaic of ecosystems provides habitat for a large number of species. Biological inventories to date include: 5400 higher plant species encompassing 750 large trees and 300 orchids, 188 mammals, 100 bats, almost 700 birds, 187 reptiles, 110 amphibians, 480 freshwater fish and at least 350,000 insects.

Conservation and protected area system

The protected area network in French Guiana is relatively well developed. As in metropolitan France, the Prefect (the territorial governor) may protect areas by decree. Such protected sites are designated as *arrêtés préfectoraux de protection de biotope* (APPB) due to their scientific, cultural or historic value. To date, just two APPBs of high biodiversity value have been designated (DIREN Guyane 2009). One of these, Sables blancs de Mana, is a 25,700-ha site which aims to conserve "natural habitats necessary for the breeding, resting or survival of protected fauna". This site is poorly-monitored and remains vulnerable given the lack of a management plan.

The Coastal Protection Agency is under the responsibility of the Ministry of Ecology and Sustainable Development (MEEDDAT) with a mandate to purchase land in coastal areas for nature protection. This organization is crucial for the conservation of coastal areas and wetlands, and owns more than 10 sites in French Guiana, totaling nearly 27,000 ha. Site management is entrusted to other public or private organizations, including NGOs.

French Guiana has six large national nature reserves (of almost 300,000 ha), representing more than half the total area covered by France's nature reserves (excluding France's southern and Antarctic territories). Three of these areas are included in the IBA network due to their major importance for waterbird conservation: Amana (GF001), Kaw-Roura

wetlands (GF006) and Ile du Grand Connétable (GF005). These national reserves provide strict protection for important ecosystems and their management plans include regulations adapted to local conditions.

"French Guiana has six large national nature reserves, representing more than half the total area covered by France's nature reserves."

At the initiative of the Ministry of Ecology and Sustainable Development, biological reserves, such as Lucifer Dékou-Dékou (110,700 ha), have also been designated. Their objectives are broadly similar to national nature reserves. They are created in state-owned lands and managed by the National Forest Agency (Office National des Forêts). One regional nature reserve exists in French Guiana, protecting 2475 ha of tropical forest. It is owned by the Trésor Foundation Utrecht (Netherlands).

In France, regional "natural parks" were established to promote sustainable development whilst taking into consideration natural habitats, local knowledge and culture. They also include priority sites for biodiversity conservation. For example, the 198,900 ha regional park (Parc Naturel Régional de Guyane) includes two key areas for waterbird conservation: the Mana and Awala-Yalimapo coastline and the Kaw-Roura wetlands.

A large "national park" covering an area of 3.39 million ha was recently established in the French Guianan section of the Amazon to provide strict protection to large tracts of Amazon forest, notably the central zone covering 60% of the park's total area. Park regulations were adapted to account for the presence of the park's human inhabitants and local cultures. The park is in relatively good condition, due to low human pressure (apart from illegal gold mining) and plays a pivotal role in safeguarding forest bird species. In summary, areas for strict protection cover 20,300 km^2 (24% of French Guiana) whereas areas allocated to sustainable development represent 13,600 km^2 (16%).

As in other overseas French *départements*, the two important European Union nature Directives (Birds 79/409/EC and Habitats 92/43/EC) are not applicable in French Guiana. These directives provide a framework for designating Natura 2000 sites as special protection areas and special areas of conservation. As the two EU nature protection Directives do not mention tropical species in their annexes, it is not possible to designate Natura 2000 sites in tropical French *départements* at present.

Ninety-two sites of national significance (ZNIEFF-Natural Sites of Biological Interest) have been identified in French Guiana, representing 23% of the territory (DIREN Guyane 2007). Many of these sites are also IBAs (e.g. 28 are important for waterbirds). In fact, the IBA inventory is partly based on bird inventories used to identify these sites of biological importance. ZNIEFF sites do not benefit from strict protection although they are identified for their wealth of biodiversity (e.g. presence of key species) and must be taken into account in planning policies.

Box 1

IBAs strengthen other conservation designations

Although three important wetland IBAs have already been designated as Ramsar sites (Amana; GF001, Kaw-Roura; GF006 and Grand Connétable; GF005), their designation as IBAs will allow conservation measures to be strengthened as well as perceived importance and ownership among stakeholders to be increased. IBA designation will also reinforce existing wetland networks, shorebird initiatives (e.g. Wetlands International, Pan American Shorebird Program - PASP, Western Hemisphere Shorebird Reserve Network - WHSRN) and marine protected areas. The ambitious boundaries of the large Amana IBA go well beyond the limits of Amana National Nature Reserve, including wetland forests and Mana rice paddies, important habitat to large concentrations of waterbirds during their winter migration.

Future projects should concentrate on the conservation of these IBAs in collaboration with other institutions from neighboring countries, to ensure an international approach. A major effort on public awareness and control should be implemented at the same time as proposing agricultural and hunting practices which are compatible with conservation efforts.

Amana (GF001).
Photo: Nyls de Pracontal/GEPOG

Cocoi Heron (*Ardea cocoi*)
Photo: Thomas Luglia/GEPOG

Ornithological importance

In French Guiana, more than 700 species of birds have been recorded, six of which are globally Near Threatened (Table 4). Only Rufous Crab-hawk (*Buteogallus aequinoctialis*) is considered a restricted-range species. However, Cayenne Nightjar (*Caprimulgus maculosus*), another potential restricted-range species and French Guiana's only endemic bird, is known from just a single type-specimen collected early this century. No further records have been confirmed since. This species is currently classified as Data Deficient (BirdLife International 2007) and as such is not taken into account for IBA identification. Forty-four species are restricted to the Amazonia North and Tepuis biome (ANT) in the *département*. At national level, 206 species are listed as having natural heritage value for French Guiana. The *département* has a special responsibility towards these species due to their distribution or rarity at regional, national or international level.

"Associated pressures from illegal gold mining, such as hunting, further compromise bird conservation in French Guiana."

Multiple threats are faced by birds in French Guiana. However, illegal gold mining is the major cause of environmental destruction, especially due to deforestation and release of mercury and suspended solids into rivers. Other associated pressures from this activity, including illegal hunting, further compromise bird conservation. Legal gold mining also generates strong pressures on the environment, although it tends to be more organized and adopts lower-impact technology.

Table 4. Near Threatened species and IBA representation in French Guiana

Species	Common name	2007 IUCN red list category	IBA code
Morphnus guianensis	Crested Eagle	NT	GF008, GF009, GF011
Harpia harpyja	Harpy Eagle	NT	GF008, GF009, GF011
Amazona dufresniana	Blue-cheeked Parrot	NT	GF008, GF009, GF011
Polystictus pectoralis	Bearded Tachuri	NT	GF003
Contopus cooperi	Olive-sided Flycatcher	NT	-
Tryngites subruficollis	Buff-breasted Sandpiper	NT	-

Rufous Crab-hawk (*Buteogallus aequinoctialis*) is French Guiana's only restricted-range species.
Photo: Thierry Nogaro/GEPOG

Blackish Nightjar (*Caprimulgus nigrescens*) is taxonomically closest to the Data Deficient Cayenne Nightjar, only known with certainty from the type specimen collected in 1917 at Saut Tamanoir on the Fleuve Mana.
Photo: Thierry Nogaro/GEPOG

Population growth is causing increasing threats, principally to the coastal strip of land in French Guiana, with savannas and marshes probably representing the most threatened ecosystems. Their destruction could jeopardize the conservation of many species. Also not to be overlooked, are the impacts of road infrastructure, particularly in unfragmented forest ecosystems.

Agricultural practices in French Guiana are twofold and radically different: those developed on industrial models driven by profitability with a potential for uncontrolled use of pesticides; and those based on a shifting agricultural model, implemented without planning. Both may come into conflict with bird conservation needs.

Other activities also have a direct effect on birds. Hunting may be the cause behind the increasing rarity of some species, especially since this activity is unregulated. Metropolitan French legislation on hunting does not apply in French Guiana. Hunting activity is only regulated by listed birds subject to regulation (since 1986). Recently, efforts have been made to rectify this situation through the implementation of regional guidelines on wildlife management and improving habitat quality (DIREN/ONCFS 2005).

Poaching of protected birds for consumption is also causing a significant decrease to populations of species such as Muscovy Duck (*Cairina moschata*) and Scarlet Ibis (*Eudocimus ruber*). Despite the existence of penal measures, control of hunting is very difficult to implement due to the huge area involved and the very limited number of environmental police. Awareness campaigns associated with recent exemplary legal trials, have been the most effective measures to date.

Illegal trade of species is also a difficult problem to resolve due to strong market demands. Awareness campaigns outlining risks to traders as well as stricter controls have reduced this threat somewhat, at least in French Guiana's internal market. The capture of songbirds, especially *Sporophila* seedeaters, has led to the disappearance of Lesser Seed-finch (*Oryzoborus angolensis*) in many areas along the coast. Traditionally caught as cage birds, the majority of people keeping these species use them to compete in birdsong competitions. A recent organization of this activity, including the creation of associations and captive breeding programs, in addition to educational campaigns, should reduce pressure on these birds in the wild.

"The capture of songbirds for birdsong competitions has led to the disappearance of Lesser Seed-finch in many areas along the coast."

Traditional fishing methods do not pose a risk to bird populations as long as toxic chemicals are not used. The impacts of commercial sea fishing are poorly understood. For example, commercially trawled shrimps are a key part of the reproductive cycle of seabirds such as Magnificent Frigatebird (*Fregata magnificens*).

Several sites in French Guiana are of international conservation interest to seabirds. The reserve on Ile du Grand Connétable (GF005) is the only seabird breeding site on nearly 4000 km of coastline from Fernando de Noronha (Brazil) to the coast opposite Trinidad and Tobago. This "rock" supports a third of the global Sandwich "Cayenne" Tern (*Sterna sandvicensis*) population. The island is also of ornithological interest due to its population of ground nesting Magnificent Frigatebirds. Additionally, this protected area holds the southernmost breeding population of Laughing Gull (*Larus atricilla*).

Ile du Grand Connétable (GF005) is the only seabird breeding site on nearly 4000 km of coastline. Photo: Nyls de Pracontal/GEPOG

IBA overview

A total of 12 IBAs have been identified in French Guiana (Table 5, Figure 3) covering an area of 26,753 km² or 32% of the country's area. Four IBAs meet criterion A1, with representation of four of six Near Threatened birds present in French Guiana. The sole restricted-range species, Rufous Crab-hawk (*Buteogallus aequinoctialis*) is present in four IBAs. Six IBAs meet criterion A3, including the Parc Amazonien de Guyane & Saül IBA (GF011) with 43 of the 45 ANT biome-restricted species in French Guiana. Six of these IBAs hold more than half the A3 species. Four IBAs have been confirmed under A4 criteria for 23 congregatory waterbird or seabird species, of which, 13 have population counts of 10,000 or more at individual IBAs. Estimates of up to 1 million Semipalmated Sandpipers (*Calidris pusilla*), 100,000 Yellow-billed Terns (*Sterna superciliaris*) and 25,000 Least Sandpipers (*Calidris minutilla*), Semipalmated Plovers (*Charadrius semipalmatus*), Lesser Yellowlegs (*Tringa flavipes*) and Greater Yellowlegs (*Tringa melanoleuca*) have been registered at Littoral IBA (GF002), one of the most important sites for shorebird migration in the Americas. The importance of the French Guianan coast for waterbirds and migratory species is made evident by the designation of the coastline almost in its entirety within three IBAs (delimited according to conservation status).

"Estimates of up to 1 million Semipalmated Sandpipers have been registered at Littoral IBA, one of the most important sites for shorebird migration in the Americas."

Upland Sandpiper (*Bartramia longicauda*) is classified as of conservation concern in the USA, but not globally threatened. Although present in French Guiana, based on current knowledge, the species does not meet IBA criteria anywhere in South America. Photo: Willy Raitière/GEPOG

Figure 3. Location of Important Bird Areas in French Guiana

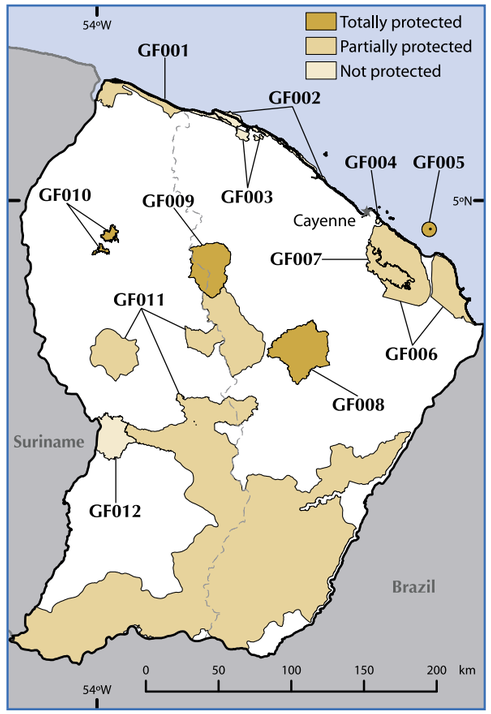
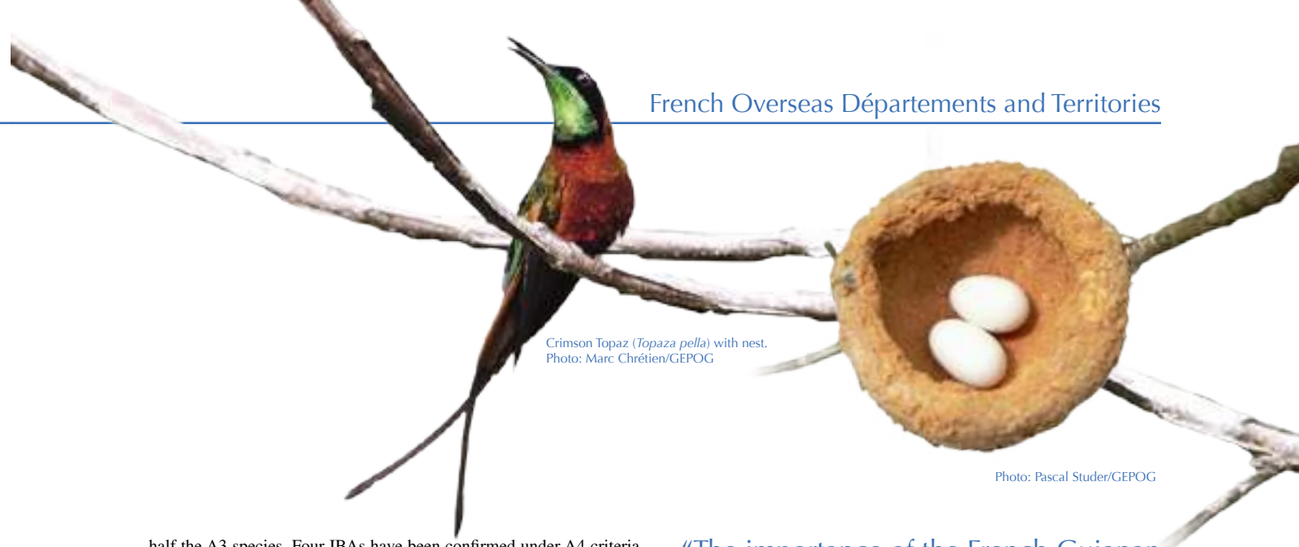


Table 5. Important Bird Areas in French Guiana

IBA code	IBA name	Adm unit	Area (ha)	A1				A2	A3	A4			
				CR	EN	VU	NT			A4i	A4ii	A4iii	A4iv
GF001	Amana	Awala-Yalimapo, Mana	45,822					X		X		X	
GF002	Littoral	Cayenne, Iracoubo, Kourou, Macouria-Tonate, Rémire-Montjoly, Sinnamary	32,903					X		X		X	
GF003	Savanes Trou Poissons, Brigandin, Corrossony	Iracoubo, Sinnamary	6,531				1						
GF004	Rorota	Rémire-Montjoly	1,007					X					
GF005	Connétable	Régina	7,893							X		X	
GF006	Plaine Kaw & Pointe Béhague	Régina, Roura, Ouanary	193,089					X		X		X	
GF007	Montagne Kaw	Régina, Roura	38,175						X				
GF008	Nouragues	Régina, Roura	106,294				3		X				
GF009	Trinité	Mana, Saint-Elie	77,180				3		X				
GF010	Lucifer	Saint-Laurent-du-Maroni	10,212						X				
GF011	Parc Amazonien de Guyane & Saül	Camopi, Maripasoula, Papaïchton, Régina, Saül, Saint-Elie	2,100,845				3		X				
GF012	Atachi Bakka	Maripasoula	55,350						X				

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



Crimson Topaz (*Topaza pella*) with nest. Photo: Marc Chrétien/GEPOG

Photo: Pascal Studer/GEPOG

"The importance of the French Guianan coast for migratory waterbirds is made evident by the designation of almost the entire coastline within three IBAs."

Of the 12 IBAs identified, eight have some form of legal protection, of which four are fully protected and the remaining four lie partially within protected areas (Figure 3). The principal protection categories for IBAs are nature reserves (six at national level and one regional) as well as the core area of the Parc Amazonien de Guyane & Saül (GF011), Ramsar sites and areas belonging to the Coastal Protection Agency among others. In several cases, IBAs have more than one protection category, including overlapping categories in some instances. Three IBAs without legal protection are identified as ZNIEFF (Natural Sites of Biological Interest) although this does not confer protected area status. Only one IBA, Savanes Trou Poissons, Brigandin, Corrossony (GF003) has no conservation status at all.

In French Guiana, IBAs are almost equally distributed between coastal and forest ecosystems, with four IBAs covering 279,706 ha on the coast and seven IBAs totaling 2,389,063 ha in forest. Only one IBA is located in savanna ecosystems and one is a marine IBA (GF005).

Opportunities

Joint projects with foreign institutions, some of which are outlined below, have improved knowledge of birds in French Guiana. Shorebirds were extensively studied along the coast in Amana (GF001) and at Kaw-Roura (GF006). Both sites are wetlands and were designated as nature reserves between 1994 and 1997. There is a need to implement further research on shorebirds over the next three years in order to obtain better knowledge of numbers and distributions. The Guianan Cock-of-the-rock (*Rupicola rupicola*) was the subject of research in the Kaw mountains in 1999 and 2008. These studies provided new information on its biology and ecology, including location of breeding sites.

North American migrant Passeriformes were studied between 2003 and 2005 to gain further insights on their migration in

Biodiversity at the Kaw wetlands

Box 2

Black caiman (*Melanosuchus niger*)

As well as providing a mosaic of habitats for birds, the Plaine Kaw & Pointe Béhague wetlands (GF006) are important for other animal groups. Wetland ecosystems at this IBA are unique in French Guiana in terms of area, biodiversity and biogeographical importance. These wetlands, contiguous with the Amazon basin, represent the northern distributional limit for a number of Amazonian taxa, especially herpetofauna. For example, the area provides habitat to one of the few remaining, stable populations of black caiman (*Melanosuchus niger*) within its Neotropical distribution. Also, the matamata turtle (*Chelus fimbriatus*), anaconda (*Eunectes deschauenseei*), Cayenne caecilian (*Typhlonectes compressicaudus*) and caiman lizards (*Crocodilurus amazonicus* and *Dracaena guianensis*) are found at the Kaw wetlands.

Plaine Kaw & Pointe Béhague (GF006). Photos: Nyls de Pracontal/GEPOG

the Basse Mana region and important wintering sites in the Amana national nature reserve. A number of studies and inventories have been carried out over the last ten years in the south of French Guiana on the biodiversity of the Parc Amazonien de Guyane & Saül (GF011). Similar inventories have been carried out in different protected areas such as Nouragues (GF008), Trinité (GF009) and Kaw-Roura National Nature Reserves (GF006), as well as in the coastal wetlands and Lucifer Dekou-Dekou Biological Reserve (GF010) in order to compare bird species richness.

On Ile du Grand Connétable (GF005), there is an on-going research project on the ecology of the Magnificent Frigatebird (*Fregata magnificens*) as well as a project on the biology of Laughing Gull (*Larus atricilla*) since early 2008. The worrying status of the Bearded Tachuri (*Polystictus pectoralis*) is also the subject of a 2009 study reviewing conservation challenges facing the network of coastal savannas at Trou Poissons.

In order to achieve conservation objectives at sites, further research and monitoring projects are needed in French Guianan IBAs. Site monitoring needs to be implemented, following an indicator-based method. Public awareness and education campaigns should also be undertaken with all stakeholders in order to communicate the importance of IBAs for biodiversity conservation, including decision makers.

Box 3

IBA designation could alleviate risks to vulnerable savanna ecosystems

Coastal savannas are unique habitats in French Guiana, as well as one of the most fragile, accounting for less than 1.7% of land area. Savannas are highly sought areas for urban housing development due to their beauty and facility for construction. Although soils are not suitable for agriculture, much land has been converted to pasture for cattle raising.

Among birds, Bearded Tachuri (*Polystictus pectoralis*) is one of the most affected by this land conversion. This species is declining in French Guiana as are certain *Sporophila* seedeaters. To date, no protected sites have been designated in this habitat. To secure its biodiversity, site protection under official designation must be a priority. However, this must be an inclusive process, taking into account local stakeholders.

Bearded Tachuri (*Polystictus pectoralis*). Photo: Jean-Pierre Policard/GEPOG

Further information

National IBA Directories

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Contribute to information on the French Caribbean's birds! www.worldbirds.org/mapportal/worldmap.php?m=4

Data sources

Information used for IBA identification in French Guiana comes from the GEPOG database "Alapi".

DIREN Guyane www.guyane.ecologie.gouv.fr
Préfecture de la Guyane www.guyane.pref.gouv.fr
Conseil régional de la Guyane www.cr-guyane.fr
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Sandwich "Cayenne" Tern (*Sterna sandvicensis*) colonies on Ile du Grand Connétable (GF005). Photo: Nyls de Pracontal/GEPOG

[4]For a fuller list of references on individual Caribbean islands, see BirdLife International (2008).