



Waterbird Conservation for the Americas
Conservación de las Aves Acuáticas para las Américas

REPORT

WATERBIRDS IN GRENADA



Photo (Allan Sander)

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Waterbird Conservation for the Americas
Conservación de las Aves Acuáticas para las Américas

CONTENT

1. Introduction 2
2. Protected Areas and Conservation System 2
3. Waterbirds species occurring within Grenada..... 3
4. Locations and descriptions of key sites used by aquatic species3
5. Formal and informal international instruments for aquatic bird conservation3
5. References/experts consulted4
6. Key references4

Appendixes

Table1. Waterbirds occurrence, distribution, habitat and population estimates in Grenada.....6



Waterbird Conservation for the Americas Conservación de las Aves Acuáticas para las Américas

1. Introduction

The island nation of Grenada lies at the southernmost end of the Lesser Antilles, just c.160 km north of the Venezuelan coast. It comprises three main islands: Grenada (311 km²) in the south; and the southern Grenadines islands of Carriacou (32 km², and 37 km north of Grenada) and Petit Martinique (0.7 km², and 6 km east of Carriacou) along with their associated offshore islets.

Grenada supports a wide diversity of forest types with (in 1982) cloud-forest (including elfin woodlands, palm brake and montane thickets) on the highest peaks (covering c.1,700 ha), then rainforests and lower montane rainforest (2,280 ha), evergreen and semi-evergreen seasonal forest, deciduous forest and dry woodlands (less than 1,750 ha), littoral woodland or dry coastal scrub (less than 1,230 ha), and mangrove forest (less than 190 ha). Mangroves have greatly diminished in numbers and area, and pockets are found primarily along the eastern coastline from True Blue to Requin, with some around Mount Hartman and Woburn Bays, and at Calivigny.

Like many Caribbean islands, Grenada was cleared of most of its forests for sugarcane cultivation, which was followed by nutmeg and cacao. Currently, Grenada relies on tourism as its main source of foreign exchange, especially since the construction of an international airport in 1985, located on the south-westernmost peninsula of Point Saline. Grenada's tropical climate is defined by a hot, humid rainy season from June to January (with maximum rainfall in November). Average annual rainfall varies between 4,000 mm in the mountainous interior to 1,500 mm in some coastal areas, and as little as 750 mm on the Point Saline peninsula.

The deep fertile soils on Carriacou and Petit Martinique resulted in extensive clearing for agriculture, primarily cotton and for a short period for sugarcane and fruit trees. By the late-1870s soil fertility had decreased and livestock were introduced. To this day, grazing continues to cause significant soil erosion, particularly during the dry season when the animals are released and graze freely. In spite of the clearances and livestock, recent (2004) estimates suggest that Carriacou is 65% forested (forest and woodland), albeit with just 135 ha in forest reserves (primarily High North Forest Reserve). The islands support seasonal evergreen forest, dry thorn scrub and deciduous forest, mangroves and fringing coral reefs. Offshore islets to the between Grenada and Carriacou are uninhabited.

2. Protected Areas and Conservation Systems

The protection of Grenada's natural resources (forests and wildlife) is directed by a series of policies and legislation, primarily under the management of the government's Forestry and National Parks Department (FNPD). The Ordinances for the Protection of Forests, Soil and Water Conservation (1954–1958, with an amendment in 1984) addresses the protection of areas to provide natural and undisturbed habitat for the flora and fauna of Grenada, and gives protection mainly to the Grand Etang Forest Reserve (the area around Grand Etang Lake, Grenada) and High North Forest Reserve (Carriacou). These forest reserves serve as sanctuaries for wildlife, and the legislation prohibits hunting, trapping, and carrying firearms within them. The Birds and other Wildlife Protection Ordinances (of 1956, 1964 and 1966) were intended to provide protection to wild birds and other wildlife, with all birds and their eggs being protected throughout the year except those listed in an annex for which there is an open season.

In 1988, the Government of Grenada and the Organization of American States developed a Plan and Policy for a System of National Parks and Protected Areas for Grenada and Carriacou. However, this plan has not been implemented nor formally adopted, and a new one is currently in development (2009)

Grenada lies south of the hurricane belt, and before Hurricane Ivan (September 2004) and Emily (July 2005), the last hurricane to hit the island was in 1955 (Janet). Hurricane Ivan had a profoundly devastating effect on the island's economy, agricultural sector and ecosystems. Biodiversity on the island is being affected by a range of factors (mostly related to development and agricultural pressures). However, the introduction of the mongoose *Herpestes auro-punctatus* during the 1880s is particularly



Waterbird Conservation for the Americas Conservación de las Aves Acuáticas para las Américas

notable. This alien invasive predator is now abundant and is thought to be having a significant impact on Grenada's mammal, bird and herpetofauna.

3. Waterbirds species occurring within Grenada

Over 160 species of bird have been recorded from Grenada, with resident landbirds represented by just 35 species. The remainder is comprised of Neotropical migrants, waterbirds and seabirds. The Near Threatened Caribbean Coot *Fulica caribaea* occurs on Grenada with 30 individuals recorded from Lake St Antoine in 1971, and an unspecified number again in 1987. However, there are no recent reports documenting the current status of the species on the island. Surveys at Lake St Antoine may highlight its continued importance for the Near Threatened Caribbean Coot *Fulica caribaea*. The Near Threatened Buff-breasted Sandpiper *Tryngites subruficollis* is a very rare migrant on the island.

Little has been documented concerning the status and distribution of Grenada's breeding and non-breeding seabirds (or in fact waterbirds and migrants in general). However, important areas for breeding seabirds are the unpopulated islets between Grenada and Carriacou, especially the islands close to Isle la Ronde. Boobies (presumably mostly Red-footed Booby *Sula sula* and Brown Booby *S. leucogaster*) are by far the most important species group and significant rookeries (of unknown size) are to be found at "gwizo" (near Isle la Ronde), Les Tantes, and "Upper Rock". Significant (but undocumented) numbers of Magnificent Frigatebird *Fregata magnificens* are resident at Sandy and Green Islands. Brown Noddy *Anous stolidus* and Red-billed Tropicbird *Phaethon aethereus* are also found on these islands. Roseate Tern *Sterna dougallii*, Bridled Tern *Sterna anaethetus*, and Sooty Tern *Sterna fuscata* were observed (2004) around the islands between Carriacou and Kick-'em-Jenny. All of these birds depend on the abundant fish (schools of anchovies and various fry or "pischet") in the Isle la Ronde zone. Fishermen and other poachers target the young (fat-chested) boobys which, in 1987, were abundant on Sugarloaf and Sandy Islands. Surveys on/ around the known seabird breeding colonies will help provide the necessary information to assess their international importance. Thus there is a clear and urgent need for surveys of wetlands and seabird colonies to establish a baseline against which to monitor.

4. Locations and descriptions of key sites used by aquatic species

There is little information on key sites for waterbirds but based on historical data, we urge further surveys at the following sites:

1. **Islands between Grenada and Carriacou**, From north of Grenada, Sugarloaf Island (12°13'N 61°36'W) to Isle la Ronde (12°17'N 61°35'W) to south of Carriacou, White Island (12°25'N 61°28'W);
2. **Levera Lake** (12°13'N 61°37'W), in northeasternmost Grenada;
3. **Lake St. Antoine** (12°11'N 61°37'W), in northerneastern Grenada, near Tivoli;
4. **Grand Etang Lake** (12°05'N 61°42'W), in the Grand Etang Forest Reserve, central Grenada;
5. **Calivigny mangroves** (12°00'N 61°43'W), on the south coast of Grenada, near Calivigny peninsulas;
6. **Woburn/Clark's Court Bay mangroves** (12°00'N 61°44'W), on the south coast of Grenada, near Woburn;
7. **Mt Hartman mangroves and tidal flats** (12°00'N 61°44'W), Mt Hartman Bay, Grenada.

5. Formal and informal international instruments for aquatic bird conservation:

Grenada is party to the following international agreements:

- Convention on Biological Diversity (CBD) = *Signed and ratified*
- World Heritage Convention (WHC) = *Signed and ratified*



Waterbird Conservation for the Americas
Conservación de las Aves Acuáticas para las Américas

- Convention on International Trade in Endangered Species of Fauna and Flora (CITES) = *Signed and ratified*
- The Ramsar Convention on Wetlands
- United Nations Convention to Combat Desertification (UNCCD)
- Convention on the Conservation of Migratory Species of Wild Animals

6. References/experts consulted

Institution	Add ress	Teleph one	Email	Name	Contribution to the report
Chief Forestry Officer Forestry and National Parks Dept			a.joseph@gre nadaforestry. com	Alan Joseph	Provided profile review
Forestry and National Parks Dept			Tonydove200 @yahoo.com	Anthony Jeremiah	Provided species data and profile review
Chair, Ornithological Council			oc@cnie.org	David Blockstein	Provided species data
BirdLife International			David.wege@ birdlife.org	David Wege	Provided species data and profile review
American Birding Association			cclouse@aba .org	Lawrence Clouse	Provided species data
Grenadian Fisherman				B. Calliste	Provided species data

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Waterbird Conservation for the Americas
Conservación de las Aves Acuáticas para las Américas

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Waterbird Conservation for the Americas

Conservación de las Aves Acuáticas para las Américas

Table 1. Waterbirds occurrence, distribution, habitat and population estimates in Grenada.

Family	Species	English name	Category (IUCN)	Occurrence	Habitat	Nat.pop.est.	Distribution	In-country trends	References
Anatidae	<i>Dendrocygna bicolor</i>	Fulvous Whistling-duck	LC	Vagrant	Mangrove and herbaceous swamp		Levera , Lake Antoine		
Anatidae	<i>Dendrocygna arborea</i>	West Indian Whistling-duck	VU	Vagrant					
Anatidae	<i>Dendrocygna autumnalis</i>	Black-bellied Whistling-duck	LC	Vagrant					
Anatidae	<i>Anas discors</i>	Blue-winged Teal	LC						
Anatidae	<i>Anas crecca</i>		NR	Vagrant					
Anatidae	<i>Anas bahamensis</i>	White-cheeked Pintail	LC		Mangrove forest and sea-coast		High North, Levera		
Anatidae	<i>Aythya collaris</i>	Ring-necked Duck	LC						
Anatidae	<i>Oxyura jamaicensis</i>	Ruddy Duck	LC	Breeding		few	Lake Antoine		
Anatidae	<i>Nomonyx dominicus</i>	Masked Duck	LC		Mangrove swamp		Levera, La Sagesse		
Procellariidae	<i>Puffinus lherminieri</i>	Audubon's Shearwater	LC		remote are;with coastal cliffs		Saline Island/White Island Northern Seascape High North		
Hydrobatidae	<i>Oceanites oceanicus</i>	Wilson's Storm-petrel	LC						
Podicipedidae	<i>Podilymbus podiceps</i>	Pied-billed Grebe	LC	Breeding			Lake Antoine		
Ciconiidae	<i>Jabiru mycteria</i>	Jabiru	LC	Vagrant					
Threskiornithidae	<i>Eudocimus ruber</i>	Scarlet Ibis	LC	Vagrant ; possibly extirpated	Mangrove Swamp		Levera		



Waterbird Conservation for the Americas

Conservación de las Aves Acuáticas para las Américas

Threskiornithidae	<i>Platalea ajaja</i>	Roseate Spoonbill	LC	Vagrant					
Ardeidae	<i>Nycticorax nycticorax</i>	Black-crowned Night-heron	LC	Breeding	Mangrove swamp		High North Mabouya-Sandy, Isle Levera		
Ardeidae	<i>Nyctanassa violacea</i>	Yellow-crowned Night-heron	LC	Breeding					
Ardeidae	<i>Butorides virescens</i>	Green Heron	LC	Breeding	Sea-coast and mangrove swamp		High North, Grand Etang		Lack and Lack (1973)
Ardeidae	<i>Bubulcus ibis</i>	Cattle Egret	LC	Breeding					
Ardeidae	<i>Ardea herodias</i>	Great Blue Heron	LC	Passage	salt ponds		Point Salines		Lack and Lack (1973)
Ardeidae	<i>Casmerodius albus</i>	Great Egret	LC	Breeding	Mangrove swamp		Tyrrel Bay		
Ardeidae	<i>Egretta caerulea</i>	Little Blue Heron	LC		Sea coast and mangrove swamp		Southern Seascape		
Ardeidae	<i>Egretta thula</i>	Snowy Egret	LC	Breeding	Sea coast and mangrove swamp		Southern Seascape		
Phaethontidae	<i>Phaethon aethereus</i>	Red-billed Tropicbird	LC	Breeding	Isolated areas with steep cliffs		La Baye Rock		
Phaethontidae	<i>Phaethon lepturus</i>	White-tailed Tropicbird	LC						
Fregatidae	<i>Fregata magnificens</i>	Magnificent Frigatebird	LC	Breeding	Isolated areas with steep cliffs, crevices and sparse vegetation		La Baye Rock, Marquis Island, Sandy and Green Islands		
Pelecanidae	<i>Pelecanus occidentalis</i>	Brown Pelican	LC	Breeding	Isolated areas with steep cliffs, crevices and sparse vegetation		Saline Island/White Island		
Sulidae	<i>Sula dactylatra</i>	Masked Booby	LC	Vagrant					
Sulidae	<i>Sula sula</i>	Red-footed Booby	LC						



Waterbird Conservation for the Americas

Conservación de las Aves Acuáticas para las Américas

Sulidae	<i>Sula leucogaster</i>	Brown Booby	LC		Remore areas with coastal cliffs, crevices and sparse vegetation		La Baye Rock		
Anhingidae	<i>Anhinga anhinga</i>	Anhinga	LC	Vagrant					
Rallidae	<i>Porzana carolina</i>	Sora	LC						
Rallidae	<i>Gallinula chloropus</i>	Common Moorhen	LC						
Rallidae	<i>Fulica americana</i>	American Coot	LC	Vagrant					
Rallidae	<i>Fulica caribaea</i>	Caribbean Coot	NT	Possibly breeding		Aa		Declining	Bonnie L. Rusk 2008
Aramididae	<i>Aramus guaranauna</i>	Limpkin	LC		Herbaceous swamp		Lake Antoine		
Recurvirostridae	<i>Himantopus mexicanus</i>	Black-necked Stilt	LC		Mangrove swamp		Levera		
Charadriidae	<i>Pluvialis dominica</i>	American Golden Plover	LC						
Charadriidae	<i>Pluvialis squatarola</i>	Grey Plover	LC						
Charadriidae	<i>Charadrius semipalmatus</i>	Semipalmated Plover	LC						
Charadriidae	<i>Charadrius wilsonia</i>	Wilson's Plover	LC						
Charadriidae	<i>Charadrius vociferus</i>	Killdeer	LC	Breeding					
Charadriidae	<i>Charadrius collaris</i>	Collared Plover	LC	Breeding					
Scolopacidae	<i>Gallinago gallinago</i>	Common Snipe	LC	Winter	Marsh and forest		Levera		
Scolopacidae	<i>Limnodromus griseus</i>	Short-billed Dowitcher	LC						
Scolopacidae	<i>Limosa fedoa</i>	Marbled Godwit	LC	Vagrant					
Scolopacidae	<i>Numenius borealis</i>	Eskimo Curlew	CR	Vagrant					
Scolopacidae	<i>Numenius phaeopus</i>	Whimbrel	LC	Vagrant	salt ponds		Point Salines		



Waterbird Conservation for the Americas
Conservación de las Aves Acuáticas para las Américas

Scolopacidae	<i>Bartramia longicauda</i>	Upland Sandpiper	LC	Vagrant					
Scolopacidae	<i>Tringa melanoleuca</i>	Greater Yellowlegs	LC	Passage	salt ponds		Point Salines		Lack and Lack (1973)
Scolopacidae	<i>Tringa flavipes</i>	Lesser Yellowlegs	LC	Passage	salt ponds		Point Salines		Lack and Lack (1973)
Scolopacidae	<i>Tringa solitaria</i>	Solitary Sandpiper	LC	Passage	salt ponds		Point Salines		Lack and Lack (1973)
Scolopacidae	<i>Actitis macularius</i>	Spotted Sandpiper	LC	Passage	salt ponds		Point Salines		Lack and Lack (1973)
Scolopacidae	<i>Catoptrophorus semipalmatus</i>	Willet	LC						
Scolopacidae	<i>Arenaria interpres</i>	Ruddy Turnstone	LC						
Scolopacidae	<i>Calidris canutus</i>	Red Knot	LC						
Scolopacidae	<i>Calidris alba</i>	Sanderling	LC	Passage	salt ponds		Pointe Salines		Lack and Lack (1973)
Scolopacidae	<i>Calidris pusilla</i>	Semipalmated Sandpiper	LC	Passage	salt ponds		Pointe Salines		Lack and Lack (1973)
Scolopacidae	<i>Calidris mauri</i>	Western Sandpiper	LC	Passage	salt ponds		Pointe Salines		Lack and Lack (1973)
Scolopacidae	<i>Calidris minutilla</i>	Least Sandpiper	LC	Passage	salt ponds		Pointe Salines		Lack and Lack (1973)
Scolopacidae	<i>Calidris melanotos</i>	Pectoral Sandpiper	LC						
Scolopacidae	<i>Calidris ferruginea</i>	Curlew Sandpiper	LC	Vagrant					
Scolopacidae	<i>Calidris himantopus</i>	Stilt Sandpiper	LC	Passage	salt ponds		Pointe Salines		Lack and Lack (1973)
Scolopacidae	<i>Tryngites subruficollis</i>	Buff-breasted Sandpiper	NT	Passage					Lack and Lack (1973)
Scolopacidae	<i>Philomachus pugnax</i>	Ruff	LC						
Scolopacidae	<i>Steganopus tricolor</i>	Wilson's Phalarope	LC						



Waterbird Conservation for the Americas
Conservación de las Aves Acuáticas para las Américas

Laridae	<i>Larus ridibundus</i>	Black-headed Gull	LC	Vagrant					
Laridae	<i>Larus atricilla</i>	Laughing Gull	LC	Breeding	Remote island with steep coastal areas and cliffs		La Baye Rock, Saline Island/ White Island		
Laridae	<i>Sterna maxima</i>	Royal Tern	LC						
Laridae	<i>Sterna sandvicensis</i>	Sandwich Tern	LC		Remote island with coastal cliffs, crevices and sparse vegetation		Southern Seascape		
Laridae	<i>Sterna dougallii</i>	Roseate Tern	LC		Remote island with coastal cliffs, crevices and sparse vegetation		Hog Island, Calivigny Island		
Laridae	<i>Sterna hirundo</i>	Common Tern	LC						
Laridae	<i>Sterna antillarum</i>	Least Tern	LC	Vagrant	Sea coast		Northern Seascape		
Laridae	<i>Sterna anaethetus</i>	Bridled Tern	LC		Remote areas with coastal cliffs		High North, Marquis Island		
Laridae	<i>Sterna fuscata</i>	Sooty Tern	LC		Remote areas with coastal cliffs		Northern Seascape		
Laridae	<i>Chlidonias niger</i>	Black Tern	LC	Vagrant	Sea Coast		Northern Seascape		
Laridae	<i>Anous stolidus</i>	Brown Noddy	LC						
Laridae	<i>Rynchops niger</i>	Black Skimmer	LC	Vagrant	Sea Coast		Saline Island/White Island Northehrn Seascape		
Stercorariidae	<i>Stercorarius parasiticus</i>	Parasitic Jaeger	LC	Vagrant					

Legend:

The ranges are based on Wetlands International estimates:

B: 10.000-25.000

C: 25.000-100.000

D: 100.000-1.000.000

E: >1.000.000



Waterbird Conservation for the Americas
Conservación de las Aves Acuáticas para las Américas

For numbers below 10.000:

- A.a 0-50
- A.b 50-100
- A.c 100-250
- A.d 250-500
- A.e 500-1000
- A.f 1000-
5000
- A.g 5,000-10,000