JAMAICA

LAND AREA **10,829 km²** ALTITUDE **0–2,258 m**
HUMAN POPULATION **2,780,132** CAPITAL **Kingston**
IMPORTANT BIRD AREAS **15, totalling 3,113 km²**
IMPORTANT BIRD AREA PROTECTION **44%**
BIRD SPECIES **300**
GLOBALLY THREATENED BIRDS **16** RESTRICTED-RANGE BIRDS **36**

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Cockpit Country. (PHOTO: GEOEYE/JAMAICA FORESTRY DEPARTMENT, FROM KRONOS IMAGES)

INTRODUCTION

Jamaica is the third largest island in the Greater Antilles lying 145 km south of eastern Cuba and 161 km west of Haiti. It is 235 km long (east to west) and 35–82 km wide (north to south). Administratively, Jamaica is divided into 14 parishes, and the territory includes the Morant Cays (off the eastern end of the island) and Pedro Cays (off the south-west coast). The island is rugged with mountains and plateaus: much of the land is above 300 m. The highest point is Blue Mountain Peak in the Blue Mountains, a dramatically uplifted ridge-block of Cretaceous metamorphic rock which rises sharply from the coast. The eastern end of this block is capped in limestone, which forms the steep and extremely rugged John Crow Mountains. The Rio Grande, Jamaica's largest river (by surface-water runoff), separates the Blue and John Crow Mountains. The centre and centre-west of the island is composed of a massive limestone block with well-defined features of a karst landscape, including doline, polygonal (cockpit), and tower karst, large alluvial poljes (valleys), and many sinkholes and caves. The best-developed polygonal karst is found in Cockpit Country (the "type area" for cockpit karst). A portion of the Cockpit Country aquifer drains to the south-west, forming the Black River and Great Morass, the largest swampland ecosystem on Jamaica. In extreme western Jamaica, alluvial plains and rolling karst limestone are punctuated by a Cretaceous igneous outcrop capped in limestone, and known as Dolphin Head. Due to the island's geologic history of volcanic extrusion, subsidence, and tectonic uplift, the Blue and John Crow Mountains, Cockpit Country, and Dolphin Head are recognised as three "hotspots" of adaptive radiation and endemism. The island's forested mountains and hilly interior are incised by steep valleys, particularly in the east where erosion is now prevalent due to the removal of forest cover. In the centre and west, the limestone formations provide little surface water, and removal of vegetation exposes a thin red soil.

Jamaica has a tropical maritime climate. In the lowlands, the mean annual temperature is 26ºC, but just 13ºC at Blue Mountain Peak. Rainfall varies across the island with average annual precipitation greater than 500 cm in John Crow Mountains, 250 cm in the highest parts of Cockpit Country, and less than 75 cm in the Hellshire Hills—the driest part of the country. Although it rains in every month, the heaviest rains are from September to November, and again (but less heavily) in May and June. The driest months are January through March. Natural vegetation corresponds to geology, elevation and precipitation, and ranges from very wet and

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wet tropical forest, particularly on the north side of the Blue Mountains (where a remnant of elfin forest remains), and on limestone (especially the John Crow Mountains and Cockpit Country), to dry scrub forest, and dry woodland along in coastal areas. The Forestry Department's land-use figures (up to 1998) broadly classify Jamaica as: c.30% forest (only 8% of which is minimally disturbed or "closed broadleaf" forest); 30% mixed land-use (including plantations and fields); and 39% non-forest land-use (buildings/infrastructure, wetlands, and bauxite and limestone-aggregates mining). Between 1989 and 1998, the greatest loss of forest land was in "disturbed broadleaf", and the greatest gain (44%) in "mixed land-use/cover" (including "partly forested and partly bauxite lands"). The expansion of bauxite mining accounts for much of this latter change in land-use.

Conservation

National laws for biodiversity conservation in Jamaica have lagged behind other legislation, but are now under scrutiny as part of the process to update the Protected Areas Systems Plan. The Wildlife Protection Act, originally passed in 1945 to regulate sports-hunting and fishing, has been enhanced by many regulations that attempt to address gaps, particularly in relation to protection of animals. However, this act does not address habitat protection or the conservation of flora. Habitat protection comes under the Natural Resources Conservation Authority Act (1991) which provides the legislative framework for a system of protected areas and paved the way for the establishment of marine parks and the Blue and John Crow Mountains National Park. The island also has over 150 forest reserves designated under the Forest Act (1996, and subsequent regulations) which provides for the preservation of forests, watershed protection, and ecotourism. Private lands declared as forest reserves can be entitled to property tax exemptions. Jamaica's protected areas portfolio is biased towards the forested mountains of the interior, leaving lowland and coastal ecosystems under-represented. Most of the remaining forested coastal areas are privately owned.

Recognition of Jamaica's unique biodiversity has come about slowly over the past 30 years despite an encouraging start when, after the first United Nations Conference on the Environment (Stockholm 1972), it was decided to amalgamate the various national environmental commissions into one agency—the Natural Resources Conservation Department (NRCD). This agency was felt to have only advisory capabilities, so it was expanded in 1991 to become the Natural Resources Conservation Authority (NRCA). NRCA is responsible for declaring and managing national parks, and enforces the requirement for project-related environmental impact assessments. The Forestry Department manages the island's forest estate, but the devastation wrought by Hurricane Gilbert in 1988 revealed that forest resources were dwindling. This led to the preparation of a National Forestry Action Plan (in 1990), and a new Forest Act (in 1996). The new Forest Act explicitly includes "conservation and sustainable management of forest", thus covering activities such as the protection of forest resources for environmental services and biodiversity. Conservation has not been completely neglected, although financial resources are extremely limited. Due to insufficient capacity in both the Forestry Department and NRCA, management of Jamaica's first national park (declared in 1990) was delegated to the NGO Jamaica Conservation and Development Trust (JCDT). Other NGOs to be mandated with protected area management are: the Caribbean Coastal Area Management (CCAM) Foundation with responsibility for the Portland Bight Protected Area; and the Montego Bay Marine Park Trust which has been given the mandate to manage the Montego Bay Marine Park. Elsewhere, the Jamaican iguana *Cyclura collei* project, lead by Dr Byron Wilson (University of the West Indies), provides a focus for research and conservation activities within the dry forest habitat (including a small forest reserve) of Hellshire. In Cockpit Country, the Forestry Department and Windsor Research Centre (Trelawny) are working together to facilitate the work of three Local Forest Management Committees—encouraging local community engagement in sustainable forest resource use and management.

Even though an attempt to set up one agency to "provide for the management, conservation, and protection of the natural resources of Jamaica", there are at least 34 pieces of legislation that refer to the environment, e.g. Land Acquisition Act (1947), Urban Development Act (1968), Maritime Areas Act (1996)—not all of which are administered by NRCA, but by other government agencies as well. Problems associated with conservation in Jamaica include poor coordination between the plethora of government institutions responsible for the various laws and regulations insufficient recognition of the value of biological diversity, insufficient funding, poor enforcement, incomplete or improper environmental impact

Bauxite mining is driving habitat destruction in places like Cockpit Country and Mount Diablo. (PHOTO: SUSAN KOENIG/WINDSOR RESEARCH CENTRE)

Black River lower morass. (PHOTO: VAUGHAN TURLAND)

assessments, and incomplete island-wide evaluation of landscape and biodiversity values. While these issues are inhibiting effective conservation action, there are a number of significant threats are directly impacting Jamaica's unique biodiversity. Habitat loss and fragmentation are the greatest threats. With primary forest reduced to just 8% of the land area, multiple factors (e.g. increased predation, increased competition from invasive species, reduction of genetic variability etc.) impinge on the long-term survival prospects of the species populations that remain. Driving this habitat loss, degradation and fragmentation is the expansion of bauxite mining and limestone quarrying; residential, hotel and resort developments (particularly along the coasts); highways and roads; and, to a lesser extent, agriculture. Annual dry season (or drought period) fires (started intentionally) have a significant impact on woodlands and forests. Climate change models are predicting significantly drier summers in the Caribbean suggesting that fire risk will be of increasing concern. Another consequence of increasing habitat loss, degradation and fragmentation is the reduced resilience of the remaining forests to stochastic events such as hurricanes (or indeed the forecasted effects of global climate change). The last serious hurricane to hit almost the entire island was Hurricane Gilbert in 1988. More recently the trajectories of hurricanes Allan and Charley (2004), Emily (2005) and Dean (2007) carried them near or over Jamaica's south coast. It would be prudent for future protected area planning to consider coastal vulnerability to hurricanes.

Alien invasive species impacting Jamaica's native biodiversity include small Indian mongoose *Herpestes auropunctatus*, black and brown rat (*Rattus* spp.), dogs, cats, and feral pigs. The impact of these species has not been quantified although the mongoose has been identified as a causal factor in the possible extinction of the (Critically Endangered) ground-nesting Jamaican Petrel *Pterodroma caribbaea* and Jamaican Pauraque *Siphonorhis americana*. It was also thought to have contributed to the extinction of the endemic Jamaican iguana *Cyclura collei* until a small population was rediscovered in Hellshire Hills in 1990. Between 1996 and 2008, the Jamaican Iguana Recovery Group removed c.1,000 mongoose from the core iguana conservation zone and operates a trapping grid every day. Snares are used to trap and remove pigs from the core iguana area and from the adjacent coastal fringe. Recent research has indicated that pigs may be responsible for the loss of nearly all sea-turtle nests in a given season. Invasive plants are also a threat. Where natural vegetation has been cleared, exotic species frequently out-compete native species, and forest fragmentation facilitates their colonisation of new areas. Aggressively invasive species which create biologically sterile monocultures in Jamaica include *Bambusa vulgaris*, the Asian *Nephrolepis* spp., *Pittosporum undulatum,* and *Alpinia allughas* (contributing to loss of native species in the swamp forest of the Black River Great Morass).

Birds

Of Jamaica's c.300 recorded bird species, 124 breed (including 12 that are introduced) and over 170 species occur as wintering Neotropical migrants, transients or vagrants. The Jamaican avifauna exhibits exceptional levels of endemism, with 36 restricted-range species defining the Jamaica Endemic Bird

Orangequit, a species and genus endemic to Jamaica. (PHOTO: HUGH VAUGHAN)

The Endangered Jamaican Blackbird or "Wildpine Sergeant", one of Jamaica's four endemic genera. (PHOTO: HUGH VAUGHAN)

Area, and 30 breeding species confined to the island (and primarily to natural forest and woodlands). A number of the restricted-range species are shared with neighbouring islands (e.g. Vervain Hummingbird *Mellisuga minina*, Stolid Flycatcher *Myiarchus stolidus*, Greater Antillean Elaenia *Elaenia fallax* and Golden Swallow *Tachycineta euchrysea* are all shared with Hispaniola). Five of the species endemic to Jamaica represent four endemic genera: two *Trochilus* spp. (streamertails), *Euneornis campestris* (Orangequit), *Loxipasser anoxanthus* (Yellow-shouldered Grassquit) and *Nesopsar nigerrimus* (Jamaican Blackbird). In fact 48 species are endemic to the island at the genus, species or subspecies level. Black-billed Streamertail *Trochilus scitulus* has the narrowest range of all the island endemics, being confined (but abundant) in the John Crow Mountains IBA (JM014).

The threat category and national population sizes of the globally threatened birds are listed in Table 1. Although 18 globally threatened species occur on Jamaica, two of these, Golden-winged Warbler *Vermivora chrysoptera* and Cerulean Warbler *Dendroica cerulea*, are only known as vagrants and have not been considered in the Important Bird Area analysis. The Jamaica Petrel *Pterodroma caribbaea* and Jamaican Pauraque *Siphonorhis americana* are classified as Critically Endangered, and neither has been seen with certainty for 130 years although there are possibilities that the pauraque persists in Hellshire Hills IBA (JM011) and the petrel could survive in John Crow Mountains IBA (JM014). The Jamaican Blackbird *N. nigerrimus* is considered Endangered as it occurs in small numbers and only inhabits moist forest with numerous bromeliads such as is found in the Blue and John Crow Mountains, Mount Diablo, and the larger IBAs of the Cockpit Country Conservation Area.

Table 1. Key bird species at IBAs in Jamaica.

Key bird species	Criteria		National population	JM001 Criteria	JM001
West Indian Whistling-duck *Dendrocygna arborea*	VU	■	250–999		50–249
Jamaica Petrel *Pterodroma caribbaea*	CR	■	<50		
Pied-billed Grebe *Podilymbus podiceps*		■	2,500		
Magnificent Frigatebird *Fregata magnificens*		■	4,500		
Brown Pelican *Pelecanus occidentalis*		■	250		
Masked Booby *Sula dactylatra*		■	2,400–3,000		
Brown Booby *Sula leucogaster*		■	6,000		
Caribbean Coot *Fulica caribaea*	NT	■	50–100		
Laughing Gull *Larus atricilla*		■	800		
Royal Tern *Sterna maxima*		■	350		
Sandwich Tern *Sterna sandvicensis*		■	350		
Least Tern *Sterna antillarum*		■	250–600		
Bridled Tern *Sterna anaethetus*		■	2,500–3,000		
Sooty Tern *Sterna fuscata*		■	75,000–95,000		
Brown Noddy *Anous stolidus*		■	10,000		
White-crowned Pigeon *Patagioenas leucocephala*	NT	■			✓
Ring-tailed Pigeon *Patagioenas caribaea*	VU	■	2,500–9,999		
Plain Pigeon *Patagioenas inornata*	NT	■			
Crested Quail-dove *Geotrygon versicolor*	NT	■			
Yellow-billed Amazon *Amazona collaria*	VU	■	10,000–19,999		
Black-billed Amazon *Amazona agilis*	VU	■	15,000–19,999		
Jamaican Lizard-cuckoo *Saurothera vetula*		■			
Chestnut-bellied Cuckoo *Hyetornis pluvialis*		■			
Jamaican Owl *Pseudoscops grammicus*		■			
Jamaican Pauraque *Siphonorhis americana*	CR	■	<50		
Jamaican Mango *Anthracothorax mango*		■			✓
Red-billed Streamertail *Trochilus polytmus*		■	60,000–120,000		✓
Black-billed Streamertail *Trochilus scitulus*		■	60,000–120,000		
Vervain Hummingbird *Mellisuga minima*		■			✓
Jamaican Tody *Todus todus*		■			✓
Jamaican Woodpecker *Melanerpes radiolatus*		■			✓
Jamaican Becard *Pachyramphus niger*		■			✓
Jamaican Elaenia *Myiopagis cotta*		■			✓
Greater Antillean Elaenia *Elaenia fallax*		■			
Jamaican Pewee *Contopus pallidus*		■			✓
Sad Flycatcher *Myiarchus barbirostris*		■			✓
Rufous-tailed Flycatcher *Myiarchus validus*		■			✓
Stolid Flycatcher *Myiarchus stolidus*		■			✓
Jamaican Vireo *Vireo modestus*		■			✓
Blue Mountain Vireo *Vireo osburni*	NT	■			
Jamaican Crow *Corvus jamaicensis*		■			
Golden Swallow *Tachycineta euchrysea*	VU	■			
Bahama Mockingbird *Mimus gundlachii*		■			
Rufous-throated Solitaire *Myadestes genibarbis*		■			
Bicknell's Thrush *Catharus bicknelli*	VU		90		
White-chinned Thrush *Turdus aurantius*		■			✓
White-eyed Thrush *Turdus jamaicensis*		■			
Arrowhead Warbler *Dendroica pharetra*		■			✓
Jamaican Oriole *Icterus leucopteryx*		■			✓
Jamaican Blackbird *Nesopsar nigerrimus*	EN	■	2,500–9,999		
Yellow-shouldered Grassquit *Loxipasser anoxanthus*		■			✓
Orangequit *Euneornis campestris*		■			✓
Jamaican Spindalis *Spindalis nigricephala*		■			✓
Jamaican Euphonia *Euphonia jamaica*		■			✓

All population figures = numbers of individuals.
Threatened birds: Critically Endangered ■; Endangered ■; Vulnerable ■; Near Threatened ■.
Restricted-range birds ■. **Congregatory birds** ■.

Jamaica IBAs													
JM002	JM003	JM004	JM005	JM006	JM007	JM008	JM009	JM010	JM011	JM012	JM013	JM014	JM015
					100–300			50–249	✓				
												✓	
					1,000–2,499								
					100		4,000	300					
					250								
							2,400–3,000						
							6,000						
					50								
					500		223						
					250		25						30–60
					250								
					250					50			
							1,500–2,000						1,000
							4,000–5,000						70,000–90,000
							4,500	600					4,500
✓	✓	✓	✓	✓	500	✓		✓	✓	✓		✓	
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		✓	✓	✓				✓					
		✓	✓	✓		✓				✓	✓	✓	
	✓	✓	10,000–16,000	✓		✓					✓	✓	
		✓	15,000–19,000	✓		✓						✓	
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	✓	✓	✓	✓		✓						✓	
			✓								✓		
								3,000–5,000	5,000				
✓	✓	✓	✓	✓		✓				✓	✓	✓	
											90		
✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	
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A significant percentage of the Caribbean's Brown Boobys nest in Jamaica.
(PHOTO: BRANDON HAY)

Thirteen seabird species nest on Jamaica and its offshore cays, and the island is regionally important for four of these, namely Masked Booby *Sula dactylatra* (over 50% of the Caribbean's nesting birds), Sooty Tern *Sterna fuscata* (c.30%) and Brown Noddy *Anous stolidus* (c.30%) and Brown Booby *Sula leucogaster* (c.20%). Given the serious decline in Jamaican seabird numbers, their nesting sites (which includes coastal areas and the offshore cays such as Morant and Pedro Cays) urgently need active conservation management, research and especially monitoring.

IMPORTANT BIRD AREAS

Jamaica's 15 IBAs—the island's international site priorities for bird conservation—cover 3,113 km², about 25% of Jamaica's land area. Many of the terrestrial IBAs overlap with forest reserves or crown lands to some extent, thus some form of protection is in place. However, only 44% of the area covered by the IBAs is under formal protection, and active management is minimal in many areas.

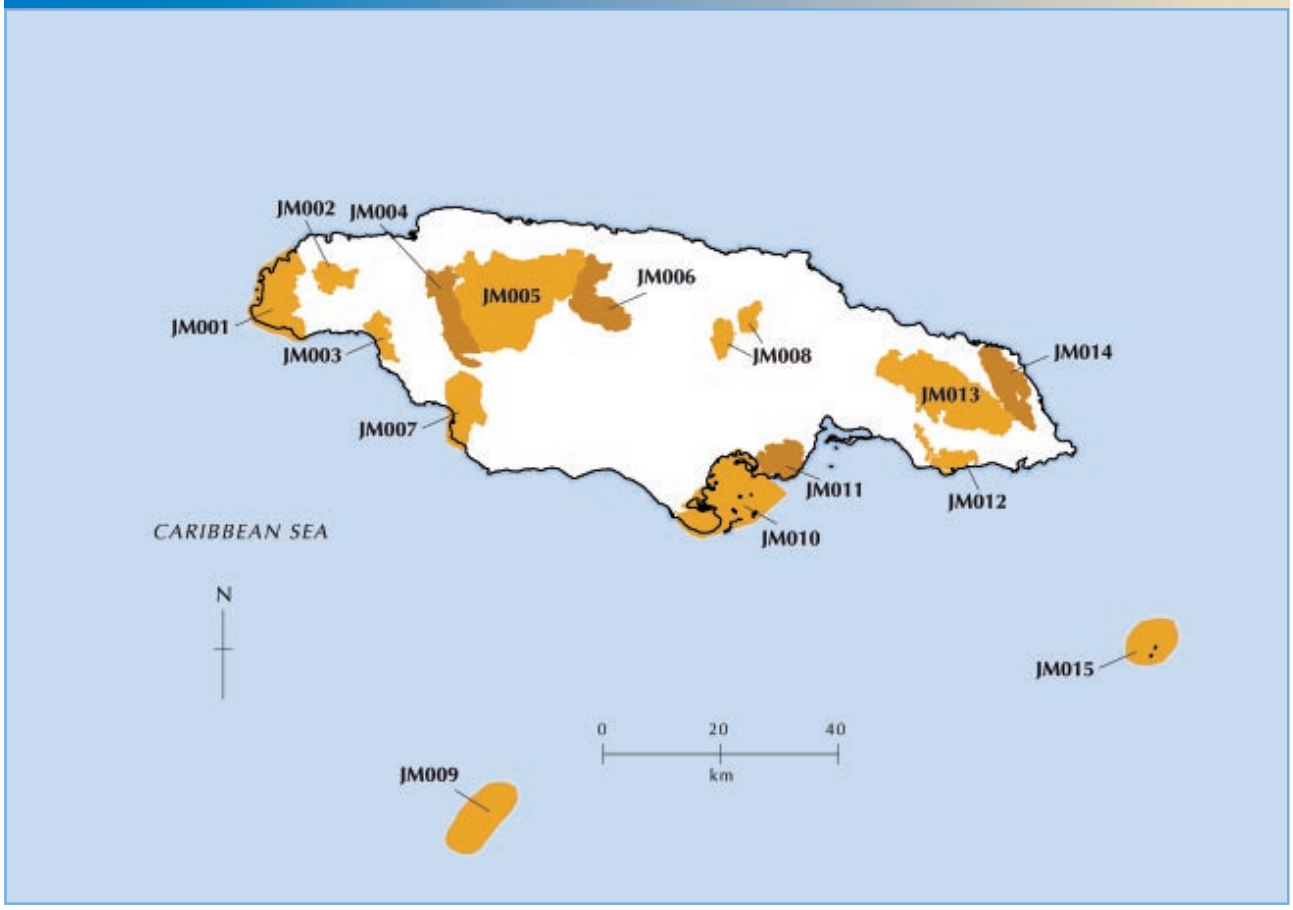
The IBAs have been identified on the basis of 53 key bird species (listed in Table 1) that variously trigger the IBA criteria. These 53 species include 13 (of the 16) globally threatened birds, all 36 restricted-range species, and 14 congregatory waterbirds/ seabirds. It was not possible to identify IBAs for significant (qualifying) populations of two of Jamaica's globally threatened birds, namely Piping Plover *Charadrius melodus* and Black Rail *Laterallus jamaicensis*. However, *C. melodus* is known to occur (although not in significant numbers) in Black River Great Morass IBA (JM007), Portland Ridge and Bight IBA (JM010) and Yallahs IBA (JM012), and *L. jamaicensis* has been recorded in Black River Great Morass IBA.

Significant populations of the majority of Jamaica's key bird species are found in two or more IBAs. However, for many of the congregatory species, significant (i.e. >1% of the global or Caribbean population of the species) populations are only found in one IBA (see Table 1). The Black River Great Morass IBA (JM007) and Pedro Cays and Bank IBA (JM009) support most of these populations, emphasising how critically important they are for the maintenance of Jamaica's waterbird and seabird populations.

At least 47 terrestrial areas have been identified as "potential Important Bird Areas" and the boundaries for many of these have been used in the preparation of the Protected Areas Master Plan. However, at present there is

Middle Cay, Pedro Cays and Bank IBA.
(PHOTO: BRANDON HAY)

Figure 1. Location of Important Bird Areas in Trinidad and Tobago.



insufficient information concerning the occurrence of populations of key bird species at these sites for them to qualify as IBAs. This clearly presents field research objectives for the academic and conservation communities within Jamaica, namely to clarify (based on quantitative data) the international importance of Jamaica's 47 "potential" IBAs.

State, pressure and response variables have been collated for some of Jamaica's IBAs, but should be monitored annually at all IBAs to provide an objective status assessment and highlight management interventions that might be required to maintain these internationally important biodiversity sites.

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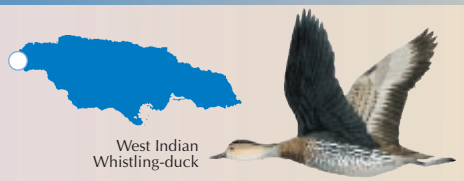
JM001 Negril

Environmental Protection Area/Nature Reserve

COORDINATES 18°19'N 78°19'W
ADMIN REGION Hanover, Westmoreland
AREA 27,740 ha
ALTITUDE 0–280 m
HABITAT Forest, inland wetland, coastline, mangrove



THREATENED BIRDS 2
RESTRICTED-RANGE BIRDS 19
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS ✔

Site description

Negril IBA is situated at the westernmost end of Jamaica. It follows the boundary of the Environmental Protection Area and embraces the entire Negril watershed including ecosystems in the Negril Great Morass (Jamaica's second largest wetland), the Royal Palm Reserve, and the (limestone) Fish River and Negril hills. The morass is bounded by the Fish River Hills to the east, the Negril Hills to the south, and Long Bay beach to the west. The Royal Palm Reserve is in the southern part of the morass with its southern boundary being the South Negril River which enters the Caribbean sea at Negril, Jamaica's third largest tourist resort. Private residential and commercial developments (including tourist developments) are found throughout the area.

Birds

This IBA is significant for 19 (of the 36) Jamaica EBA restricted-range birds. More than 90 Vulnerable West Indian Whistling-ducks *Dendrocygna arborea* now occur in the morass (especially the Royal Palm Reserve), and there is a notable population of Near Threatened White-crowned Pigeon *Patagioenas leucocephala*. Yellow-breasted Crake *Porzana flaviventer* is present and at least 17 species of Neotropical migratory birds use the IBA in winter.

Other biodiversity

The Vulnerable Jamaican slider *Trachemys terrapen* (an endemic freshwater turtle) and Jamaican kite swallowtail *Protographium marcellinus* occur. The Near Threatened (and endemic) morass royal palm *Roystonea princeps* and Caribbean endemic anchovy pear *Grias cauliflora* dominate the Royal Palm Reserve. The epiphyte *Hohenbergia negrilensis* is endemic to Negril.

Conservation

Negril IBA is primarily state-owned land designated as an Environmental Protection Area under the jurisdiction of the Urban Development Corporation, the Petroleum Corporation of Jamaica and Ministry of Agriculture. The Negril Royal Palm Reserve covers c.121 ha, and is managed by Negril Area Environmental Protection Trust (NEPT). A strategic management plan has been developed by NEPT as part of regional BirdLife/ UNEP-GEF project, and they coordinate awareness efforts in the Negril area. The IBA faces multiple, inter-related threats including: massive population growth linked to an expanding tourism industry; unregulated (and encroaching) development; wetlands drying out (as a result of river canalisation); fires; invasive plants and animals; cattle grazing; garbage dumping; flash flooding; and inappropriate agricultural practices.

JM002 Dolphin Head

Forest Reserve/Unprotected

COORDINATES 18°23′N 78°10′W
ADMIN REGION Hanover, Westmoreland
AREA 5,370 ha
ALTITUDE 100–544 m
HABITAT Forest, caves

THREATENED BIRDS 2
RESTRICTED-RANGE BIRDS 25
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

Dolphin Head IBA is an isolated mountainous area in westernmost Jamaica. It includes the forested Dolphin Head, Raglan and Bath mountains. These limestone mountains were one of three "emerging islands" separated by seawater 10–15 million years ago, but now fully exposed to create the present-day island. The IBA supports well developed wet limestone forest (evergreen seasonal and closed broadleaf forest). At the heart of the IBA is natural, closed and disturbed forest and forestry plantations, and these are surrounded by a mosaic of mixed- and non-forest land-use, including bamboo, sugarcane, pasture, small family farms and rural communities.

Birds

This IBA is significant for 25 (of the 36) Jamaica EBA restricted-range birds, including the Vulnerable Ring-tailed Pigeon *Patagioenas caribaea*. At least 11 Neotropical migratory birds occur in the IBA, and seasonal altitudinal migration is pronounced among some of the resident species such as the Rufous-throated Solitaire *Myadestes genibarbis*.

Other biodiversity

Dolphin Head supports the highest density of endemic plant species in Jamaica. At least four animals (a freshwater crab, two fireflies and a snail) are endemic to the IBA. Globally threatened species include: earspot eleuth *Eleutherodactylus fuscus* (Critically Endangered), pallid eleuth *E. grabhami* (Endangered), Jamaican masked eleuth *E. luteolus* (Endangered), Jamaican bromeliad eleuth *E. jamaicensis* (Endangered), green bromeliad frog *Osteopilus wilderi* (Endangered) and the tree-roosting Jamaican fig-eating bat *Ariteus flavescens* (Vulnerable).

Conservation

This small, isolated IBA is a mix of private and state lands. A core forest area comprises three Forestry Department-managed reserves—Raglan Mountain (101 ha), Bath Mountain (121 ha) and Burnt Savanna (c.80 ha). Dolphin Head has been proposed for national park status. Efforts towards conservation and public education within the area are being undertaken by the local NGO Dolphin Head Trust. The forests have been depleted for over 300 years by the harvesting of fuelwood associated with sugarcane and slaked lime production. Illegal timber harvesting and clearance of hilltops for marijuana *Cannabis sativa* cultivation occurs within both the forest reserves and on private lands. Hilltop forest clearance has a profound negative impact on the avifauna. The alien invasive (and predatory) mongoose *Herpestes auropunctatus* and cane toad *Bufo marinus* occur throughout this IBA.

JM003 Bluefields

Unprotected

COORDINATES 18°10′N 78°02′W
ADMIN REGION Westmoreland
AREA 4,660 ha
ALTITUDE 0–801 m
HABITAT Forest, coastline, mangrove, shrubland

THREATENED BIRDS 2
RESTRICTED-RANGE BIRDS 25
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

Bluefields IBA is a spectacularly scenic, rural area on the south-west coast of Jamaica. It comprises the large natural harbour of Bluefields Bay (visited by pirate and Governor of Jamaica Henry Morgan in 1670, and Captain Bligh in 1793) and Bluefields beach (a popular bathing area) behind which is a small wetland through which streams and the Bluefields River percolate. A limestone mountain-range rises steeply from the narrow coastal plain. There are remnants of pimento (Jamaican allspice) plantations throughout the hilly areas. Along the coast are narrow stands of mangrove. Wet forest is confined to the deep, humid gullies on the mountainsides, while the rest of the area supports dry forest and shrubland.

Birds

This IBA is significant for supporting 25 (of the 36) Jamaica EBA restricted-range birds (particularly in the forested gullies in the mountains), with densities of Jamaican Tody *Todus todus*, Arrowhead Warbler *Dendroica pharetra* and Jamaican Becard *Pachyramphus niger* being particularly high. The Vulnerable Yellow-billed Amazon *Amazona collaria* has been recorded, but the population is unknown. Brown Pelicans *Pelecanus occidentalis* roost in the area at night but appear to breed on small mangrove islands to the west of the IBA.

Other biodiversity

A small population of the Vulnerable Jamaican kite swallowtail *Protographium marcellinus* survives on the coastal plain and a number of other less common endemic butterflies occur, including Jamaican admiral *Adelpha abyla*, Shoumatoff's hairstreak *Nesiostrymon shoumatoffi*, Thersites swallowtail *Papilio thersites*, Hewiston's silver-spotted skipper *Epargyreus antaeus* and Butler's skipper *Astraptes jaira*. The Vulnerable Jamaican boa *Epicrates subflavus* is thought to be in the limestone areas.

Conservation

Bluefields IBA is an unprotected mix of private and state-owned lands. The local farming and fishing communities have been sensitised of the need for conservation through the Bluefields Peoples' Community Association, and fishermen have started to impose controls on illegal and poor fishing practices. On land, the main threat is illegal timber felling, slash-and-burn agriculture and uncontrolled housing development (mostly confined to the coastal plain and the main road that leads from Cave along the ridge of the mountains). The naturalist Philip Henry Gosse spent from 1844–1846 at Bluefields Great House studying the flora and fauna of the area, resulting in his two books "A Naturalist's Sojourn in Jamaica" and "The Birds of Jamaica".

JM004 Catapuda

Forest Reserve/Unprotected

COORDINATES 18°06′N 77°08′W
ADMIN REGION St Elizabeth, St James
AREA 15,735 ha
ALTITUDE 150–620 m
HABITAT Forest

THREATENED BIRDS 7
RESTRICTED-RANGE BIRDS 31
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

Catadupa IBA is located in west-central Jamaica and comprises highly karstified (white limestone formation) mountains supporting good secondary forest, albeit with disturbed areas of cultivation and bamboo. The IBA includes (on its south side) the Lacovia Mountains. It forms part of the Cockpit Country Conservation Area and is just to the west of Cockpit Country IBA (JM005), from which it is separated by rural communities, agriculture, and Class B road networks. Several rivers (including the Great River) flow through the area giving rise to small pockets of alluvium. The mountain range is steep in places and supports disturbed broadleaf forest. Agriculture and small rural settlements occur in the less steep areas and alongside the rivers.

Birds

This IBA is significant for populations of 31 (of the 36) Jamaica EBA restricted-range birds, and seven globally threatened (Vulnerable and Near Threatened) species. It appears to be particularly notable for the Vulnerable Ring-tailed Pigeon *Patagioenas caribaea* and Yellow-billed Amazon *Amazona collaria*. Due to the relatively undisturbed nature of the forest in some sections of the IBA, the site is probably important for many wintering Neotropical migratory birds.

Other biodiversity

A small population of the Endangered Jamaican giant swallowtail *Pterourus homerus* occurs in Elderslie (in the south-east part of the IBA): it is unknown whether gene flow is maintained between this population and the larger population found in Cockpit Country IBA. Snail diversity is high, and a recently recognised species, *Pleurodonte catadupae*, is endemic to the IBA. Ipswich is the type locality for the endemic plant *Gesnaria jamaicensis*.

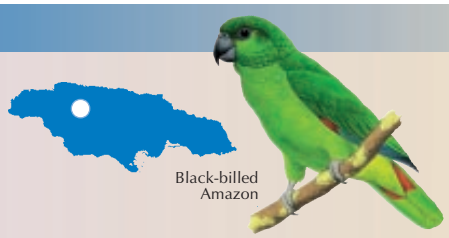
Conservation

Catadupa IBA is a mix of private and state ownership. Included within it are a number of forest reserves, namely: Fyffe and Rankine, Mocho (a number of blocks) and Garlands (two blocks), as well as the Croydon Plantation—a private property—which has been accorded reserve status by the Forestry Department. The area is relatively poorly known biologically and targeted field-work is a priority. Threats include illegal cutting of trees and saplings, clearance for agriculture, and hunting. Importantly, Catadupa embraces three watersheds (Great River, Martha Brae and Black River) and provides connectivity with the main Cockpit Country IBA to the east. The railway station at the town of Catadupa has been declared a National Heritage Site.

JM005 Cockpit Country

Forest Reserve/Unprotected

COORDINATES 18°16′N 77°40′W
ADMIN REGION St Elizabeth, St James, Trelawny
AREA 63,935 ha
ALTITUDE 100–700 m
HABITAT Forest



THREATENED BIRDS 9
RESTRICTED-RANGE BIRDS 33
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

Cockpit Country IBA is in west-central Jamaica within the Cockpit Country Conservation Area which includes Litchfield Mountain–Matheson's Run IBA (JM006) to the east, and Catadupa IBA (JM004) to the west, each separated by agricultural communities and roads. Cockpit Country comprises "cockpit karst limestone" and supports the largest contiguous block of wet limestone forest on Jamaica. Surface water is restricted to low-lying areas because of the limestone geology. However, the IBA includes the upper reaches of five major watersheds. The origins of Jamaica's two longest rivers—the Black River (which runs into Black River Great Morass IBA, JM007) and Great River—are in Cockpit Country.

Birds

This IBA supports populations of 33 (of the 36) Jamaica EBA restricted-range birds. It is the stronghold for Black-billed Amazon *Amazona agilis* (Vulnerable), with 90–95% of the global population in the IBA, and is particularly important for Ring-tailed Pigeon *Patagioenas caribaea* (Vulnerable). The Endangered Jamaican Blackbird *Nesopsar nigerrimus* occurs in isolated pockets of humid forest. Golden Swallow *Tachycineta euchrysea* (Vulnerable) was last reported in this IBA in 1982. This IBA supports populations of Jamaica's 67 resident breeding landbirds and 34 species of wintering Neotropical migrants.

Other biodiversity

Over 66 plant species are endemic to Cockpit Country. Globally threatened species include: Jamaican giant swallowtail *Pterourus homerus* (Endangered), Jamaican kite swallowtail *Protographium marcellinus* (Vulnerable); Critically Endangered Cockpit eleuth *Eleutherodactylus griphus* and leaf mimic eleuth *E. sisyphodemus*, Vulnerable Jamaican boa *Epicrates subflavus* and Jamaican slider *Trachemys terrapen*, and Jamaican flower bat *Phyllonycteris aphylla* (Endangered).

Conservation

Cockpit Country is a mix of private and state-owned lands. Seven forest reserves encompass c.29,000 ha within the IBA, the largest being Cockpit Country Forest Reserve (22,327 ha). Under guidance from the Forestry Department, three Local Forest Management Committees have been established to facilitate co-management for biodiversity conservation and watershed management. Cockpit Country is threatened by bauxite mining (prospecting licenses—now suspended—cover 75% of the area) and limestone quarrying. Conservationists are lobbying the government to declare the IBA "closed to mining". Secondary threats include clearing for agriculture and the encroachment of non-native plants following agricultural abandonment. Illegal hunting occurs along access roads and trails.

JM006 Litchfield Mountain–Matheson's Run

Forest Reserve/Unprotected

COORDINATES 18°18′N 77°27′W
ADMIN REGION St Ann, Trelawny
AREA 15,745 ha
ALTITUDE 400–930 m
HABITAT Forest

Yellow-billed Amazon

THREATENED BIRDS 8
RESTRICTED-RANGE BIRDS 30
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

Litchfield Mountain–Matheson's Run IBA is in west-central Jamaica. It forms the eastern flank of the Cockpit Country Conservation Area, with Cockpit Country IBA (JM005) situated to the west separated by rural communities, agriculture, and roads. The IBA is the source of two major rivers—the Lowe River and Cave River. It is an area of limestone karst supporting moist forest and a rich community of terrestrial and arboreal epiphytes. The forest is moderately disturbed, resulting from a long history of selective logging, plantations and continued extraction of saplings for yam support stakes. Communities (involved in large scale yam cultivation) have established around the periphery of the well-developed cockpit karst.

Birds

This IBA supports populations of 30 (of the 36) Jamaica EBA restricted-range birds. Of particular importance is the presence of the Endangered Jamaican Blackbird *Nesopsar nigerrimus*. Large numbers (c.50–100) of the Vulnerable Ring-tailed Pigeon *Patagioenas caribaea* congregate in yam fields adjacent to the closed-canopy forest in order to feed on the immature yam leaves.

Other biodiversity

Up to six globally threatened *Eleutherodactylus* and *Osteopilus* frogs and the Endangered Jamaican giant swallowtail *Pterourus homerus* are presumed to occur in the IBA although surveys have not been conducted to confirm this. The south-eastern corner of this IBA supports some of the highest densities (>100 species/ ha) of endemic snails anywhere in the world. It is likely that the limestone cliffs support site-endemic plant species.

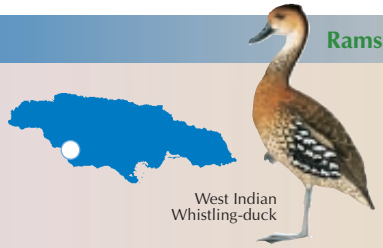
Conservation

This IBA is a mix of private and state ownership. At the core of the IBA are two forest reserves—Litchfield–Matteson's Run (4,485 ha) and Hyde Hall Mountain (662 ha), both managed by the Forestry Department—and Brislington Crown Land (232 ha). Partly because of its proximity to the larger, well-known Cockpit Country IBA, the area has not been well surveyed for biodiversity. Bauxite mining is encroaching from the east and is the single most important threat. A prospecting license covering the whole IBA was suspended in 2007 following strong public and community opposition. Other threats include alien invasive plants which prevent natural forest regeneration; the large-scale harvesting of saplings for yam sticks; and invasion of Shiny Cowbirds *Molothrus bonariensis* (a brood parasite of *Nesopsar nigerrimus*) along corridor gaps.

JM007 Black River Great Morass

Ramsar Site/Game Reserve/Unprotected

COORDINATES 18°04′N 77°48′W
ADMIN REGION St Elizabeth
AREA 17,770 ha
ALTITUDE 0–5 m
HABITAT Forest, inland wetland, coast, mangrove



West Indian Whistling-duck

THREATENED BIRDS 3
RESTRICTED-RANGE BIRDS 15
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS ✔

Site description

Black River Great Morass IBA is the island's largest freshwater wetland and lies on the coastal flood plain of the Black River in south-west Jamaica. It consists of low marshland with limestone islands, and supports human habitation, grazing of livestock and cultivation. The lower morass comprises the 5,700-ha Ramsar site and is bounded on the west and north by roads linking the towns of Black River (St Elizabeth's capital), Middle Quarters and Lacovia, on the east by Santa Cruz Mountains, and on the south by the coast. The integrally-linked upper morass wetland of streams, ponds and dykes (from rice cultivation abandoned in the 1970s) is bordered by roads linking Lacovia, Santa Cruz, Braes River, Elim and Newton.

Birds

This IBA is significant as a stronghold for the Vulnerable West Indian Whistling-duck *Dendrocygna arborea* in Jamaica, and for important numbers of the Near Threatened Caribbean Coot *Fulica caribaea* and White-crowned Pigeon *Patagioenas leucocephala*. It also supports populations of 15 (of the 36) Jamaica EBA restricted-range birds. Large numbers of Pied-billed Grebe *Podilymbus podiceps* have been recorded, and regionally important populations of gulls and terns are found on the coast. There are records from this IBA of the rarely-seen Spotted Rail *Pardirallus maculates*, and the Near Threatened Black Rail *Laterallus jamaicensis* and Piping Plover *Charadrius melodus*.

Other biodiversity

The morass supports important populations of the Endangered frog *Eleutherodactylus luteolus*, the Vulnerable American crocodile *Crocodylus acutus*, the endemic ticki ticki fish *Gambusia melapleura* and the endemic freshwater turtles *Pseudemys terrapin* and *Chrysemys terrapin*. Of 92 species of flowering plants in the morass, 8% are endemic to Jamaica.

Conservation

The Great Morass is a mix of private and state ownership. The area is a game reserve, with the lower morass designated a Ramsar site (for which a management plan was prepared but never implemented). The IBA and its species face many threats including: illegal hunting; invasive mammalian predators; introduced tilapia, catfish and lobsters; large scale illegal cultivation of *Cannabis sativa* (with associated use of pesticides); industrial and agricultural pollution; invasive plants, e.g. *Alpinia allughas*; removal of trees for timber and fuel; fires in the reed-beds; over-harvesting of palm fronds and reeds; and infill for development at Parottee. Guided boat tours in the southern section of the wetland have exceeded carrying capacity.

JM008 Mount Diablo

Forest Reserve/Unprotected

COORDINATES 18°15′N 77°10′W
ADMIN REGION St Ann, St Catherine
AREA 7,150 ha
ALTITUDE 200–900 m
HABITAT Forest, shrubland

THREATENED BIRDS 6
RESTRICTED-RANGE BIRDS 31
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

Mount Diablo IBA is located in the centre of the island, near the community of Moneague and at the eastern end of a central limestone ridge that traverses east-central to western Jamaica. The doline and cockpit karst landscape once supported a "spinal forest" that blanketed over 60% of the island. The original native forest of Mount Diablo was dominated by the Jamaican endemic *Podocarpus purdieannus* (a large gymnospermous tree). During the early twentieth century, the area was logged intensively and large areas converted to blue mahoe *Hibiscus elatus* plantations. The *Podocarpus* is now very rare.

Birds

This IBA supports populations of 31 (of the 36) Jamaica EBA restricted-range birds. Importantly, the Endangered Jamaican Blackbird *Nesopsar nigerrimus* still occurs in the area (in spite of the decline in epiphytes associated with the loss of large trees), as do the Vulnerable Black-billed Amazon *Amazona agilis* (at low densities) and Yellow-billed Amazon *A. collaria*.

Other biodiversity

Four vascular plant species are endemic to Mount Diablo: *Dipazium montediabloense*, *Polystichum ambiguum*, *Lepanthes tubuliflora* and *Psychotria coeloneura*, none of which are on the 2004 IUCN Red List. However, based on the extreme habitat destruction occurring in this IBA, the population status for each should be evaluated immediately. The Jamaican giant swallowtail *Pterourus homerus* (Endangered) has been extirpated from Mount Diablo within the past 80 years.

Conservation

Approximately 2,250 ha of the 7,150-ha Mount Diablo IBA is a state-owned forest reserve. The rest is held by private companies (e.g. bauxite companies) and individuals (<1,000 ha). Conversion of the forest for agriculture, forestry plantations, rural settlement and, within the past 50 years, open-pit bauxite mining, has left the forest severely fragmented and secondary in nature. The populations of forest-dependent species are presumed declining because of mining-associated habitat loss, but the forest reserves do serve as vital refugia. The severity and irreversibility of the bauxite mining requires immediate conservation attention to protect the remnant forest areas. Pits where mining was completed >10–15 years ago are typically vegetated with herbaceous plants or non-native ferns, but no regeneration of native woody tree species. Other threats include small-scale farming, cattle grazing, illegal timber extraction and illegal poaching of *Amazona collaria*, all of which are facilitated by the extensive network of mining roads.

JM009 Pedro Cays and Bank

Wildlife Sanctuary/Bird Sanctuary

COORDINATES 17°08′N 78°33′W
ADMIN REGION Kingston
AREA 23,345 ha
ALTITUDE 0–5 m
HABITAT Coral islands, reef, coast, shrubland

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

Site description

Pedro Cays and Bank IBA lies c.97 km south-west of Portland Point on the south coast of Jamaica (and 161 km from Kingston). It comprises a group of small isolated coralline islands emerging from the south-eastern edge of the Pedro Banks. There are four cays—North-East Cay, Middle Cay, South-West Cay and South Cay (now just an over-washed sandy beach)—and associated shallow reefs, rocks and shoals. South-West Cay is the largest. It is flat with a coast of calcareous sand, gravel or hurricane boulder beach. The vegetation comprises low bushes, shrubs and grass. Pedro Bank is Jamaica's main commercial and artisanal fishing ground.

Birds

This IBA is significant for globally and regionally important populations of seabirds. At least 25,000 birds breed on the cays, with the colonies of Magnificent Frigatebird *Fregata magnificens*, Masked Booby *Sula dactylatra,* Brown Booby *S. leucogaster*, Brown Noddy *Anous stolidus* and Bridled Tern *Sterna anaethetus* being particularly notable. Roseate Tern *S. dougallii* also nests on the cays, but not in significant numbers. The cays are used by Neotropical migrants as a stop-over site.

Other biodiversity

This IBA represents one of Jamaica's last remaining healthy marine ecosystems, supporting coral reefs, deep reefs, sea grass beds, and coral cays. Both the Critically Endangered hawksbill *Eretmochelys imbricata* and the Endangered loggerhead *Caretta caretta* turtles nest on the cays in this IBA. The area is the primary harvesting area for the largest export of queen conch *Strombus gigas* from the Caribbean region.

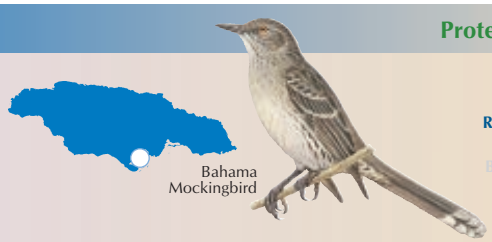
Conservation

Pedro Cays are state owned. The IBA is designated the Great Pedro Banks Wildlife Sanctuary, with South-West Cay a designated bird sanctuary. In 2004, the Pedro Bank was declared an underwater cultural heritage sit. The Morant and Pedro Cays Act makes provision for licensing of all fishing and the taking of turtles, turtle eggs, birds and bird eggs for the cays. However, intensive fishing and high human densities are endangering the survival of the bank as a viable and functioning ecosystem. Fishermen occupy North-East and Middle Cays, and the cays are regularly visited by fishermen from neighbouring countries. The Jamaica Defence Force operates a security post on Middle Cay, and The Nature Conservancy's Pedro Bank Management Project aims to manage some of the negative impacts. Mice *Mus musculus* are present and could be impacting the seabird populations.

JM010 Portland Ridge and Bight

Protected Area/National Park

COORDINATES 17°44′N 77°10′W
ADMIN REGION Clarendon
AREA 4,200 ha
ALTITUDE 0–150 m
HABITAT Forest, shrubland, coast, mangrove



THREATENED BIRDS 3
RESTRICTED-RANGE BIRDS 17
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS ✔

Site description

Portland Ridge and Bight IBA is mid-way along the south coast of Jamaica and forms the most southerly point on the island. Along with Hellshire Hills IBA (JM011) and Brazilletto Mountain to the east, the area is contained within the Portland Bight Protected Area. Portland Ridge is an area of relatively intact (but secondary) dry limestone forest on a peninsula that projects into the Caribbean Sea and protects the waters of Portland Bight. Portland Bight is a shallow marine and wetland area with well developed mangrove woodlands, salt flats, sandy beaches and offshore cays.

Birds

This IBA supports populations of 17 (of the 36) Jamaica EBA restricted-range birds, including a sizeable population the endemic subspecies of Bahama Mockingbird *Mimus gundlachi hillii*. Significant populations of the Vulnerable West Indian Whistling-duck *Dendrocygna arborea* and Near Threatened Plain Pigeon *Patagioenas inornata* and White-crowned Pigeon *P. leucocephala* occur although precise numbers are unknown. Regionally important numbers of Magnificent Frigatebird *Fregata magnificens* and Brown Noddy *Anous stolidus* nest on the Portland Bight cays. Shorebirds are reported as being "numerous" in this IBA.

Other biodiversity

The Critically Endangered frog *Eleutherodactylus cavernicola* is known only from two caves in Portland Ridge. The Vulnerable Jamaican boa *Epicrates subflavus* and Jamaican fruit-eating bat *Ariteus flavescens* occur, as do two thunder snakes *Trophidophis stullae* and *T. jamaicencis*—both Portland Ridge endemics. The "data deficient" blue-tailed galliwasp *Celestus duquesneyi* may still survive.

Conservation

This IBA is a mix of state and private land ownership. It is part of the 87,615-ha Portland Bight Protected Area. Conservation management is minimal, with hunting clubs providing some unofficial conservation. However, they are also responsible for replanting dry forest with "bird feeding trees", creating a semi-monoculture in some areas. Pigeons are hunted in August and September. Unplanned urban sprawl is occurring within the protected area (involving 30 towns or settlements) and natural resources (such as timber/ charcoal, and marine products) are significantly exploited by the residents, including over 4,000 fishermen. Port Esquivel and Rocky Point port are within Portland Bight and handle alumina, oil and other bulk cargos. Recent fires and hurricanes have significantly impacted the dry forest.

JM011 Hellshire Hills

Protected Area/National Park

COORDINATES 17°53′N 76°57′W
ADMIN REGION St Catherine
AREA 9,400 ha
ALTITUDE 0–200 m
HABITAT Dry forest, shrubland, mangrove

THREATENED BIRDS 3
RESTRICTED-RANGE BIRDS 17
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

Hellshire Hills IBA is on the south coast of eastern Jamaica. The hills project into the Caribbean Sea, forming the north-east side of the Portland Bight bay, and supporting dry limestone forest and scrub. Portland Ridge and Bight IBA (JM010) is south-west of Hellshire, and together with Brazilletto Mountain these areas form the Portland Bight Protected Area (Jamaica's largest protected area). The IBA includes Great Goat Island, an uninhabited 1-km^2 limestone cay c.1 km offshore from the Hellshire Hills. Little Goat Island (which is flat, sandy and heavily impacted by man and animals) is "joined" to it by an impenetrable morass of mangrove swamp.

Birds

This IBA supports populations of 17 (of the 36) Jamaica EBA restricted-range birds, including the endemic subspecies of Bahama Mockingbird *Mimus gundlachi hillii*. The Near Threatened Plain Pigeon *Patagioenas inornata* occurs although numbers are unknown. The Critically Endangered Jamaican Pauraque *Siphonorhis americanus*, last seen in 1860, is rumoured to persist in the Hellshire Hills. The mangroves provide nesting, roosting and feeding areas for sea and shorebirds.

Other biodiversity

The Vulnerable Jamaican hutia *Geocapromys brownii* and Jamaican fig-eating bat *Ariteus flavescens* occur. Hellshire is exceptionally important for reptiles: the Critically Endangered Jamaican iguana *Cyclura collei* was rediscovered in Hellshire in 1990, as was the "data deficient" blue-tailed galliwasp *Celestus duquesneyi* in 1997. The Vulnerable Jamaican boa *Epicrates subflavus* occurs, and a potentially new species of *Tropidophis* snake was recently found.

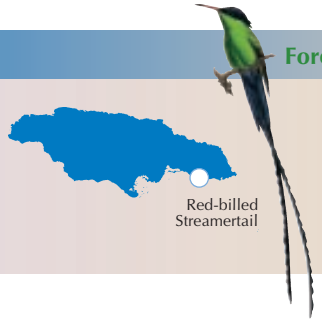
Conservation

This IBA is part of the much larger Portland Bight Protected Area. Management of the protected area was first delegated to a local NGO, the Caribbean Coastal Areas Management Foundation, and then (in 2006) to the Urban Development Corporation (UDC). UDC has undertaken significant planning and continued implementation of work on housing developments/ solutions in Caymanas and Hellshire, seemingly in conflict with the protected area designation. Conservation management is in its infancy in the area with almost no enforcement of environmental laws. The area is impacted by pig-hunters and people extracting logs, timber and poles. The dry forests are now mostly secondary in nature. The Iguana Recovery Project is working to conserve *Cyclura collei*, and inventory the area's herpetofauna.

JM012 Yallahs

Forest Reserve/Protected Area/Unprotected

COORDINATES 17°01′N 76°56′W
ADMIN REGION St Thomas
AREA 8,080 ha
ALTITUDE 0–730 m
HABITAT Inland wetland, shrubland, forest, mangrove



THREATENED BIRDS 3
RESTRICTED-RANGE BIRDS 27
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS ✔

Site description

Yallahs IBA embraces an area along the south-east coast of Jamaica in the rain-shadow of the Blue Mountains IBA (JM013). It forms part of the watershed basins for the Yallahs and Morant rivers, both of which have wide, rocky channels in their lower reaches with deep deposits of alluvium. These rivers may become intermittent in dry months, but then have torrential flows after moderate rains. The IBA includes two natural salt ponds and surrounding mangroves. The larger pond (up to 1.5 m deep) covers 80 ha and is 10 times saltier than the ocean. The smaller pond is less saline. Vegetation is characterised by (degraded) xeric scrub and small patches of moister forest near to rivers or in the higher elevations on Yallahs Hill.

Birds

This IBA supports populations of 27 (of the 36) Jamaica EBA restricted-range birds, including the Vulnerable Ring-tailed Pigeon *Patagioenas caribaea* and Near Threatened Crested Quail-dove *Geotrygon versicolor*. The salt ponds are home to a regionally important breeding colony of Least Tern *Sterna antillarum*. The Near Threatened Plain Pigeon *Patagioenas inornata* and Piping Plover *Charadrius melodus* have been seen in the IBA, but not in significant numbers. The salt ponds support a wide diversity of migratory shorebirds and waterbirds.

Other biodiversity

Globally threatened species found within this IBA include the Vulnerable Jamaican kite swallowtail *Protographium marcellinus*, Jamaican fig-eating bat *Ariteus flavescens* and Jamaican boa *Epicrates subflavus*.

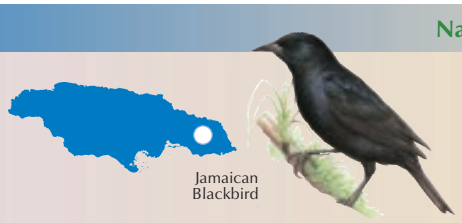
Conservation

Yallahs IBA is state owned, and includes the c.60-ha Lloyds Forest Reserve (thus also a Game Reserve). The ponds are designated as a protected area in the parish of St Thomas. However, illegal hunting occurs in and around the ponds regularly, and also along access roads and trails of the forest reserve. The major threat to the Yallahs is residential development and limestone and sand/gravel quarrying. There are also deposits of high-grade gypsum and marble in the area. Other threats include clearance for agriculture and the encroachment of non-native plant species. *Artemia* (brine shrimp) farming is being considered for the ponds, and water extraction (for Kingston) reduces the Yallahs and Negro rivers to intermittent streams in the dry season. Some conservation (e.g. mangrove and tree planting) and public awareness efforts are currently underway through NGOs (e.g. the Yallahs Development Area Committee) which may be the genesis of a Site Support Group for the IBA.

JM013 Blue Mountains

National Park/Forest Reserve

COORDINATES 18°05′N 76°33′W
ADMIN REGION Portland, St Andrew, St Mary, St Thomas
AREA 40,065 ha
ALTITUDE 200–2,256 m
HABITAT Forest



THREATENED BIRDS 7
RESTRICTED-RANGE BIRDS 29
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

Blue Mountains IBA is a 16-km long mountain ridge of sharp peaks across the eastern part of Jamaica. Much of the "Grand Ridge" is over 1,800 m, the highest section being Blue Mountain Peak, comprising Middle Peak (2,256 m—Jamaica's highest point) and East Peak (2,246 m). Lesser peaks and ridges radiate from these. To the east of the Blue Mountains, separated by the Rio Grande, is the John Crow Mountains IBA (JM014), and to the west are the lower Port Royal Mountains. Tall, wet forest persists on the north slope (below 1,000 m). The rest of the IBA comprises upper montane forest which, however, has been much altered and is now used for forestry, coffee production or subsistence farming. These forests protect the watershed for Kingston.

Birds

This IBA supports significant populations of 29 (of the 36) Jamaica EBA restricted-range birds. It is the stronghold for the Endangered Jamaican Blackbird *Nesopsar nigerrimus*, and is important for the Vulnerable Ring-tailed Pigeon *Patagioenas caribaea* and Yellow-billed Amazon *Amazona collaria*. The Vulnerable Bicknell's Thrush *Catharus bicknelli* occurs in small numbers and Golden Swallow *Tachycineta euchrysea* was last recorded in Jamaica in this IBA in 1989.

Other biodiversity

Approximately 20% of all flowering plants are endemic to the IBA and 10 species are globally threatened. Five globally threatened frogs occur: *Eleutherodactylus alticola* and *E. orcutti* (both Critically Endangered), *E. andrewsi* and *E. nubicola* (both Endangered) and *E. glaucoreius* (Near Threatened). The Blue Mountain anole *Anolis reconditus* is endemic to the IBA, and the Vulnerable Jamaican fig-eating bat *Ariteus flavescens* occurs.

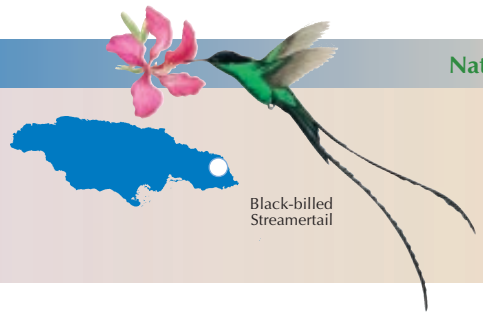
Conservation

This area is under private and state ownership, and most is within the Blue Mountains Forest Reserve, itself part of the larger Blue Mountain/ John Crow Mountain National Park. The national park was the first protected area to be managed by a local NGO (Jamaica Conservation and Development Trust). Funding for management (e.g. ongoing reforestation efforts and bird monitoring) has been and continues to be a limiting factor. Commercial forestry started during the 1970s has been scaled down since Hurricane Gilbert destroyed many of the plantations in 1988. Clearance for agriculture permitted the expansion of invasive plants which are now the focus of control projects. The Forestry Department manage a dynamic conservation program on the north side of the IBA in the Buff Bay–Pencar area.

JM014 John Crow Mountains

National Park/Forest Reserve

COORDINATES 18°04′N 76°22′W
ADMIN REGION Portland, St Thomas
AREA 14,235 ha
ALTITUDE 150–1,036 m
HABITAT Forest, shrubland



THREATENED BIRDS 8
RESTRICTED-RANGE BIRDS 29
BIOME-RESTRICTED BIRDS
CONGREGATORY BIRDS

Site description

John Crow Mountains IBA forms the easternmost end of Jamaica. This mountain range comprises white limestone overlain by marine sandstones and shale resulting in an unusual landscape of sinkholes and outcrops. It rises gently from the east to a tilted plateau, and then drops abruptly along a steep escarpment to the west. The IBA is separated from the Blue Mountains IBA (JM013) to the west by the Rio Grande. The ranges join at Corn Puss Gap, the boundary of the parishes of Portland and St Thomas, for which this IBA is a major watershed. Below 900 m the vegetation is wet limestone forest (with tree-ferns and bromeliads), while the plateau supports montane limestone thicket. Cultivation is for cash crops including coffee, sugar cane and bananas.

Birds

This IBA supports populations of 29 (of the 36) Jamaica EBA restricted-range birds, including the Black-billed Streamertail *Trochilus scitulus* that occurs only in this IBA. Of the globally threatened species that occur, the populations of Jamaican Blackbird *Nesopsar nigerrimus* (Endangered), Ring-tailed Pigeon *Patagioenas caribaea* (Vulnerable) and Crested Quail-dove *Geotrygon versicolor* (Near Threatened) are particularly significant. In the 1960s it was said that the Critically Endangered Jamaica Petrel *Pterodroma caribeae* "still calls at night" in this IBA, and it may yet persist.

Other biodiversity

Globally threatened amphibians include: *Eleutherodactylus orcutti* (Critically Endangered), *E. andrewsi* (Endangered), *E. jamaicensis* and *E. pentasyringus* (both Vulnerable) and green bromeliad frog *Osteopilus wilderi* (Endangered). The Jamaican giant swallowtail *Pterourus homerus* (Endangered) occurs albeit in numbers reduced by collecting and habitat disturbance. About 20% of the IBA's flowering plants are endemic to the area, 10 of which are Vulnerable.

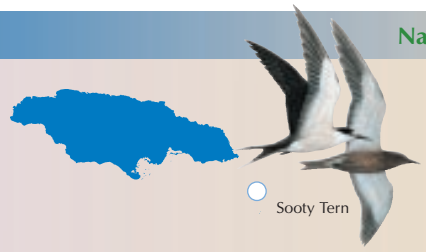
Conservation

Most of the area is a forest reserve, and part of the Blue Mountain/ John Crow Mountains National Park. The national park was the first protected area to be managed by a local NGO (Jamaica Conservation and Development Trust). Funding for management has been and continues to be a limiting factor. Threats include forest clearance for subsistence and commercial agriculture, invasion of exotic plants, and collecting of epiphytes for the local market. After Hurricane Gilbert (1988), white-tailed deer *Odocoileus virginianus* escaped from a collection and spread throughout the north side of the IBA.

JM015 Morant Cays and Bank

Nature Reserve/Scientific Reserve

COORDINATES 17°24′N 75°59′W
ADMIN REGION Kingston
AREA 15,225 ha
ALTITUDE 0–5 m
HABITAT Coast, rocky and sandy islets



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

Site description

Morant Cays and Bank IBA lies 51 km south-south-east of Morant Point—the easternmost point of Jamaica. This offshore island group consists of three small islets grouped closely together (c.1.5–2 km apart) on the summit of an extensive, 7-km long crescent-shaped bank of coral, which rises from the seabed at 1,000 m. The cays are low-lying, sparsely vegetated (shrubs and grasses), and fronted by highly exposed reefs over which the sea constantly breaks. North-East Cay is sometimes divided into three parts as a result of the sea washing over connecting sand spits. It supports a fishermen's camp (with huts and water tank) and a lighthouse at Breezy Point, the easternmost point of the cay and of Jamaica.

Birds

This IBA is significant for breeding seabirds. The Sooty Tern *Sterna fuscata* colony is one of the largest in the Caribbean (up to 90,000 individuals). Numbers of Brown Noddy *Anous stolidus* and Royal Tern *S. maxima* are regionally important. Other breeding seabirds include Bridled Tern *S. anaethetus*, Magnificent Frigatebird *Fregata magnificens*, Laughing Gull *Larus atricilla*, and Brown Pelican *Pelecanus occidentalis*. The cays are also used as a stopover site by Neotropical migratory birds. Small numbers of Audubon's Shearwater's *Puffinus lherminieri* were discovered on South-east Cay in 1998 and their population should be assessed. The Endangered Black-capped Petrel *Pterodroma hasitata* was seen close by the IBA in December 1997—a first record for Jamaica.

Other biodiversity

The cays are important as a nesting site for globally threatened sea turtles, although the species involved are not recorded.

Conservation

The Morant Cays are state owned. Middle Morant Cay is a designated nature reserve and scientific reserve. The Morant and Pedro Cays Act makes provision for licensing of all fishing and the taking of turtles, turtle eggs, birds and bird eggs for the cays, and a fishermen's camp was established by the Department of Agriculture on the south side of North-East Cay. However, there has been a serious decline in recruitment within the seabird populations and Middle Cay has been selected for monitoring of egg removal. A base camp is established there for a month starting at the end of each April.