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Important Bird Areas AMERICAS

COLOMBIA

Ana María Franco, Christian Devenish, María Carolina Barrero & Milton Hernán Romero





Country facts at a glance

Area:	1,141,748 km ²
Population (2005):	42,090,502
Capital:	Bogota
Altitude:	0–5794 m
Number of IBAs¹:	116
Total IBA area:	7,699,302 ha
IBA coverage of land area:	7.1 %
Total number of birds:	1860
Globally threatened birds:	87
Globally threatened birds in IBAs:	73
Country endemics:	70

General introduction

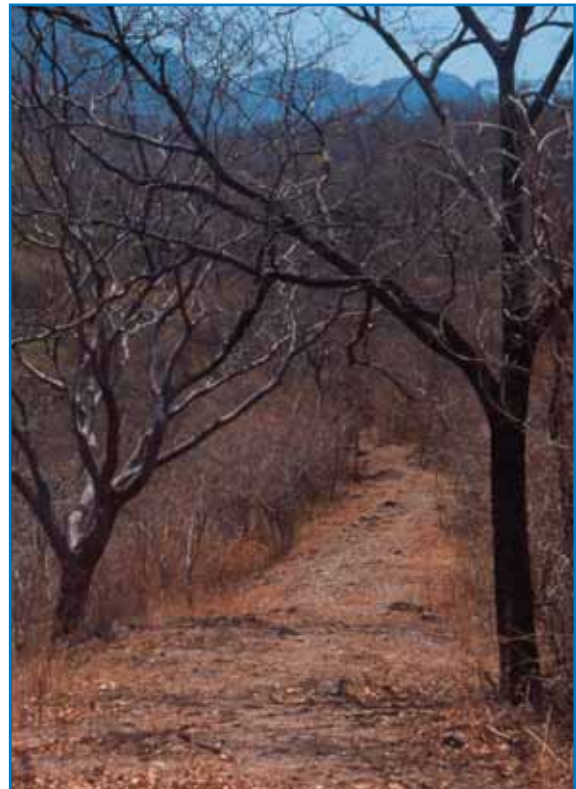
Colombia lies in a privileged position in the northwestern extreme of South America, with marine territory in both the Caribbean and Pacific ocean. Colombia is the seventh largest country in the Americas and has 3000 km of coastline, bordering Panama to the north, Venezuela and Brazil to the east and Peru and Ecuador to the south.

Colombia is a democratic republic with an elected president heading the executive branch of the government. The legislative branch is bicameral with elected representatives and senators. Administratively, the country is divided into 32 provinces or departments, including insular territories, each headed by a state governor. Departments, in turn, are divided into 1118 municipalities, also with elected mayors and councilors. The country has almost 41.5 million inhabitants (DANE 2005), including Afro-Colombians, gypsy communities and more than 50 ethnic groups speaking more than 80 languages. The majority of the indigenous population live in more than 500 reserves throughout the country whereas Afro-Colombians are mainly located in “collective territories” on both coasts.

Colombia’s rich biodiversity is partly due to a unique combination of geographical and topographic features not shared by any other country in the region: geographic location, geological history, climate, and the variety of ecosystems distributed in the six main biogeographic regions: the Andes, the Amazon, the Plains or Llanos, Pacific, Caribbean and outlying islands (Romero *et al.* 2008).

Greatest diversity is found in the Andean region, covering a fourth of Colombia’s continental area. The Andes form three *cordilleras* or mountain ranges at their northern extreme in South America, with two large river valleys running between them, the Cauca and Magdalena Valley. Both rivers empty into the Caribbean on Colombia’s northern coast. The Caribbean region is comparatively flat with remaining vegetation dominated by dry forests, offset by wetlands associated with the Magdalena river, for example the huge Ciénaga Grande de Santa Marta. The exception to the region’s topography is the Sierra Nevada de Santa Marta, the highest coastal mountain range in the world, rising from sea level to 5794 m, and towering above the town of Santa Marta at scarcely 50 km from the coast.

To the east lie the Llanos or plains, a vast area shared with Venezuela, extending out from the Andean foothills to the Orinoco river. Known



Ecoparque Los Besotes (CO010), Colombia’s first IBA, protects dry forest in the Sierra Nevada de Santa Marta, providing habitat to Blue-billed Curassow (*Crax alberti*), Military Macaw (*Ara militaris*) and 21 other trigger species.
Photo: Christian Devenish

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as the “green sea”, and alluded to as such by Humboldt, it is largely made up of tropical savannas, wetlands and riparian vegetation. To the south, the llanos merge into the Amazon forests which stretch across the southeast of the country to Colombia’s port on the Amazon River at Leticia, a border town with Brazil and Peru. This region contains some rocky outcrops, notably the tepuis or inselbergs of Chiribiquete National Park and small savannas within vast areas of tropical forest. To the west of the Andes, large tracts of well preserved tropical rainforests make up the Chocó region, running along the Pacific coast from Panama to Ecuador, including the western flank of Andean foothills. Finally, the insular region contains the archipelago of San Andrés and Providencia in the western Caribbean, some 200 km off the coast of Nicaragua, and the islands of Malpelo and Gorgona in the Pacific.

In general, a bimodal rainfall pattern exists, with peaks of wet weather in May and October and the driest months being January and July (Romero *et al.* 2008).

Estimated coverage of natural ecosystems in Colombia is 68.7%, of which, 37.4% is made up of forests (mainly in the Amazon and

Pacific), 14.5% in grasslands and 10.7% in perpetual snows (Romero *et al.* 2008).

The majority of Colombia’s population (70%) is concentrated in the Andes and consequently the most threatened ecosystems are the Andean forests which have been heavily fragmented and deforested for agriculture and human habitation. In fact, 63% of original ecosystems have been transformed (Chaves *et al.* 2008). Severe ecosystem disturbance and high levels of plant endemism are the two main factors leading to ‘hotspot’ designation, a large-scale system for establishing priority regions for conservation. Hotspots in Colombia include the Tropical Andes, Tumbes-Chocó-Magdalena and Mesoamerica which includes the western Caribbean islands of San Andrés and Providence (Mittermeier *et al.* 1998, Myers 2000). Colombia also has two designated Wilderness Areas (Mittermeier *et al.* 1998), the Amazon and the Llanos. The incredible biodiversity means that Colombia classifies as one of 17 megadiverse countries, holding an estimated 10% of the world’s species of fauna, occupying the top spot for vertebrate diversity (excluding fish), with first place for birds and amphibians (Mittermeier *et al.* 1997).

Conservation and protected area system



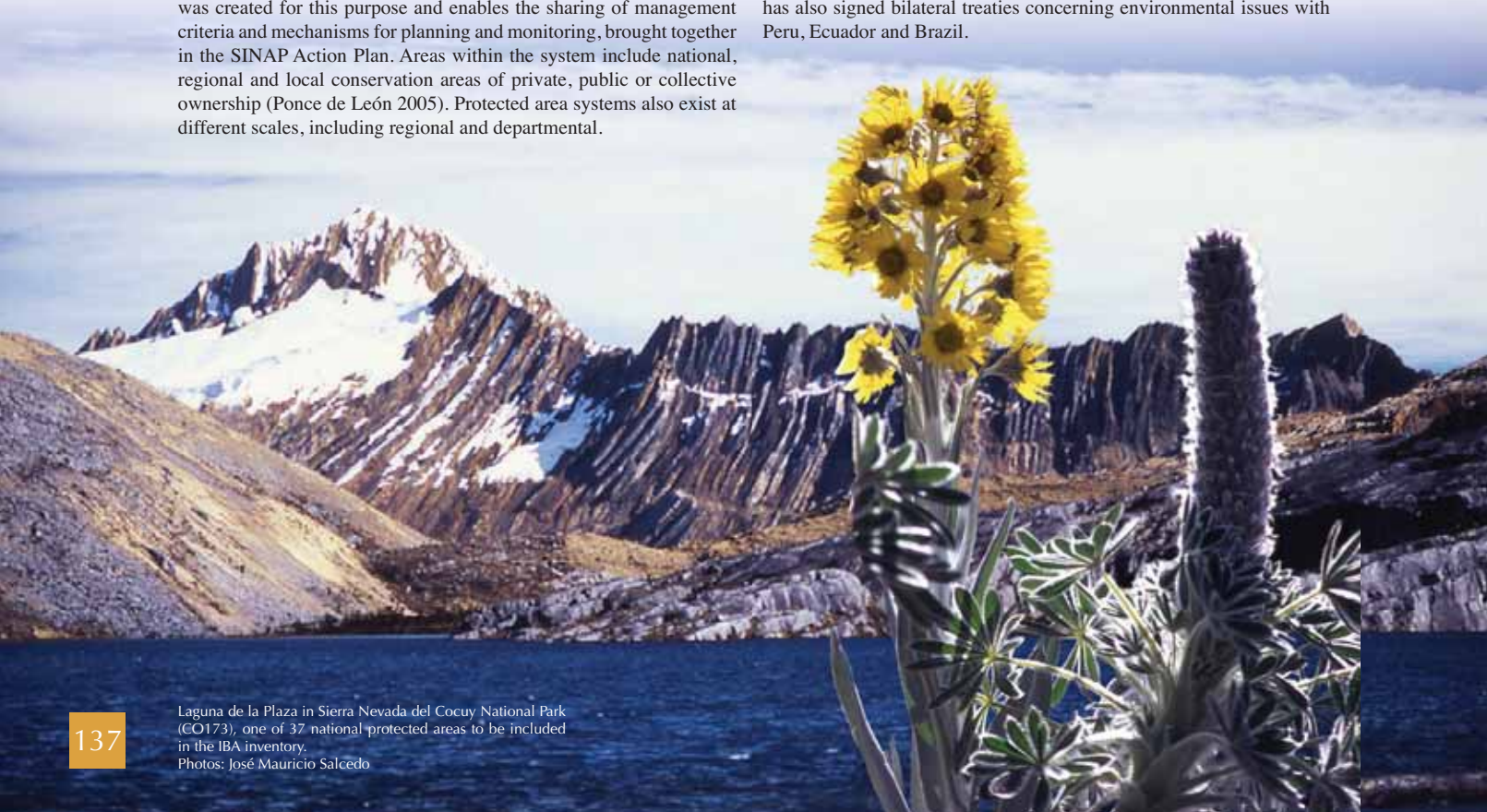
Colombia’s national park system began in 1960 with the declaration of Cueva de los Guácharos National Park in the departments of Huila and Caquetá in the south of the country. The park was set up to safeguard an important Oilbird (*Steatornis caripensis*) colony, among other reasons. To date, 54 areas have been declared under one of four national categories within the protected area system. National parks make up approximately 10% of the country’s area. Major ecosystems within the national park system are forests (85.6%), grasslands, scrub and rocky outcrops (4.6%), wetlands (3.2%) and páramos (1.3%; Romero *et al.* 2008). Complementing this network are several other regional protected area categories, including both public (regional and municipal) and private nature reserves. There are several organized networks of private protected areas, the largest of which is the “Civil Society Nature Reserve Network” with more than 182 reserves in 21 administrative provinces of the country, covering an approximate area of 48,000 ha (RESNATUR 2009).

Declaration of protected areas as a conservation strategy is part of a legal requirement to plan for the management and exploitation of natural resources as well as for the protection of ecologically important areas. The National System of Protected Areas (SINAP, in Spanish) was created for this purpose and enables the sharing of management criteria and mechanisms for planning and monitoring, brought together in the SINAP Action Plan. Areas within the system include national, regional and local conservation areas of private, public or collective ownership (Ponce de León 2005). Protected area systems also exist at different scales, including regional and departmental.

“Colombia has several organized networks of private protected areas.”

At international level, five Biosphere Reserves have been designated, the first of which, declared in 1979, includes Colombia’s first national park (UNESCO 2008). Five Ramsar sites have been designated since 1998, covering 458,525 ha. The last two sites, declared in 2008, cover High Andean wetlands within Chingaza and Los Nevados National Parks (Ramsar 2009). Colombia’s first site within the Western Hemisphere Shorebird Reserve Network (WHRSN) was recently confirmed as Bocana del río Iscuandé on the Pacific coast, in the department of Nariño, in the buffer zone of Sanquianga National Park (CO121).

Colombia is signatory to several international agreements on biodiversity including the Convention on Biological Diversity (ratified in 1994), the World Heritage Convention (ratified in 1997), the Convention on International Trade in Endangered Species (1987), Ramsar Convention on Wetlands (1997), Amazon Cooperation Treaty (1979) and the United Nations Framework Convention on Climate Change (1994). Colombia has also signed bilateral treaties concerning environmental issues with Peru, Ecuador and Brazil.



Laguna de la Plaza in Sierra Nevada del Cocuy National Park (CO173), one of 37 national protected areas to be included in the IBA inventory.
Photos: José Mauricio Salcedo

Many national and international organizations, both public and private, are involved in conservation issues in Colombia. The National Environmental System (SINA, in Spanish), created in 1993, comprises programs, institutions, activities and regulations to act on environmental principles set out in Law 99 and the 1991 Constitution. The SINA is made up of the Ministry of the Environment, Housing and Development, five affiliated research institutes, 36 local environmental authorities, community organizations and NGOs involved in environmental issues, as well as other public and private institutions. The local environmental authorities are responsible for managing natural resources, with functions such as declaring

regional protected areas, controlling illegal traffic of fauna and flora, carrying out biodiversity research and implementing environmental legislation, among others. Municipal mayor's offices also have a role in implementing biodiversity legislation.

The Instituto Alexander von Humboldt, one of the five research institutes, is responsible for promoting, coordinating and implementing research which contributes to knowledge, conservation and sustainable use of biodiversity as a factor for the development and wellbeing of the Colombian population. The institute's focal species research group has coordinated the IBA program in the country since its outset in 2001.



It will be vital to find a balance between agriculture, development and biodiversity conservation to safeguard Colombia's IBAs.
Photo: Francisco Nieto Montaño

Photo: José Mauricio Salcedo

Ornithological importance

Colombia has more bird species than any other country on the planet. Current estimates put the figure at approximately 1860 (Restall *et al.* 2006, Salaman *et al.* 2009), without including introduced taxa. At family level, Colombia also holds several records, including 163 species of hummingbirds spanning altitudes from sea level to over 4000 m in the high Andes. In the last ten years, no less than seven new species to science have been described (Robbins & Stiles 1999, Cuervo *et al.* 2001, Cuervo *et al.* 2005, Krabbe *et al.* 2005, Salaman *et al.* 2003, Cortes *et al.* 2007, Donegan 2007) with at least two more in press.

Eighty-seven of Colombia's bird species are globally threatened (BirdLife International 2007), of which 12 are classified as Critically Endangered, 25 as Endangered and 50 as Vulnerable¹. A further 59 species are Near Threatened, indicating that they almost meet a global threat category. At national level, 112 species are threatened (Rengifo *et al.* 2002). Ten of the Critically Endangered species are endemic to Colombia and eight have global population estimates below 1000 individuals, placing a major responsibility on the country to ensure their protection. Main threats to birds come from deforestation and agriculture, as well as increasing urbanization (Rengifo *et al.* 2002). Threats affecting specific groups include illegal trafficking in the case of parrots and macaws. Although the entry into force of Colombian legislation and CITES has reduced levels of this illegal activity, individuals are still shipped from Colombia's north coast (Rodríguez-Mahecha & Hernández-Camacho 2002). For raptors, deforestation and fragmentation continue to be a major threat, given that many species require large areas to complete their life cycles. Other threats specific to this group include hunting (often associated with agricultural conflicts) and inadequate use of pesticides (Márquez *et al.* 2005).

“Colombia has more bird species than any other country on the planet.”

There are 70 country endemics (including two endemic genera), of which 40 are globally threatened. The most important areas of bird endemism in Colombia are Sierra Nevada de Santa Marta, Eastern Cordillera of the Andes, the Pacific coast and Magdalena Valley (Stiles 1997). Only one species, Chiribiquete Emerald (*Chlorostilbon olivaresi*), is endemic to the region east of the Andes, found exclusively on the isolated range of table-top mountains rising from the flat Amazonian lowlands of the departments of Guaviare and Caquetá (Stiles 1996). The number of endemic species could increase by at least six if taxonomic appraisals to raise endemic Santa Marta subspecies to species rank are accepted or published (Krabbe 2008). In terms of Endemic Bird Areas, four are exclusive to Colombia and a further 10 are shared with neighboring countries (Stattersfield *et al.* 1998), with a total of 228 restricted-range species in the country.

Helmeted Curassow (*Pauxi pauxi*) is restricted to low and medium altitudes of the Andes in northern Colombia and Venezuela where it triggers IBA criteria at 20 sites, including Tamá National Park on both sides of the border.
Photo: IAvH

¹ Changes in red list category from 2007 to 2008 are: Helmeted Curassow (*Pauxi pauxi*) from VU to EN; Gorgeted Wood-quail (*Odontophorus strophium*) from CR to EN; and Black Inca (*Coeligena prunellei*) from EN to VU.



The Near Threatened Toucan Barbet (*Semnornis ramphastinus*) meets three IBA criteria simultaneously (A1, A2, A3) at six IBAs in the south of Colombia. Photo: Francisco Nieto Montaño

Wax palms (*Ceroxylon* sp.) are vital for the survival of the Critically Endangered Yellow-eared Parrot (*Ognorhynchus icterotis*). Photo: Murray Cooper

“Colombia’s position is singularly important on the flyways of several groups of migratory birds.”

Colombia’s position, stretching from Central America to the Amazon, including the Andean chain and the Pacific lowlands, explains much of the variety of biomes present in the country. For the purposes of IBA identification, 278 species have been identified as restricted to six biomes, according to the classification by Stotz *et al.* (1996), with counts ranging from two in Amazonia South (AMS) to 180 in the Northern Andes (NAN). Only Brazil, with seven biomes, has more than Colombia.

A total of 225 species of waterbird are known from Colombia (12% of the country’s avifauna), according to the Wetlands International definition of waterbird (WPE 2006, Arzuza *et al.* 2008). Five of thirty families make up almost 65% of these species (Scolopacidae, Laridae, Rallidae, Anatidae and Ardeidae) and a third of all Colombia’s waterbirds are migratory, especially amongst the Scolopacidae and Laridae. Important wetland habitats for waterbirds in Colombia total 202,525 km², including lakes, marshes, peatbogs, grasslands and flooded forests (Arzuza *et al.* 2008).

A recent diagnostic of migratory species in Colombia identified 275 migratory bird species (Amaya & Naranjo 2009), of which 208 are latitudinal migrants crossing Colombia’s border. Approximately 80% of this total are Neotropical migrants (i.e. breeding in the Nearctic) that either spend the northern winter in the country, or pass through to wintering grounds further south; the remainder are austral migrants. Other types of migrant birds identified include 47 altitudinal migrants and 62 local migrants (Amaya & Naranjo 2009). Colombia’s position is singularly important on the migratory routes of several groups of birds, with three major flyways identified for Neotropical migrants. These are, Trans-Gulf/Central American flyway, used by nearly all migrating raptors (entering the country from Panama), as well as passerines and shorebirds along the Pacific coasts; Trans-Caribbean flyway (including the island of San Andres and important staging sites on Colombia’s north coast), of

importance to diverse groups, including ducks (especially Blue-winged Teal; *Anas discors*) and passerines; and Western North Atlantic flyway (entering Colombia in the northeast), important for seabirds, shorebirds and some species of Parulidae (Rappole 1995, Angarita *et al.* 2004).

Ornithological activity is increasing in the country, with many university students and regional ornithological organizations actively involved in research and bird conservation. Important national initiatives include 20 uninterrupted years of annual ornithological meetings, the creation of the National Ornithological Network (RNOA, in Spanish), an umbrella group of 22 ornithological organizations coordinating annual bird counts, a national database (DatAves - eBird Colombia) and annual ornithological meetings. This network was set up by the Instituto Humboldt as a result of the National Bird Conservation Strategy (Rengifo *et al.* 2000). The strategy aims to improve bird conservation in Colombia by means of research, habitat protection and management. Its main objectives are to develop an information system to study and monitor bird populations; establish an environmental education program; conserve birds through *in situ* and *ex situ* protection and management; and strengthen institutional capacity. The strategy also provided impetus for other projects, such as the first red data book on Colombian birds (Rengifo *et al.* 2002). This publication became the basis for the former Ministry of the Environment’s resolution on threatened species (Resolution 584 of 2002).

As part of a national conservation plan for migratory species, led by the Ministry of the Environment, Housing and Development and WWF Colombia, a strategy for migratory bird conservation (Amaya & Naranjo 2009), bird banding and data management system and a publication of fact files on migratory birds in Colombia are shortly to be published.

“The National Bird Conservation Strategy provided impetus for projects such as the Colombian Red Data Book and the National Ornithological Network.”

Eighteen of Colombia’s IBAs are of global importance to waterbirds. Photos: Murray Cooper



Snowy Egret (*Egretta thula*)

Roseate Spoonbill (*Platalea ajaja*)



IBA overview

The beginnings of the IBA program in Colombia go back to 1996 when the Instituto Humboldt began a project to identify priority areas for species conservation in the country. The IBA program formally began as an institutional initiative in 2001 at the 1st National IBA Workshop in Villa de Leyva, in line with Objective 1.3 of the National Bird Conservation Strategy, to identify “Key areas for bird conservation”.

Between 2003 and 2005, the Instituto Humboldt organized a series of regional workshops to identify IBAs. Participants included local ornithological associations, the national parks authority, regional environmental authorities, academia and individual birdwatchers. The lengthy candidate list, of at least 300 sites, was reduced to a total of 106 IBAs and published in 2005 as Colombia’s first official list of IBAs (Franco & Bravo 2005).

The IBA program is only the beginning of a long-term process which aims to consolidate bird conservation in Colombia. To date, Colombia has rigorously implemented the standards and methods proposed by BirdLife International, tying in with national policies on biodiversity conservation and taking into account both national and

“The IBA program is only the beginning of a long-term process which aims to consolidate bird conservation in Colombia.”

regional interests. National IBA criteria have also been developed, taking into account the national red list (Rengifo *et al.* 2002), near endemic species and species of special genetic interest (BirdLife International & Conservation International 2005). Current results show significant progress in different stages of the process as well as a high level of recognition at national and international level. This reflects the participative methods used to identify IBAs as well as the different forms of publicizing the program, such as the publication of Colombia’s chapter in the Tropical Andes IBA directory (Franco & Bravo 2005), the National IBA online directory (Devenish & Franco 2007) and an IBA web site for young people (Devenish *et al.* 2007).

Table 1. Important Bird Areas in Colombia²

IBA code	IBA name	Adm unit	Area (ha)	A1		A2	A3	A4				
				CR	EN	VU	NT	A4i	A4ii	A4iii	A4iv	
CO001	Reserva de Biósfera Seaflower	San Andrés y Providencia	350,000		1	1	X	X				
CO002	Parque Nacional Natural Macuira	La Guajira	25,000		1	1	X	X				
CO003	Complejo de Humedales Costeros de la Guajira	La Guajira	230,000	1			X	X	X		X	
CO004	Valle de San Salvador	La Guajira	58,000	2		4	1	X	X			
CO005	Cuchilla de San Lorenzo	Magdalena	57,000		3	7	1	X	X			
CO006	Parque Nacional Natural Tayrona	Magdalena	15,000	1		2	1	X	X			
CO007	Valle del Río Frío	Magdalena	25,000	1	2	6	2	X	X			
CO008	Reserva de Biosfera Ramsar Ciénaga Grande, Isla de Salamanca y Sabana Grande	Cesar	400,000	1			2	X	X	X		X
CO009*	Pueblo Bello	Cesar	1,000		1			X				
CO010	Eco-parque Los Besotes	Bolívar	1,000	1		3	2	X	X			
CO011	Santuario de Fauna y Flora Los Colorados	Bolívar, Sucre	1,200	1			1	X	X			
CO012	Región Ecológica Fluvio-Estuarina del Canal del Dique	Córdoba	42,952				1					
CO013	Zona deltáica-estuarina del Río Sinú	Córdoba	10,000				1	X				X
CO014	Complejo cenagoso de la margen occidental del Río Sinú	Bolívar	10,000				1					X
CO015	Reserva Natural el Garcerero y alrededores	Bolívar, Cesar	14,819				1					
CO016	Complejo de Ciénagas del sur de Cesar y Bolívar	Córdoba	10,000				1					
CO017	Ciénaga de Ayapel	Chocó	25,000				2					
CO018	Capurganá	Antioquia, Chocó	5,000			3	2	X	X			
CO019	Parque Nacional Natural Los Katíos	Chocó	72,000		1	2	5	X				
CO020	Parque Nacional Natural Ensenada de Utría	Antioquia, Córdoba	54,300		3	3	9	X	X			
CO022	Parque Nacional Natural Paramillo	Antioquia	460,000	1	2	1	2	X				
CO023	Parque Nacional Natural Las Orquídeas	Antioquia, Caldas	32,000			1	1					
CO024	Bosques Montanos del Sur de Antioquia	Risaralda	170,000	2	2	1	2	X				
CO025	Alto de Pisones	Chocó, Risaralda, Valle del	500	2	2	3		X				
CO026	Parque Nacional Natural Tatamá	Cauca	51,900	2	4	5		X	X			
CO027	Reserva Natural Laguna de Sonso	Valle del Cauca	2,045					X				

² New IBAs are marked with an asterisk (see text for details).

Important Bird Areas AMERICAS

IBA code	IBA name	Adm unit	Area (ha)	A1				A2	A3	A4				
				CR	EN	VU	NT			A4i	A4ii	A4iii	A4iv	
CO028	Reserva Forestal Yotoco	Valle del Cauca	559	1	2	3	X							
CO029	Región del Alto Calima	Valle del Cauca	19,500		1	5	X	X						
CO031	Parque Nacional Natural Farallones de Cali	Cauca	150,000		1	6	X							
CO032	Parque Nacional Natural Munchique	Cauca	44,000	2	1	5	7	X	X					
CO033	Reserva Natural Tambito	Cauca	3,000	1		4	5	X	X					
CO034*	Serranía de San Lucas	Antioquia, Bolívar	30,000	1	2		7	X						
CO035*	Reserva Regional Bajo Cauca Nechí	Antioquia	45,000	1	2		3	X	X					
CO036	La Forzosa-Santa Gertrudis	Antioquia	9,000		2	3	4	X						
CO037	San Sebastián	Antioquia	6,000		1		3							
CO038	Cañón del Río Alicante	Antioquia	6,298	1			3							
CO039	Embalse de San Lorenzo y Jaguas	Antioquia	4,789		3		2	X						
CO040	Embalse de Punchiná y su zona de protección	Antioquia	2,982		2		3	X						
CO041*	Refugio Río Claro	Antioquia	450		2			X						
CO042	Selva de Florencia	Caldas	8,000		2	1	2							
CO043	La Victoria	Caldas	100		3	1	2	X						
CO044	Cuenca del Río Jiménez	Tolima	5,000		1		1							
CO045	Reserva Hidrográfica, Forestal y Parque Ecológico de Río Blanco	Caldas	3,217		1	2	1	X	X					
CO047	Bosques del Oriente de Risaralda	Risaralda	23,069		3	5	7	X	X					
CO048	Finca Paraguay	Tolima	1,500			1	1	X						
CO049	Cuenca del Río Hereje	Tolima	7,500			1	1							
CO050	Cañón del Río Barbas y Bremen	Risaralda	5,132		1	1	3	X						
CO051	Finca la Betulia Reserva la Patasola	Quindío	1,670		1	1	1							
CO052	Reserva Natural Ibanasca	Tolima	1,860	1	4	2	1	X	X					
CO053*	Alto Quindío	Quindío	4,000		1	3	3	X	X					
CO054	Cañón del Río Combeima	Tolima	8,000		2	2	1	X						
CO055	Cuenca del Río Toche	Tolima	26,100	1	4	5	6	X	X					
CO056	Reserva Natural Semillas de Agua	Tolima	3,000	1			1	X						
CO057	Páramos y Bosques Altoandinos de Génova	Quindío	8,800	1	1	5	3	X						
CO058	Lagunas Bombona y Vancouver	Tolima	3,128			1	1	X						
CO059	Reservas Comunitarias de Roncesvalles	Tolima	36,700	2	3	6	2	X	X					
CO061	Cuenca del Río San Miguel	Tolima	10,000		2	1								
CO062	Parque Nacional Natural Nevado del Huila	Cauca, Huila, Tolima	158,000		2	1								
CO063	Parque Nacional Natural Puracé	Cauca, Huila	83,000	1	3	4	X	X						
CO064	Reserva Natural Meremberg	Huila	300		2	3	3	X						
CO065	Parque Nacional Natural Cueva de los Guácharos	Huila	9,000		1	5	4	X						
CO066	Serranía de los Churumbelos	Cauca, Putumayo	150,000			2	9	X	X					
CO067	Reserva Natural El Pangán	Nariño	4,200		2	8	11	X	X					
CO068	Reserva Natural Río Ñambí	Nariño	1,000		2	9	11	X	X					
CO069	Reserva Natural La Planada	Nariño	3,200			3	8	X						
CO070	Lago Cumbal	Nariño	500				1							
CO071	Cerro Pintado	Cesar	15,000		2	3	4	X	X					
CO072	Agua de la Virgen	Norte de Santander	50				1							
CO073	Serranía de los Yariquíes	Santander	175,000	2	2	2	3	X						
CO074	Bosques Secos del Valle del Río Chicamocha	Boyacá, Santander	300,000	2				X	X					
CO075	Reserva Biológica Cachalú	Santander	1,300	1	2	1	3	X						
CO076	Serranía de las Quinchas	Santander	86,088	1	2	1	4	X						
CO077	Complejo Lacustre de Fúquene, Cucunubá y Palacio	Boyacá	3,000		2			X		X				
CO078	Gravilleras del Valle del Río Siecha	Cundinamarca	1,500		1									
CO079	Parque Nacional Natural Chingaza	Cundinamarca, Meta	76,600		2	2	1	X	X					
CO080	Humedales de la Sabana de Bogotá	Cundinamarca	18,000		2									
CO081	Bosques de Tolemada, Piscilago y alrededores	Cundinamarca	20,000					X						

IBA code	IBA name	Adm unit	Area (ha)	A1				A2	A3	A4				
				CR	EN	VU	NT			A4i	A4ii	A4iii	A4iv	
CO082	Riberas de la Cuenca Baja del Río Inírida	Guainía	5,000					X	X					
CO083	Parque Nacional Natural Amacayacu	Amazonas	293,500				1	X	X					
CO084*	Soatá	Boyacá	1,000	2	2	2			X					
CO085*	Laguna de Tota	Boyacá	5,645		2				X					
CO086*	Páramos del Sur de Antioquia	Antioquia	unknown		2		2							
CO100*	Bosque de San Antonio/Km 18	Valle del Cauca	800			2	4							
CO120	Parque Nacional Natural Gorgona	Cauca	61,686								X	X		
CO121	Parque Nacional Natural Sanquianga	Nariño	89,000			1					X	X	X	
CO123	Cafetales de Támesis	Antioquia	700			1								
CO124	Delta del Río San Juan	Chocó, Valle del Cauca	70,000								X			
CO125	Enclave Seco del Río Dagua	Valle del Cauca	unknown	1				X						
CO128	Parque Natural Regional Páramo del Duende	Chocó, Valle del Cauca	28,000			1	4							
CO129	Santuario de Fauna y Flora Malpelo	Valle del Cauca	1,050									X	X	
CO132	Haciendas Ganaderas del Norte del Cauca	Cauca	5,000					X						
CO138	Santuario de Fauna y Flora Galeras	Nariño	7,615				2	X						
CO139*	Serranía de los Paraguas	Chocó, Valle del Cauca	150,000	2	2	5		X	X					
CO140*	Jardín de las Delicias	Magdalena	200					X						
CO141*	Serranía de las Minas	Huila	50,000	1	3	4		X						
CO162	Reserva Natural Cajibío	Cauca	52					X						
CO165	Reserva El Oso	Huila	5,500	1	2									
CO166	Laguna de la Cocha	Nariño, Putumayo	55,000			1	2							
CO171	Cerro La Judía	Santander	8,600			1		X						
CO173	Parque Nacional Natural El Cocuy	Boyacá	306,000	1	1			X						
CO176	Vereda Las Minas	Santander	7,000	1	2	1		X						
CO177	Parque Nacional Natural de Pisba	Boyacá	45,000	1										
CO178	Cerros Occidentales de Tabio y Tenjo	Cundinamarca	411				1		X					
CO179	Cañón del Río Guatiquía	Meta	45,000			2		X	X					
CO180	Bosques de la Falla del Tequendama	Cundinamarca	11,000	2	1	1		X	X					
CO182	Parque Nacional Natural Sumapaz	Cundinamarca	154,000	1										
CO183	Humedal La Lipa	Arauca	unknown				1		X					
CO184	Isla Mirití	Amazonas	500			1								
CO186	Parque Nacional Natural Sierra de la Macarena	Meta	630,000					X	X					
CO188	Riberas del Río Duda	Meta	17,000					X	X					
CO189	Parque Nacional Natural Tamá	Norte de Santander	51,900			1	2	X						
CO196	Parque Nacional Natural El Tuparro	Vichada	548,000				1	X						
CO197	Estación Biológica Mosiro-Itajura	Vaupés	52,700				1	X	X					
CO198	Isla Mocagua y Zaragocilla	Amazonas	2,500			1								
CO199	Lagos de Yahuaraca e Isla Ronda	Amazonas	2,135					X						
CO200	Parque Nacional Natural Chiribiquete	Caquetá, Guaviare	1,280,000				1	X	X					

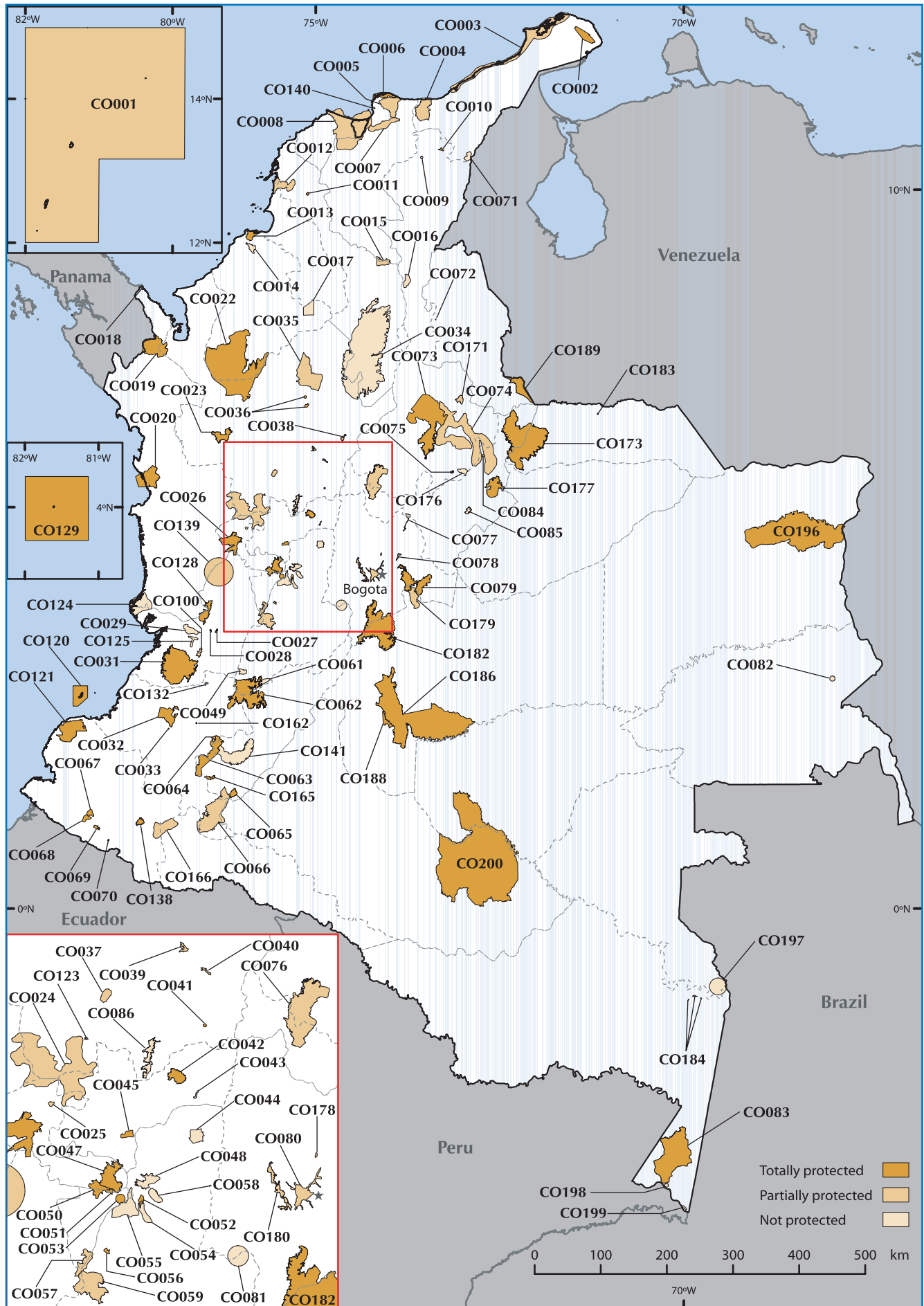


For information on trigger species at each IBA, see individual site accounts at BirdLife's Data Zone: www.birdlife.org/datazone/sites/



Important Bird Areas AMERICAS

Figure 1. Location of Important Bird Areas in Colombia



To date, 116 IBAs have been identified in Colombia, covering 7,699,302 ha or 7.1% of the country's land area (Table 1, Figure 1). In all, 107 sites meet the A1 criterion, covering 74 of the 87 (85%) species of globally threatened birds present in the country. Eleven of these globally threatened species are only represented in one IBA (Table 2). However, five sites have more than ten globally threatened birds and 23 have more than five. Twenty-five IBAs contain one Critically Endangered species and seven of these contain two. Of nationally threatened species (Rengifo *et al.* 2002), 99 of 112 are covered in the IBA network. Eighty-three sites qualify under the A2 criterion, triggered by 179 restricted-range species; 40 sites qualify for the A3 criterion, representing 251 biome-restricted species. Nine sites qualify under the A4 criteria. Among the most important sites for waterbirds are Ciénaga Grande de Santa Marta (CO008) and Complejo de Humedales Costeros de la Guajira (CO003) on the Caribbean coast; Sanquianga National Park on the Pacific coast and Malpelo National Park (CO129), a 1050 ha Pacific island, holding the world's largest colony of Nazca Booby (*Sula granti*; Lopez & Estela 2006).



Nazca Booby (*Sula granti*)
Photo: Noemí Moreno

“Four formerly unprotected IBAs have become legally protected since the program began.”

Table 2. Globally threatened species registered in only one IBA

Common name	Scientific name	IUCN category (2007)	IBA code
Dusky Starfrontlet	<i>Coeligena orina</i>	CR	CO024
Colourful Puffleg	<i>Eriocnemis mirabilis</i>	CR	CO032
Perija Metaltail	<i>Metallura iracunda</i>	EN	CO071
Chestnut-capped Piha	<i>Lipaugus weberi</i>	EN	CO036
Chestnut-bellied Cotinga	<i>Doliornis remseni</i>	VU	CO057
Perija Thistletail	<i>Schizoeaca perijana</i>	EN	CO071
Giant Antpitta	<i>Grallaria gigantea</i>	VU	CO064
Cundinamarca Antpitta	<i>Grallaria kaestneri</i>	VU	CO179
Tacarcuna Tapaculo	<i>Scytalopus panamensis</i>	VU	CO018
San Andres Vireo	<i>Vireo caribaeus</i>	VU	CO001
Baudo Oropendola	<i>Psarocolius cassini</i>	EN	CO020

A more detailed dataset, resulting from an effort to update IBA data between 2007 and 2008, has enabled a more refined application of the IBA criteria, resulting in an extensive revision and re-evaluation of Colombia's IBAs for inclusion in this directory.

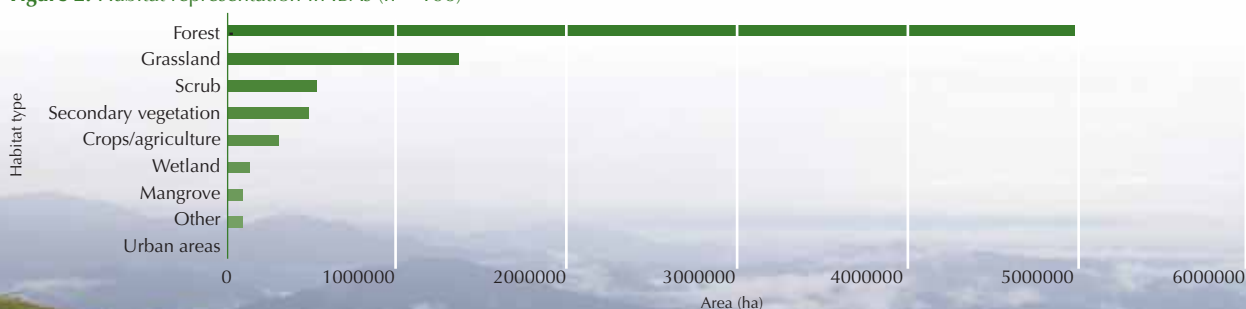
Changes since the first IBA publication (Franco & Bravo 2005) include the addition of 12 sites (marked with an asterisk in Table 1), the suppression of two and updated information, especially population data, at 100 sites. The two sites that do not presently meet IBA criteria are Isla Bocagrande, given that the only trigger species Tumaco seedeater (*Sporophila insulata*) is no longer recognized as a valid species (Stiles 2004, De Las Casas 2004). The other site to be delisted is Finca Betancí-Guacamayas

for not meeting the A3 criterion. However, the dynamic nature of the IBA program means that new information on both existing and proposed sites can change the status of IBAs within appropriate time frames.

More than half of Colombia's IBAs enjoy full legal protection and a further 18% are partially protected. Protected area categories include national parks, regional state reserves and private reserves, many of which are members of the network of civil society reserves. IBAs are present in the jurisdiction of 35 of the 36 regional environmental authorities, also 37 of 54 National Parks and 30 private reserves include IBAs. Four formerly unprotected IBAs have become legally protected since the program began, including two new national parks (Serranía de los Yariquíes; CO073 and Selva de Florencia; CO042) and two regional protected areas covering the Bahía de Cispatá (CO013) on the Caribbean coast and Cañón del Río Alicante (CO038) in the department of Antioquia. IBAs are present in all of Colombia's biogeographic regions (grouped from Hernández *et al.* 1992) although the majority are located in the Andes (65), followed by the Chocó or Pacific (23), Caribbean and Santa Marta (14), Amazon and Orinoco (12) and oceanic islands (2).

According to the ecosystem map of Colombia (IDEAM *et al.* 2007), the best-represented ecosystems in IBAs are forest (62.3% of the total IBA, in 83 IBAs), grasslands (12%, in 41 IBAs) and scrub (6.4%, in 43 IBAs; Figure 2). During the period 1985-2005, that is, prior to IBA identification, 48 of the present IBA sites underwent habitat loss and only three increased their areas of natural ecosystems (Romero *et al.* 2008, UNISIG unpublished

Figure 2. Habitat representation in IBAs (n = 106)



Serranía de los Paraguas (CO139) is a recently nominated IBA straddling the Andes and the Chocó region in western Colombian. Forty-three species trigger IBA criteria at this site. Photo: Edwart Llanos C.

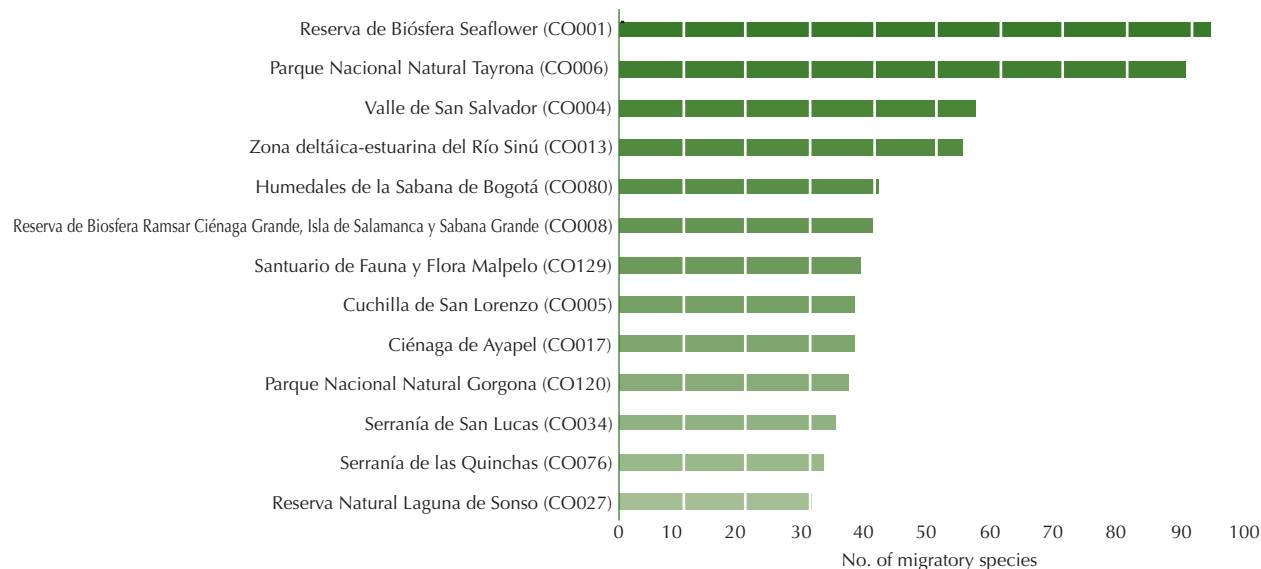
Important Bird Areas AMERICAS

data). In the Andes, 18 IBAs have natural ecosystem coverage of more than 75% of their area, of which eight have more than 90% coverage. In contrast, 22 IBAs in the Andes have less than 50% coverage of natural ecosystems (Romero *et al.* 2008).

More than 70 IBAs provide habitat to either boreal or austral migratory birds, with the highest numbers of migratory species recorded in the Seaflower Biosphere Reserve (CO001; 93 species) and IBAs on Colombia's northern coast (Figure 3).

A partial inventory of threatened vertebrate fauna (other than birds) and flora within IBAs was compiled in between 2006 and 2007. A preliminary analysis shows that IBAs do cover other threatened species, for example, 50% and 63% of the threatened mammals and reptiles present in Colombia, respectively, are represented within the IBAs. Furthermore, species richness for threatened fauna appears to increase with threatened bird species richness across the IBA network. However, more research is necessary to corroborate these findings especially with regard to the quality of the data on threatened fauna which have not been systematically collected and do not have the same sampling effort.

Figure 3. IBAs with presence of more than 30 species of migratory birds



Opportunities

Although many projects, and many organizations working at sites that are now IBAs had already made an immense contribution towards bird conservation prior to their identification as such, the IBA program has undoubtedly brought many actors and initiatives together under a common approach to site-based conservation.

Many conservation projects have been implemented within IBAs since the program began, several of which were funded by the Instituto Humboldt's small IBA grant scheme within the larger "Proyecto Andes" (Box 1). Another source of funding for small conservation projects has come from Fundación ProAves, through their sponsorship of final-year undergraduate projects.

Key organizations participating in the program to date include a number of public bodies such as the National Parks Authority (UAESPNN), regional environmental authorities, municipal mayor's offices and rural farmer's associations. More than 50 local NGOs and grass roots organizations, including members of the National Ornithological Network, have also been involved in the program, implementing conservation activities such as species monitoring, education, community outreach and basic ecological studies. Other key actors include local birdwatchers groups, the scientific and academic community and individual birders.

The IBA program has been communicated to a diverse public, including distribution of the Tropical Andes IBA directory to all 36

"The IBA program has undoubtedly brought many actors and initiatives together under a common approach to site-based conservation."

regional environmental authorities, an online IBA directory (Devenish & Franco 2007), a website for young children (Devenish *et al.* 2007) as well as strategic exposure at national and international events.

More than 15 specific publications have been produced in connection with the IBA program, including local bird guides (e.g. Rodríguez *et al.* 2005, Lozano 2006), educational materials for schools (e.g. Castro *et al.* 2003, Devenish & Arzuza 2005), CDs of bird sounds at IBAs (Álvarez *et al.* 2003, Strewé *et al.* 2006, Álvarez *et al.* 2007) as well as promotional leaflets, short films, games and posters.

The BirdLife IBA monitoring framework (BirdLife 2006) was first implemented at the 2nd National IBA workshop in November 2007. Approximately half of Colombia's IBAs set down baseline information on pressures, state and opportunities at IBAs, with a view to periodically updating this information.

The Near Threatened Purplish-mantled Tanager (*Iridosornis porphyrocephalus*)
Photo: Murray Cooper

Small grant scheme funds conservation projects in IBAs

Box 1

A small grant scheme operated by the Instituto Humboldt provided funding for more than 25 projects within IBAs over a period of five years. More than 35 people led conservation actions at 30 IBAs with the participation of more than 30 organizations.

Projects covered areas such as regional priority setting, research, management, research and education. One project included setting up and maintaining a tree nursery (as part of a series of landscape conservation tools) to supply the Barbas-Bremen biological corridor in Risaralda, joining two reserves within one IBA (CO050). The corridor, now in its seventh year, lies on land provided by local inhabitants as part of a conservation incentive scheme. Results from many of these projects have provided information for establishing formal protection for IBAs, better knowledge of trigger species, educational materials for schools and communities and site conservation strategies.



The Endangered Bogota Rail has found habitat at the abandoned gravel pits of the río Siecha Valley (CO078) where conservation work has been funded by the small grant program.
Photo: Murray Cooper

Gravilleras del Valle del Río Siecha (CO078). Photo: Christian Devenish

The monitoring framework allows results from already established monitoring schemes to provide data on the state of IBAs.

Results from the monitoring information show that the most common threat categories were agricultural expansion and intensification; over-exploitation, persecution and control of species; and human intrusions and disturbance. Regarding response to pressures, 70% of participating IBAs scored highly, indicating that these IBAs either have legal protection, management plans or have implemented conservation actions. The workshop also included group sessions evaluating the IBA program to date, key findings from this activity included a need for legal recognition (not necessarily protection) of IBAs on the part of many actors, further training in fundraising, strengthening

links to regional environmental authorities and establishing regional coordination or networks of IBAs.

Future plans for the IBA program include:

- implementation of further training courses and small grant schemes
- integration of sustainable use of biodiversity with conservation in IBAs
- establishing an IBA Conservation Strategy
- implementation of a priority-setting exercise across IBAs
- monitoring of IBAs
- evaluate IBA coverage in Colombia and propose new sites where necessary



IBA products in Colombia include CDs, field guides, posters and web sites.

Box 2

Training aimed at strengthening IBA monitoring has been organized in several regions of Colombia. Materials, such as field guides and field work manuals have been donated by the Instituto Humboldt to organizations collaborating with the program to further this objective. Also, as a monitoring tool, bird recording workshops have been held in two IBAs in the Colombian Andes with participants from 15 other sites, including members of local NGOs and local environmental authorities. As a result of the course, one local NGO is working to produce a CD of bird songs from its IBA. The NGO ProAves has also organized more than 10 training courses in basic ornithological field techniques in five different IBAs. The courses, taught mainly to university students, include topics such as bird identification, use of mist nets, banding and bird counting methods.

Photos: Gustavo Saavedra Sánchez

Training at sites furthers IBA monitoring



Further information

Data sources

Data for IBA identification came from the Colombian IBA database, the National Online IBA Directory, World Bird Database, Colombian Ornithological Network (RNOA), Animal Sound Archive (Instituto Humboldt), DatAves (eBird Colombia) and from all those contributing to the IBA program.

National IBA Directory

Áreas Importantes para la Conservación de las Aves en Colombia (Franco & Bravo 2005).

Directorio Nacional de las Áreas Importantes para la Conservación de las Aves en Colombia (Devenish & Franco 2007).

IBA web site for young people:

<http://jovenes.humboldt.org.co/aicas>

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Conservation strategy for Cañón del Río Alicante

Box 3

For five years, reserve wardens and researchers at the Cañón del Río Alicante IBA in Antioquia have been monitoring species triggering IBA criteria, such as the Critically Endangered Blue-billed Curassow (*Crax alberti*), Near Threatened Wattled Guan (*Aburria aburri*), Sooty Ant Tanager (*Habia gutturalis*), Saffron-headed Parrot (*Cypopsitta pyrrhila*) and Black Oropendola (*Psarocolius guatimozinus*). These projects were coordinated by the Universidad de Antioquia and the regional environmental authority.

This information was used to create a conservation strategy based on the Five-S Framework for Site Conservation (TNC 2000) and corroborated at a workshop within the IBA including participants from the local community, a representative of the municipal mayor's office. The strategy's objectives seek to provide continuity to participative research and monitoring of IBA trigger species, generate development alternatives compatible with biodiversity conservation, define and improve land and water use within the area as well as strengthen public policies in support of biodiversity conservation.

Blue-billed Curassow has benefitted from a project to lessen impacts from hunting at Cañón del Río Alicante (CO038).
Photos: José Manuel Ochoa



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