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Important Bird Areas AMERICAS

PANAMA

George Angehr & Rosabel Miró R.

Western (*Calidris mauri*) and Semipalmated Sandpipers (*C. pusilla*) during spring migration in the Upper Bay of Panama (PA041). The recently declared protected area hosts over 1 million shorebirds each year.
Photo: Karl Kaufmann



Country facts at a glance

Area:	75,990 km ²
Population (2008):	3,292,693
Capital:	Panama
Altitude:	0–3475 m
Number of IBAs:	53
Total IBA area:	2,501,046 ha
IBA coverage of land area:	29%
Total number of birds:	976
Globally threatened birds:	16
Globally threatened birds in IBAs:	16
Country endemics:	8

General introduction

Panama's location, linking two continents and dividing two oceans, makes it a crossroads for the flora and fauna of the Americas. The isthmus runs mainly east-west, with the Caribbean Sea to the north and the Pacific Ocean to the south. Costa Rica borders Panama to the west and Colombia to the east. Panama's territory includes numerous islands off both coasts.

Panama is a constitutional democracy with an elected president who is both chief of state and head of government. A unicameral National Assembly or *Asamblea Nacional* consisting of 78 elected representatives makes up the legislative branch of the government. Panama's economy relies heavily on the service sector, including the operation of the Panama Canal and other services related to shipping, banking, and tourism. It is also the most industrialized country in Central America. Administratively, Panama is divided into nine provinces and three provincial-level semi-autonomous indigenous territories or *comarcas*.

Over 70% of Panama's population is *mestizo* or of mixed European and indigenous ancestry. About 6% are indigenous, made up of seven different ethnic groups, including the Ngöbe, Buglé, Kuna, Embera, Wounaan, Naso (Teribe), and Bribri. About half the population lives in the Panama Canal's terminal cities of Panama and Colón, their suburbs, and the inter-oceanic zone between them. Panama has no official religion although Roman Catholicism and Protestantism account for 85% and 15% of the population respectively.

Panama is a rugged country with mountain chains running almost its entire length, broken only in the area of the Panama Canal. The western chain, the Talamancas, reaches higher elevations, including Volcán Baru (3475 m) in Chiriquí province, the country's highest peak. Cerro Tacarcuna (1875 m), part of the Serranía de Darien, is the highest peak in eastern Panama. There are also isolated mountain ranges on the Pacific slope in the Azuero Peninsula and in eastern Panama. Coastal lowlands flank the mountains on both the Caribbean and Pacific slopes. However, in most of Panama the ranges are closer to the Caribbean coast, and on the Caribbean side extensive lowlands are found only in Bocas del Toro and western Colon Provinces. On the Pacific slope the coastal plains are much wider, reaching up to 100 km in width.

Panama lies entirely within the tropics, and there is little seasonal variation in temperature. The lowlands are warm year round, while the highlands are cooler. Average temperatures in the lowlands range from approximately 22 to 32 °C, and in the highlands from 10 °C to the low 20s °C, occasionally dropping to below freezing on the highest peaks. The dry season in most of Panama extends from mid December to late April. The wet season occupies the rest of the year, October and November being the wettest months. There is often a six-week lull in the rains in July and August with local variations to this pattern, with the Pacific slope generally having a longer and more intense dry season, and some places on the Caribbean slope being rainy year round. Annual rainfall can be as low as 1000 mm in the driest parts of the Pacific slope, and may exceed 5000 mm in the wettest parts of the Caribbean.

Panama has a great variety of habitats due to its diverse topography and climates. Environments include savanna (mostly of human origin due to burning) and deciduous and semi-deciduous forest in drier parts of the lowlands, broadleaved evergreen forests in wet lowlands, and submontane and montane forests (including cloud forest) in the highlands. A small amount of paramo, a type of montane grass and shrubland, is found on the peak of Panama's second highest mountain, Cerro Fábrega. There are extensive areas of mangrove forest around the Gulfs of Panama and Chiriquí on the Pacific coast, with smaller areas along the Caribbean. Other coastal habitats include extensive intertidal mudflats on the Pacific coast in the Bay of Panama and the Bay of Parita, extending up to 3 km from shore at low tide. Most freshwater coastal wetlands have been converted to agriculture, although remnants exist in the provinces of Panama and Herrera.

Conservation and protected area system



Panama still retains much of its original forest cover, 44% of the country still being in forest as of 2003. Panama's National Protected Area System, managed by the National Environmental Authority (ANAM, in Spanish), is composed of 66 areas, totaling some 2.5 million hectares and representing approximately 34% of the country's area. The newest of these areas is the Upper Bay of Panama (Box 1). Of these, 19 have management plans and 36 have been through a process of strategic planning (ANAM 2006). There is a training program to increase capacity in issues such as planning, GIS, sustainable tourism, and trail construction for park staff, community groups, and other stakeholders in the protected area system. Ecotourism as well as more general tourism has been highlighted as a priority strategy within nine selected areas. Seven new areas are currently being considered for inclusion within the protected area system.

Panama has four Ramsar sites totaling 159,903 ha, designated between 1990 and 2003, the largest of which is the Golfo de Montijo at 80,765 ha in the province of Veraguas. Three sites have been listed by UNESCO as Natural World Heritage sites: Coiba National Park and its Special Zone of Marine Protection; Darien National Park; and Talamanca Range-La Amistad Reserves/La Amistad International Park. Darien National Park and La Amistad International Park are also designated as Biosphere Reserves. Coiba National Park is of international importance as part of the

“As much as 44% of Panama still retains its original forest cover.”

Pacific Marine Biological Corridor, which connects the Galapagos Islands in Ecuador, Gorgona and Malpelo islands in Colombia and Isla Cocos of Costa Rica. This initiative ties in with the First Corridor of Sustainable Use of Marine Biodiversity, a UNEP proposal, aiming to promote both conservation and development through educational ecotourism, among other activities.

Despite the extent of the protected area system, many threats to Panama's natural environments remain. ANAM in many places lacks enough staff or resources to patrol existing protected areas or enforce regulations. There are strong pressures from political and economic interests for development in many areas. Problems in or adjacent to protected areas include illegal clearing for development, agriculture, cattle raising, and timber; uncontrolled burning during the dry season; road construction; and extraction of minerals or construction materials. Other threats to birds include illegal trafficking for the pet trade as well as hunting for food or sport. Pesticides and other chemicals used in agriculture may also pose a threat to shorebirds and seabirds feeding in coastal waters.



Cerro Jefe (1007 m) is the highest point within Parque Nacional Chagres (PA040) which protects the upper Chagres River watershed above Lake Alajuela. This reservoir provides water for the operation of the Panama Canal, as well as for Panama City.
Photo: Dr. Cagan Sekercioglu - www.sekercioglu.org

Ornithological importance



At 976 species, Panama has the second highest number of birds of any country in Central and North America despite its relatively small size. This great diversity stems in part from Panama's geological history. The isthmus was once part of an archipelago stretching between North and South America, which probably contributed to the evolution of Panama's wealth of regional endemics. Once a complete land bridge emerged, a great interchange began of the previously separate faunas of the two continents. Today many North American species reach their southern limit in Panama, as do many South American species for their northern limit. Many North American migrants pass through Panama en route to wintering grounds in South America, and marine species of both the Pacific and Atlantic reach Panama's coasts.

“Once a complete land bridge emerged, a great interchange began of the previously separate faunas of two continents.”

Sixteen globally threatened bird species occur regularly in Panama (BirdLife International 2007)¹. Of these, two are Endangered, Great Green Macaw (*Ara ambiguus*) and Yellow-billed Cotinga (*Carpodectes antoniae*) and 14 are classified as Vulnerable. There are also 24 regularly occurring Near Threatened species. An additional 10 threatened and three Near Threatened species have been recorded as vagrants.

Panama includes parts of five Endemic Bird Areas (Stattersfield *et al.* 1998), covering about 70% of the country's total area. Three EBAs are shared with Costa Rica: Central American Caribbean slope (EBA 019), Costa Rica and Panama highlands (EBA 020), South Central American Pacific slope (EBA 021), and two with Colombia: Darien highlands (EBA 024) and Darien Lowlands (EBA 023). A total of 104 restricted-range species are found in Panama, of which 8 are endemic to Panama alone. Three additional endemic forms are recognized by some authorities as



Black Guan (*Chamaepetes unicolor*) is one of 24 Near Threatened species in Panama. It is threatened by hunting and limited habitat loss, which may have been reduced by the proliferation of protected areas.
Photo: Dr. Cagan Sekercioglu - www.sekercioglu.org

¹The Vulnerable Escudo Hummingbird (*Amazilia [tzacatl] handleyi*) is not recognised as a species by BirdLife International as of 2008, reducing the number of threatened species to 15. This directory uses 2007 IUCN categories throughout.

Black-faced Solitaire
(*Myadestes melanops*)

Volcano Hummingbird
(*Selasphorus flammula*)

Collared Redstart
(*Myioborus torquatus*)

Large-footed Finch
(*Pezopetes capitalis*)

Fiery-throated
Hummingbird
(*Panterpe insignis*)

5 of the 52 birds confirmed in IBAs for Costa Rica and Panama highlands (EBA 020).
Photos: Dr. Cagan Sekercioglu
www.sekercioglu.org

full species. Escudo Hummingbird (*Amazilia handleyi*), confined to Isla Escudo de Veraguas (400 ha), is now considered a subspecies of Rufous-tailed Hummingbird (*A. tzacatl*) but is much larger². Azuero Parakeet (*Pyrrhura eisenmanni*, regarded as part of Painted Parakeet; *P. picta*), named in honor of Eugene Eisenmann, Panama's most eminent native-born ornithologist, has an extremely small range in the southwestern Azuero Peninsula where it is seriously threatened by deforestation and capture for the pet trade. It occurs in the Cerro Hoya National Park IBA. Coiba Spinetail (*Cranioleuca dissita*, considered a subspecies of the geographically distant Rusty-backed Spinetail; *C. vulpina*) is restricted to Coiba Island (270,000 ha).

Panama has 108 biome-restricted species belonging to two biomes, 68 in the Chiriquí-Darién Highlands (CDH) and 40 in the Gulf-Caribbean Slope (GCS).

Panama's central location in the hemisphere makes it a critical route of passage for many migratory species. A total of 169 neotropical migrants that breed farther north regularly reach Panama, some wintering in the country while others are passage migrants en route to wintering grounds in South America. Only one land bird breeding in South America, Brown-chested Martin (*Progne tapera*) regularly migrates to Panama. Several marine species breeding in the southern oceans also reach Panama. A few species, including Swallow-tailed Kite (*Elanoides forficatus*), Plumbeous Kite (*Ictinia plumbea*), Common Nighthawk (*Chordeiles minor*), Piratic Flycatcher (*Legatus leucophaeus*), and Yellow-green Vireo (*Vireo flavoviridis*) breed in Panama but migrate to South America during the non-breeding season.

Three of the 16 birds confirmed in IBAs for South Central American Pacific slope (EBA 021).
Photos: Dr. Cagan Sekercioglu
www.sekercioglu.org



Fiery-billed Aracari
(*Pteroglossus frantzii*)



Riverside Wren
(*Thryothorus semibadius*)



Black-hooded Antshrike
(*Thamnophilus bridgesi*)

“In 2004 more than 3.1 million raptors were counted on southward migration through Panama.”

Panama is a critical migratory bottleneck for several species of soaring raptors, which rely on thermals and so must migrate over land (Box 2). In 2004, more than 3.1 million raptors were counted on southward migration through Panama in a period of six weeks, mostly Turkey

Vultures (*Cathartes aura*), Broad-winged Hawks (*Buteo platypterus*), and Swainson's Hawks (*B. swainsoni*). The country is also a critical staging and wintering area for shorebirds breeding in North America, with the intertidal mudflats in the Gulf of Panama providing important habitat. More than a million shorebirds pass through this area each year, including approximately 30% of the global population of Western Sandpiper (*Calidris mauri*). Many small passerines also pass through the country, species such as Barn Swallow (*Hirundo rustica*), Cliff Swallow (*Petrochelidon pyrrhonota*), and Dickcissel (*Spiza americana*) occurring in flocks numbering in the thousands.

²Isla Escudo de Veraguas (PA005) will remain confirmed as an IBA for the subspecies under A1. The site also contains threshold populations of the Near Threatened White-crowned Pigeon (*Patagioenas leucocephala*).

IBA overview



The IBA program in Panama began in 1995 when the Panama Audubon Society (PAS) obtained funding from Fundación Natura to initiate the program in partnership with BirdLife International. The first phase of the program began with a national workshop in 1996 in which IBA criteria, including national criteria, were discussed and 83 potential sites were identified. Also as part of the first phase, 23 field surveys were conducted to fill gaps in knowledge about proposed IBAs, and a data-

base on bird distribution was created, now holding more than 70,000 records. Other data were provided through two programs of the Smithsonian Tropical Research Institute, the Panama Canal Watershed Monitoring Program (in partnership with ANAM) and the Legacy Resources Management Program, funded by the US Department of Defense. A second workshop in 1998 was held to review results and obtain additional information on the IBAs that had been identified. Since the initial

Table 1. Important Bird Areas in Panama

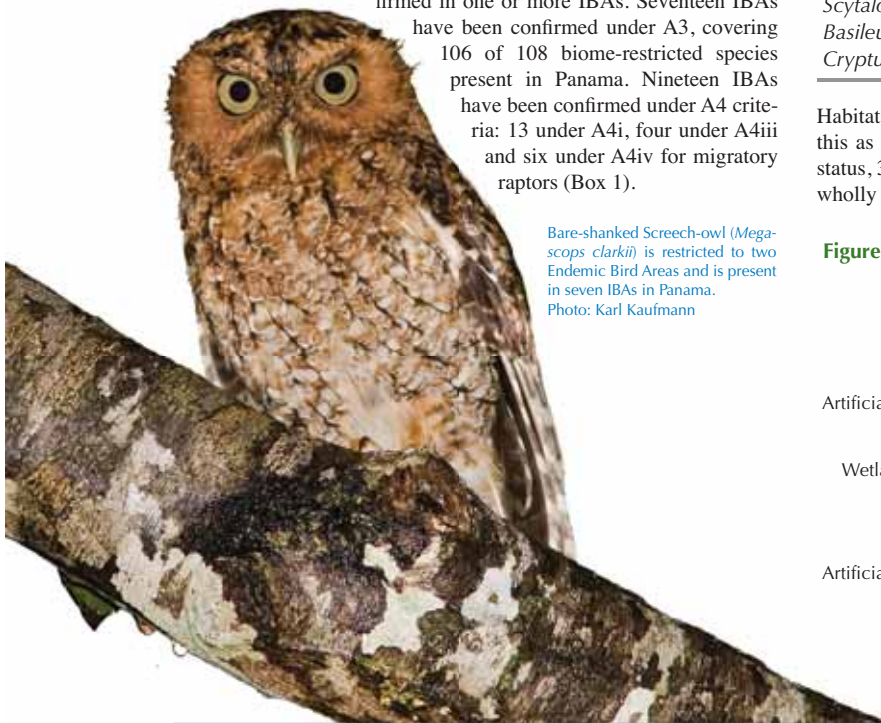
IBA code	IBA name	Adm unit	Area (ha)	A1				A2	A3	A4				
				CR	EN	VU	NT			A4i	A4ii	A4iii	A4iv	
PA001	Humedales de San San Pond Sak	Bocas del Toro	16,414		1	1		X	X					
PA002	Archipiélago de Bocas del Toro	Bocas del Toro	22,500		1	1								
PA003	Parque Internacional La Amistad	Bocas del Toro, Chiriquí	207,000	1	3	5		X	X					
PA004	Bosque Protector Palo Seco	Bocas del Toro, Ngöbe-Buglé	167,000		3	5		X	X					
PA005	Isla Escudo de Veraguas	Bocas del Toro	400		1	1		X	X					
PA006	Humedales de Damani	Ngöbe-Buglé	11,460			3								
PA007	Cerro Santiago	Ngöbe-Buglé	63,000		3	2		X	X					
PA008	Santa Clara	Chiriquí	9,000		3	3		X	X					
PA009	Parque Nacional Volcán Barú	Chiriquí	14,322		2	3		X	X					
PA010	Reserva Forestal Fortuna	Chiriquí	19,500		4	5		X	X					
PA011	El Chorogo-Palo Blanco	Chiriquí	1,000	1	1	4		X	X					
PA012	Quebrada Mellicita-Charco Azul	Chiriquí	2,800	1		1		X	X					
PA013	Manglares de David	Chiriquí	30,500		1									
PA014	Cerro Batipa	Chiriquí	1,400	1										
PA015	Gran Galera de Chorchá-Cerro Barro Blanco	Chiriquí	530					X						
PA016	Bosques del Golfo de los Mosquitos	Coclé, Colón, Veraguas	202,000	1	3	3		X						
PA017	Parque Nacional Santa Fé	Veraguas	72,636		5	5		X	X					
PA018	Parque Nacional Coiba	Veraguas	270,125		2			X	X					
PA019	Bahía Honda	Veraguas	5,000			1								
PA020	Isla Cébaco	Veraguas	2,200		1			X	X					
PA021	Humedales del Golfo de Montijo	Veraguas	89,452	1										
PA022	Parque Nacional Cerro Hoya	Los Santos, Veraguas	32,557	1	2	1		X	X					
PA023	Parque Nacional General de División Omar Torrijos Herrera	Coclé, Colón	25,257		3	3		X						
PA024	El Valle de Antón	Coclé, Panamá	10,600				3				X			
PA025	Bahía de Parita	Coclé, Herrera, Los Santos	45,740								X		X	
PA026	Humedales de Santa María	Herrera	7,500											
PA027	Reserva Forestal El Montuoso	Herrera, Veraguas	10,375		1	1		X	X	X				
PA028	Islas Frailes del Sur	Los Santos	1											
PA029	Parque Nacional San Lorenzo	Colón	13,685		1	2								X
PA030	Parque Nacional Portobelo	Colón	35,929		1	3		X						
PA031	Parque Nacional Altos de Campana	Panamá	4,816		1	2		X						
PA032	Monumento Natural de Barro Colorado	Colón, Panamá	5,400								X			X
PA033	Isla Taborcillo y Bahía de Chame	Panamá	10,740								X			
PA034	Bahía de Chorrera	Panamá	5,500											X
PA035	Parque Nacional Soberanía	Colón, Panamá	22,104		1	3								X
PA036	Ribera Oeste del Canal de Panamá	Panamá	16,850		1	2								X
PA037	Parque Nacional Camino de Cruces	Panamá	4,000											X
PA038	Parque Natural Metropolitano	Panamá	265				1				X			X
PA039	Grupo de Taboga	Panamá	779											
PA040	Parque Nacional Chagres	Colón, Panamá	129,000		2	6		X	X	X				
PA041	Parte Alta de la Bahía de Panamá	Panamá	48,919											X
PA042	Reserva Hidrológica de Majé	Panamá	1,800	1		1								
PA043	Serranía de Majé	Darién, Panamá	48,000	1		5		X			X			
PA044	Humedales de Chimán	Panamá	29,700								X			X
PA045	Islas de Chimán	Panamá	110								X			
PA046	Archipiélago de Las Perlas	Panamá	33,300											
PA047	Área Silvestre de Narganá	Comarca Kuna Yala (San Blas)	87,800	1	2	6		X			X			
PA048	Estuarios del Congo y Cucunatí	Darién	16,500								X			
PA049	Reserva Natural y Humedales de Punta Patiño	Darién	13,805				1				X			
PA050	Humedales de la Ensenada de Garachiné	Darién	10,400											
PA051	Punta Garachiné-Cerro Sapo	Darién	11,100				3		X					
PA052	Corredor Biológico de Bagre	Darién	31,275	1										
PA053	Parque Nacional Darién	Darién, Embera-Wounaan	579,000	1	6	13		X	X					

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

identification phase, PAS has been working to conserve existing IBAs and implement conservation actions, including educational and training programs in bird observation for park guards and local residents. A site directory in Spanish and English was published in 2003 (Angehr 2003) which identified 49 global and 39 national IBAs. This initial assessment has been revised and updated for the present directory.

To date, 53 global IBAs have been designated in Panama, covering a total area of 2,501,046 ha or almost 29% of the country's land area (Table 1, Figure 1). Thirty-eight (72%) of Panama's IBAs have been confirmed under A1 criteria. Five threatened species are only present in one IBA each (Table 2). Eighteen of the 24 Near Threatened species present in the country are covered by IBAs.

Twenty-five (48%) of Panama's IBAs have been confirmed under A2 and all restricted-range species present in Panama have been confirmed in one or more IBAs. Seventeen IBAs have been confirmed under A3, covering 106 of 108 biome-restricted species present in Panama. Nineteen IBAs have been confirmed under A4 criteria: 13 under A4i, four under A4iii and six under A4iv for migratory raptors (Box 1).



Bare-shanked Screech-owl (*Megascops clarkii*) is restricted to two Endemic Bird Areas and is present in seven IBAs in Panama. Photo: Karl Kaufmann

Table 2. Presence of globally threatened species in IBAs in Panama

Taxon	IUCN category	Number of IBAs
<i>Procnias tricarunculatus</i>	VU	12
<i>Dendroica cerulea</i>	VU	10
<i>Ara ambiguus</i>	EN	8
<i>Touit costaricensis</i>	VU	6
<i>Cephalopterus glabricollis</i>	VU	6
<i>Carpodectes antoniae</i>	EN	5
<i>Leptotila battyi</i>	VU	4
<i>Xenornis setifrons</i>	VU	4
<i>Pselliophorus luteoviridis</i>	VU	3
<i>Cotinga ridgwayi</i>	VU	2
<i>Selasphorus ardens</i>	VU	2
<i>Odontophorus dialeucos</i>	VU	1
<i>Amazilia handleyi</i> ¹	VU ¹	1
<i>Scytalopus panamensis</i>	VU	1
<i>Basileuterus ignotus</i>	VU	1
<i>Crypturellus kerriae</i>	VU	1

Habitat cover is predominantly forest, with over 90% of IBAs having this as a principal habitat type (Figure 2). With regard to protection status, 34 IBAs (almost 65% of the total) are formally protected either wholly or in part; the remaining 19 lack any form of legal protection.

Figure 2. Principal habitat types in IBAs (data for all IBAs)

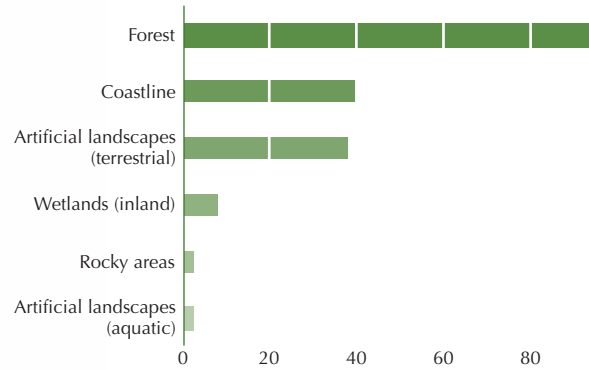
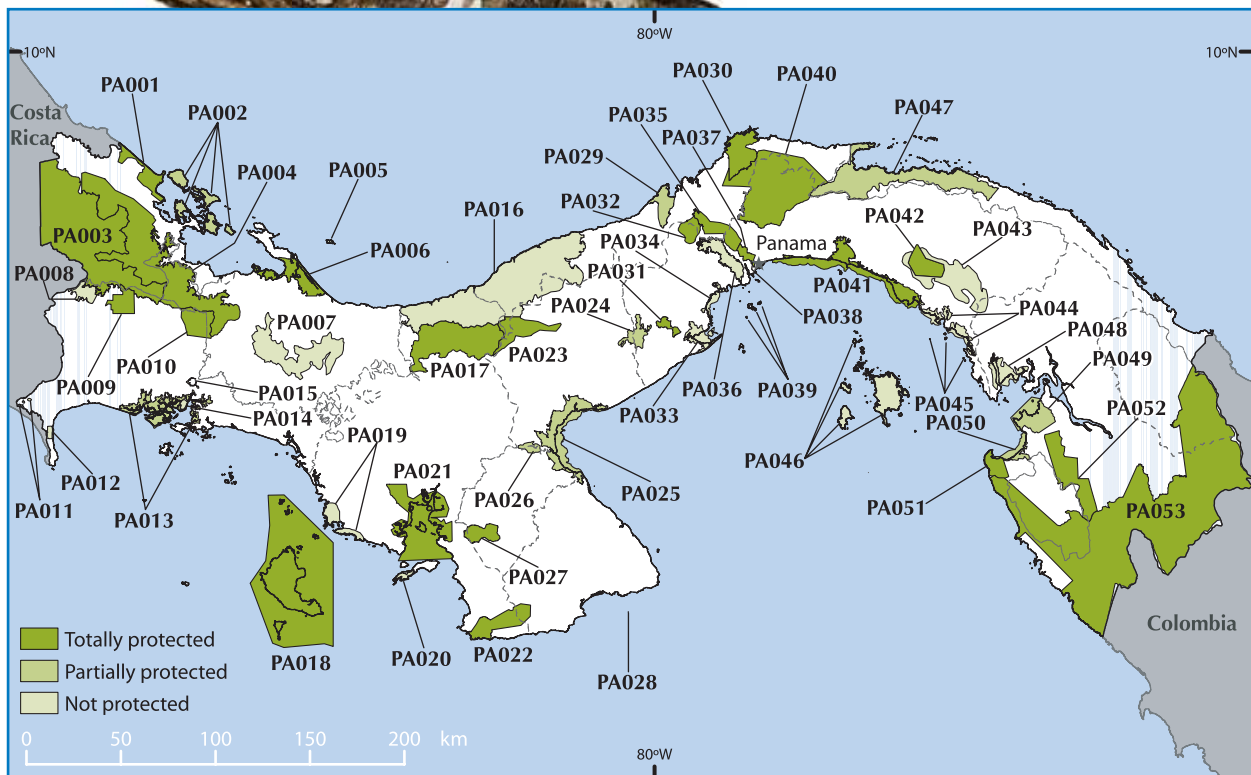


Figure 1. Location of Important Bird Areas in Panama



Opportunities



When PAS identified 88 IBAs and published Panama's IBA directory in 2003, two of them, El Chorogo and the Upper Bay of Panama, stood out because they were entirely unprotected and in danger of being lost to development. El Chorogo is a narrow remnant of forested land along the ridge defining the border with Costa Rica, and represents the last large patch of lowland forest on Panama's western Pacific slope. With

the help of the Amos Butler Audubon Society, PAS purchased 180 hectares. With the encouragement of PAS, Panama's environmental agency ANAM is proceeding towards declaring the entire remaining area of forest, including the part owned and protected by PAS, a nationally protected area. The Upper Bay of Panama was finally declared a protected area in 2009 (Box 2).

Box 1

Raptors Ocean to Ocean project counts over four million raptors from 2004 -2007

Six sites (PA029, PA032, PA035-8; Figure 1) in Panama are of extraordinary importance for migratory raptors, constituting flyways for millions of birds every year including a large percentage of the entire global populations of Broad-winged (*Buteo platypterus*) and Swainson's Hawks (*Buteo swainsoni*). In Parque Natural Metropolitano IBA, adjacent to Panama City, more than a million raptors have been recorded on their southbound journey, peaking from early October to mid November. The record for a one day count stands at 646,761 raptors at a watch site in Panama City on 14 November 2005, over 600,000 of them being Turkey Vultures (*Cathartes aura*). IBAs provide vital habitat as overnight roosts for these long distance migrants.



Ocean to Ocean raptor-counting volunteers on Ancon Hill. Photo: Karl Kaufmann

Most raptors enter Panama through the Caribbean side of the country, in Bocas del Toro, then cross over to the Pacific slope in central Panama before dispersing into Colombia and continuing southwards into South America. Other migratory raptors which do not reach such large numbers as the above three species include American Swallow-tailed Kite (*Elanoides forficatus*), Plumbeous Kite (*Ictinia plumbea*), and Mississippi Kite (*Ictinia mississippiensis*).

In order to collect data on the importance of Panama to migrating raptors, and equally importantly, to acquaint the public with this impressive phenomenon, the Panama Audubon Society has been conducting the Raptors Ocean-to-Ocean project since 2004. In the first year, daily counts of raptors at nine sites across the isthmus recorded over 3 million raptors in a six-week period. More than 40 observers participated, including national and international volunteers, students, and local residents. This project has generated several newspaper articles and television and radio programs. There are only three other sites in the world where more than a million migratory raptors can be seen in a season.



Photo: Karl Kaufmann

PAS has put considerable effort into creating public awareness of the importance of coastal wetlands, and in particular the wetlands of the Upper Bay of Panama. This has included conducting an educational program in rural and urban schools, organizing a migratory bird festival, holding drawing contests, and establishing a monitoring program in rural communities. In 2006, PAS was a key player in the creation of the Panama National Wetlands Committee, an ANAM-sponsored advisory committee for the government which facilitates the participation of civil society in wetland conservation. PAS is just finishing a RARE pride campaign in an urban community adjacent to mangroves, with the objective of making citizens aware of the importance of the local mangroves to them. PAS's work on publicizing the significance of wetlands has also led to substantial coverage by television, radio, and newspapers.

PAS has just finished setting up Worldbirds Panama, a BirdLife-sponsored database of bird records for Panama that allows participants to enter data on birds they observe. One of the projects set up with the da-

tabase is designed to collect data on the usage of specific habitats within an IBA. With weekly-to-monthly surveys of a defined habitat within an IBA by local participants, the project records breeding activity of local birds and whether migratory birds use the area for feeding or just roosting. A similar project with less stringent reporting requirements, minimally recording presence or absence within a particular IBA, is designed to promote wider participation in Worldbirds Panama. A third project is designed to record observations of large concentrations of raptors anywhere within Panama to help trace migration routes within the country. PAS expects to promote this project among schools in Panama so that students can record raptor migration at various times throughout the school day.

In 2006, PAS published a site guide for birders, *Where to Find Birds in Panama* (Angehr *et al.* 2006). The book is designed to increase use of Panama's natural areas, including many IBAs, by bird tourists from other countries. By making IBAs a part of Panama's tourist economy, the government will be more inclined to provide protection for them.

Efforts pay off to gain protected area status for Bay of Panama

Box 2

The Upper Bay of Panama (PA041) is a major stopover site for well over a million shorebirds during migration. It also supports substantial numbers of local and migrant shorebirds for the rest of the year. However, the site, consisting of approximately equal areas of mangroves and mudflats, has been increasingly threatened due to its proximity to Panama City. The western edge is the area most heavily used by shorebirds, but this is also the area closest to the city and the mangroves there are being cut and filled in for housing and industrial sites. Channeling the rivers flowing through the remaining mangroves will increase pollution from urban runoff. PAS proposed to ANAM in 1998 that the site be placed on the Ramsar list of globally important wetlands and then spent several years collecting the environmental and social data required by ANAM before formalizing such a designation. In 2003, the area was finally declared a Ramsar site. To bring further attention to the site, PAS worked to have the site added to the Western Hemisphere Shorebird Reserve Network, and organized a dedication ceremony in 2005, attended by more than 70 representatives of NGOs and government agencies from the United States, Canada, and several Latin American countries. However, given the continuing threats faced by the area, PAS began coordinating efforts



A play by students at Colegio Brader promotes the conservation of the Bay of Panama. Photo: Rosabel Miró

to gain official protection in 2006. Much of this work was centered on creating awareness within Panama of the site's national and international importance. Finally, in 2009, an area exceeding 85,000 ha was officially protected after a painstaking delimitation exercise carried out by ANAM. The site and IBA, is now included in Panama's protected area system.

Photo: Karl Kaufmann

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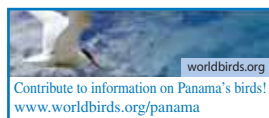
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