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Important Bird Areas **AMERICAS**

MEXICO

Rosa Ma. Vidal, Humberto Berlanga & María del Coro Arizmendi

Orange-breasted Bunting (*Passerina leclancherii*) is endemic to west Mexico where it inhabits semiarid and woodland habitats. It is restricted to the Pacific Arid slope biome.
Photo: Manuel Grosselet & Georgita Ruiz/www.tierradeaves.com

Country facts at a glance

Area:	1,972,550 km^2
Population (2005):	103,263,388
Capital:	Mexico City
Altitude:	0–5610 m
Number of IBAs:	145
Total IBA area:	24,223,487 ha
IBA coverage of land area:	12 %
Total number of birds:	1054
Globally threatened birds:	55
Globally threatened birds in IBAs:	36
Country endemics:	98

General introduction

Mexico's location on the American continent provides for a context of considerable opportunities as well as challenges in terms of social, political and cultural relations. It is also the reason behind a vast biological diversity. The country acts a bridge between North and Central America, representing the dividing line between the Nearctic and Neotropical biogeographic provinces. The country's cultural make-up results from a mix of indigenous peoples who learnt to live both in the northern deserts and plains as well as in the tropical rainforests to the south.

Mexico has a total area of 1,972,550 km^2 and is separated from the United States to the north by a 5000 km border (INEGI 2008). To the south, the Yucatán Peninsula and state of Chiapas border Guatemala and Belize along the Maya Forest and the Usumacinta River, currently one of the largest rivers on the continent not to be dammed. To the east and west lie the Caribbean and the Pacific Ocean, respectively. The country's insular territory has an area of 6000 km^2 which includes approximately 371 islands (CONABIO 1998). Mexico has a shoreline of approximately 11,000 km, with almost 130 coastal lagoons and a marine territory of 2,946,825 km^2.

The Republic of Mexico is one of the most populated countries on Earth, with more than 103 million inhabitants registered in 2005. The capital alone, Mexico City, is a metropolis exceeding 18 million inhabitants, including its suburban zones. Mexico is a federation of 32 states, in turn, made up of 2438 municipalities, representing the building blocks of local government. Most of the land in Mexico is owned by the population, either privately (36.8%) or as communal property (52.2%). Only 11% belongs to the State (INEGI 2008). The country has one of the highest rates of inequality in the world according to the National Human Development Index (UNDP 2006). In 2002, half the population lived below the poverty line, and 20% in extreme poverty. Mexico's indigenous population exceeds 12 million people, with 62 ethnic and language groups in the country (Navarrete-Linares 2008).

In terms of biological wealth, Mexico is one of the 12 megadiverse countries identified by Mittermeier and Goettsch in 1992, with beta diversity (the rate of change in species composition across habitats) being one of the most impressive of these countries (Koleff & Soberon *et al*. 2008). According to the conservation assessment of Latin American ecoregions by Dinerstein *et al*. (1995), Mexico contains 51 of the 191 terrestrial ecoregions, the highest number of ecoregions in Latin America, of which 14 are considered global priorities (CONABIO 1998). Mexico holds first place in number of reptile species (707 spp.), second for mammals (439 spp.) and fourth in amphibian (2020 spp.) and plant richness (26,000 spp.). The highest proportion of endemic species are among the cactuses, of which 79% of the 900 species recorded are endemic. Sixty percent of amphibians and 52 % of reptiles are also endemic to Mexico (Mittermeier & Goettsch 1992).

The nine main vegetation types according to classifications used in the country are distributed as follows: xerophytic scrub (37.62%), pine-oak forest (19.35%), tropical deciduous forest (13.77%), tropical evergreen forest (9.95%), grassland (8.17%), thorn scrub (5.8%), semi-deciduous tropical forest (3.24%), aquatic and semi-aquatic vegetation (1.18%) and montane cloud forest (0.92%; Rzedowski 1978).

Among the principal environmental problems faced by the country are a high rate of deforestation due to agriculture and cattle ranching. By 2002, primary forest had been reduced by 50% of original coverage (Challenger *et al*. 2009). Other problems threatening biodiversity include large-scale tourism development, water pollution and disruption of the water table due to urban development. As with other countries in the region, Mexico also faces challenges associated with free markets, migration from rural areas, insufficient infrastructure and technological development and a lack of organization in rural agriculture.

Conservation and protected area system

Interest in environmental conservation in Mexico dates back several decades. The first national park, Desierto de los Leones, was established in 1876. Subsequently, the institutional structure for environmental management was created between 1920 and the 1940s. As part of UNESCO's Man and Biosphere Programme, the Mexican scientist, Gonzálo Halfter, coined the Biosphere Reserve concept in the 1970s, creating a new conservation paradigm which takes into account human use of nature. However, it was not until 2000 that the National Protected Areas Commission (CONANP, in Spanish) was created. By 2008, 164 protected areas had been designated by decree in Mexico, covering an area of 23,098,391 ha. Just over half (51%) of this area represents 38 Biosphere Reserves and just 6.5% corresponds to 68 national parks. More than 25% of the total area has been designated this decade. Mexico's ecosystems have a fair to good representation within the country's protected areas. However, a recent gap analysis (CONABIO *et al*. 2007) showed that 11 terrestrial ecoregions are without formal protection and 50 are underrepresented, including medium altitude ecosystems (between 1000 and 2000 m). Vegetation types with low levels of protection include dry forests, Tamaulipeco thorn scrub and pine-oak forests.

Pine-oak forests are a major ecosystem in Mexican IBAs.
Photo: Efrain Castillejos

As well as the Federal System of Protected Areas, fledgling efforts have been made towards state-level systems of protected areas although few systems have been implemented so far. Another important factor in the country has been the private and social conservation movement. Pronatura (BirdLife affiliate in Mexico) has led the development of several private conservation instruments, for example, the establishment of 64,000 ha in ecological easements with both individual landowners, cooperatives (*ejidos*) and communities. According to Bezaury-C reel and Carbonell (2009), 410,908 ha have been conserved within private or community reserves to date. Voluntary conservation mechanisms have also been strengthened through state policies, given that in 2008 environmental legislation was changed in order to recognize certification of land under this mechanism. This certification is awarded by CONANP (DOF 2008).

Another instrument for habitat conservation, management and sustainable exploitation of flora and fauna, promoted by the Mexican government, are the Environmental Management Units, with 8255 units covering 28.95 million ha (14.74% of the country's area) registered to date. These units include hunting ranches, areas allowing exploitation of flora and non-timber forest products and areas for commercial wildlife breeding, among others (Bezaury-Creel & Carbonell 2009).

Nevertheless, these conservation mechanisms suffer from problems such as a lack of application of the law, illegal trade in fauna and forest products, changes in land use in protected areas, forest fires and development pressures for tourism infrastructure. The challenges in facing these difficulties include insufficient human resources, deficiencies in operative resources and equipment as well as technical problems.

"The Mexican scientist, Gonzálo Halfter, coined the Biosphere Reserve concept in the 1970s, creating a new conservation paradigm taking into account human use of nature."

Mexico is party to the principal international environmental agreements, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Convention on Biological Diversity, Ramsar Convention on Wetlands (74 Ramsar sites have been designated, covering 5,908,968 ha) and the Kyoto Protocol. CONANP, through the Ministry of the Environment, belongs to the International Union for the Conservation of Nature. The country has also signed environmental agreements with the United States and Canada such as the Trilateral Committee for Wildlife and Ecosystem Conservation and Management and the Commission for Environmental Cooperation (CEC) under the provision of the North American Free Trade Agreement. This commission led to the creation of the North American Bird Conservation Initiative in 2003. Mexico is also a benefactor of US legislation including the North American Wetlands Conservation Act and the Neotropical Migratory Bird Conservation Act.

Ornithological tradition in Mexico dates back to the end of the 1970s and beginning of the 1980s. Two ornithological organizations exist in the country, Mexican Society for Ornithology and the International Council for Bird Preservation - Mexico (CIPAMEX, in Spanish) whose principal activities are exchange of ornithological information. At local level, there are an increasing number of birding clubs as well as festivals to attract tourists and new club members. Other organizations contributing significantly to knowledge, conservation and appreciation of birds in Mexico are Pronatura (made up of six regional organizations); Naturalia A.C.; the Museo de las Aves in Saltillo, Coahuila; the Universidad Nacional Autónoma de México (Zoological Museum, FES Iztacala); Universidad de Guadalajara; Universidad Michoacana; Colegio de la Frontera Sur and Instituto Tecnológico de Estudios Superiores de Monterrey, to mention just a few. All the above institutions have set up strong research groups in ornithology.

In 2004, CONABIO, with the support of the Cornell Laboratory for Ornithology launched a web site to record bird sightings in Mexico (AverAves – eBird in Mexico). Currently, this database has almost 1 million records (Berlanga pers. comm.). Participation in other citizen science initiatives, such as the Christmas Bird Counts have also increased, with counts taking place at 34 circles each year.

Tzontehuitz, Cerros de San Cristóbal de las Casas (MX164)
Photo: Efraín Castillejos

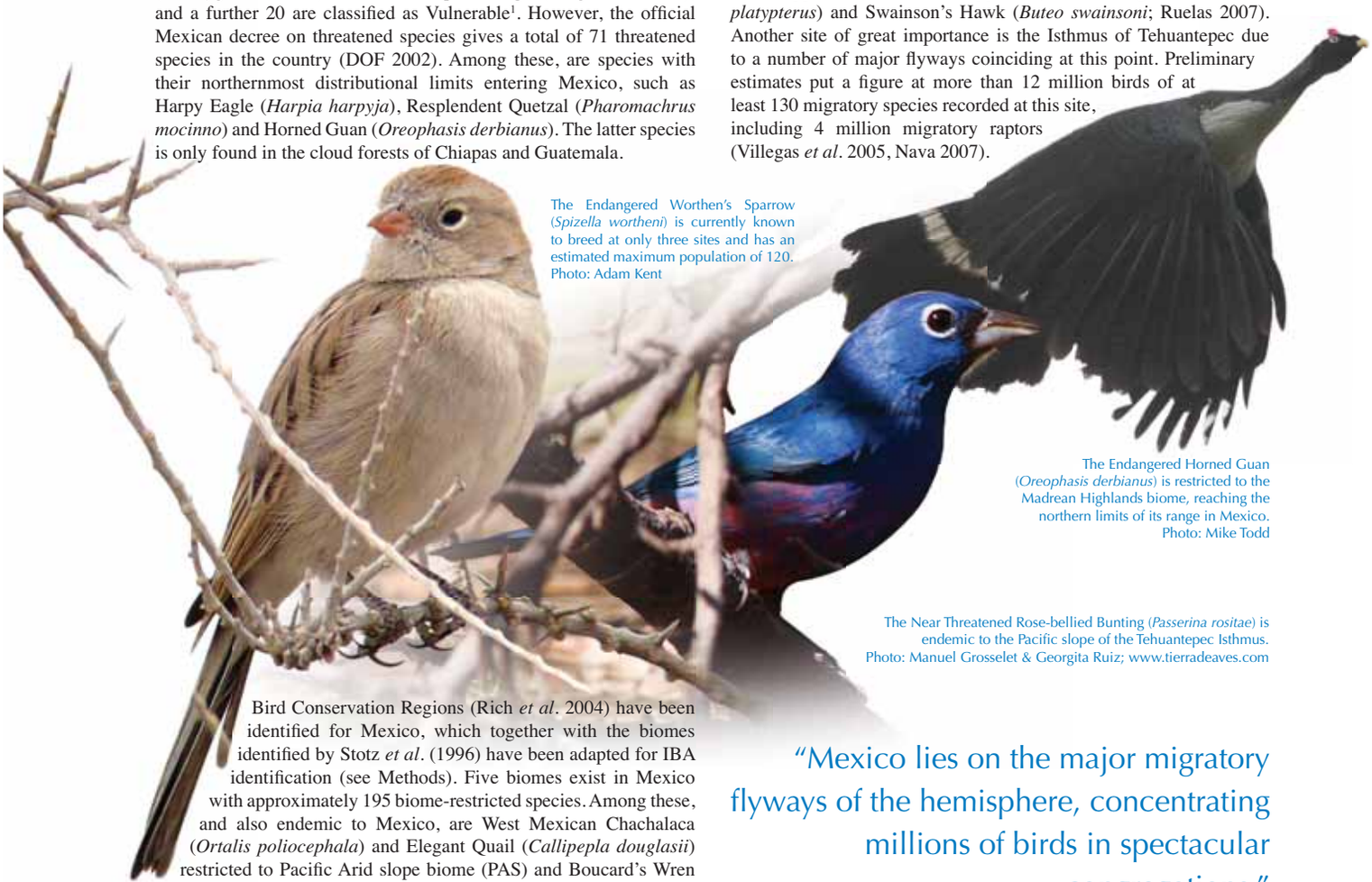
Ornithological importance

Mexico is placed between 10th and 12th place for the highest number of bird species in the world, with a total of 1050 species belonging to 468 genera, 79 families and 22 orders (AOU 1983, Banks *et al*. 2008, Escalante *et al*. 1993, Howell & Webb 1995). Mexico's avifauna contains representatives from 82% of the world's avian orders, 51% of families and 27% of genera. Mexico has 30% more birds than both the United States and Canada together, but within an area 10 times smaller than these countries.

According to IUCN and BirdLife International (2007), 10 species are considered as Critically Endangered, including Belding's Yellowthroat (*Geothlypis beldingi*) and Short-crested Coquette (*Lophornis brachylophus*); 16 are Endangered, such as Tuxtla Quail-dove (*Geotrygon carrikeri*) and Azure-rumped Tanager (*Tangara cabanisi*); and a further 20 are classified as Vulnerable[1]. However, the official Mexican decree on threatened species gives a total of 71 threatened species in the country (DOF 2002). Among these, are species with their northernmost distributional limits entering Mexico, such as Harpy Eagle (*Harpia harpyja*), Resplendent Quetzal (*Pharomachrus mocinno*) and Horned Guan (*Oreophasis derbianus*). The latter species is only found in the cloud forests of Chiapas and Guatemala.

"Mexico has 30% more birds than both the United States and Canada together, but in 10 times less area."

than half of these spend six to eight months of the year in the country (Rappole *et al*. 1993). Mexico lies on the major migratory flyways of the hemisphere, with migratory bottlenecks concentrating millions of birds in spectacular congregations. In Veracruz alone, some 5 million migratory raptors were observed during the "River of Raptors" project. Dominant species at this site are Turkey Vulture (*Cathartes aura*), Mississippi Kite (*Ictinia mississippiensis*), Broad-winged Hawk (*Buteo platypterus*) and Swainson's Hawk (*Buteo swainsoni*; Ruelas 2007). Another site of great importance is the Isthmus of Tehuantepec due to a number of major flyways coinciding at this point. Preliminary estimates put a figure at more than 12 million birds of at least 130 migratory species recorded at this site, including 4 million migratory raptors (Villegas *et al*. 2005, Nava 2007).



The Endangered Worthen's Sparrow (*Spizella wortheni*) is currently known to breed at only three sites and has an estimated maximum population of 120. Photo: Adam Kent

The Endangered Horned Guan (*Oreophasis derbianus*) is restricted to the Madrean Highlands biome, reaching the northern limits of its range in Mexico. Photo: Mike Todd

The Near Threatened Rose-bellied Bunting (*Passerina rositae*) is endemic to the Pacific slope of the Tehuantepec Isthmus. Photo: Manuel Grosselet & Georgita Ruiz; www.tierradeaves.com

Bird Conservation Regions (Rich *et al*. 2004) have been identified for Mexico, which together with the biomes identified by Stotz *et al*. (1996) have been adapted for IBA identification (see Methods). Five biomes exist in Mexico with approximately 195 biome-restricted species. Among these, and also endemic to Mexico, are West Mexican Chachalaca (*Ortalis poliocephala*) and Elegant Quail (*Callipepla douglasii*) restricted to Pacific Arid slope biome (PAS) and Boucard's Wren (*Campylorhynchus jocosus*) and Aztec Thrush (*Zoothera pinicola*) restricted to the Madrean highlands (MAH).

"Mexico lies on the major migratory flyways of the hemisphere, concentrating millions of birds in spectacular congregations."

Approximately 98 species are politically endemic to Mexico (Berlanga *et al*. 2008), most of which also belong to one of 18 Endemic Bird Areas (EBAs) identified for the country. Of these, 15 are exclusive to Mexico, two are shared with Central America and one with the United States (Stattersfield *et al*. 1998). The EBA with the highest number of species is North Central American highlands (EBA 018) with 20 restricted-range species (split between Guatemala, El Salvador, Honduras and Nicaragua), followed by Balsas region and interior Oaxaca (EBA 008) with 10 species and North-west Mexican Pacific slope (EBA 005) with six species. Endemic and restricted-range species include San Blas Jay (*Cyanocorax sanblasianus*) in EBA 005 and EBA 008 and Oaxaca Sparrow (*Aimophila notosticta*) in EBA 008.

Mexico holds the largest number of migratory species in North America, given that more than 80% of the 361 species classified as Neotropical migrants pass through or overwinter in Mexico. More

The most important sites for shorebirds and waterbirds in Mexico are the coastal wetlands in the northwest of the country. There are nine sites within the Western Hemisphere Shorebird Reserve Network (WHSRN), including Bahía de Santa María (MX228), where an estimated third of all shorebirds (almost 1 million birds) traveling along the Pacific flyway spend the northern winter. It is also used as a stopover site for thousands of birds en route to Panama and South America. Other important sites for waterbirds are Ría Celestún (MX183) and Ría Lagartos (MX186) in Yucatán, with important populations of flamingos at the former.

Birds have a great cultural value in Mexico, being present in the everyday life of the population, for example, in folklore, handicrafts and music. Due to the value placed on birds as pets, there is widespread trade in passerine and other ornate species in the country. Principal threats to birds in the country include this illegal trade, habitat loss, urban expansion and climate change, among others.

[1] Changes in IUCN category in 2008 include, Ferruginous Hawk (*Buteo regalis*), Long-billed Curlew (*Numenius americanus*) and Brewer's Sparrow (*Spizella breweri*): from NT to LC; Mountain Plover (*Charadrius montanus*) from VU to NT; Guadalupe Junco (*Junco insularis*), formerly CR and Slate-blue Seedeater (*Amaurospiza relicta*), formerly NT, are no longer recognized as valid species.

IBA overview

The first IBA directory for Mexico was published in 2000 after a thorough consultation process between 1996 and 1998 led by CIPAMEX and supported by a national committee of experts, academics and conservationists. A national workshop and four regional workshops were held as part of this process, resulting in the nomination of 226 IBAs, including both nationally important as well as global IBAs, according to the BirdLife criteria at the time. The IBA directory (Arizmendi & Márquez 2000) was published by CIPAMEX with the support of numerous institutions. The National Commission for Use and Knowledge of Biodiversity (CONABIO) adopted the IBA inventory, providing official recognition of IBAs in Mexico, thus ensuring wide reference to IBAs in decision-making processes within conservation projects in the country (Box 1).

The Mexican IBA directory was the first national directory to be published in the Americas. An updating and review process of the IBA database in Mexico was begun in 2005, with a series of workshops being coordinated by CONABIO between 2007 and 2008, with the support of Pronatura (BirdLife affiliate in Mexico) as well as many other institutions and experts. The current global IBA inventory in Mexico stands at 145 (Table 1, Figure 1). Of these, 123 meet criterion A1, 72 apply under A2, 28 under A3, 46 under A4, of which 38 meet A4i and 11 meet A4ii. Ten IBAs meet all four criteria simultaneously[2].

"The National Biodiversity Commission officially recognized IBAs in Mexico, ensuring reference to the program in decision-making processes."

Table 1. Important Bird Areas in Mexico

IBA code	IBA name	Adm unit	Area (ha)	A1				A2	A3	A4			
				CR	EN	VU	NT			A4i	A4ii	A4iii	A4iv
MX001	Lago de Texcoco	Estado de México	15,107				1			X			
MX002	Cuitzeo	Michoacán	145,829		1			X		X			
MX003	Pátzcuaro	Michoacán	186,282		1		1	X					
MX005	Tancítaro	Michoacán	216,801		1		3		X				
MX006	Reserva de la Biósfera Sierra Gorda	Querétaro	364,299		3	2							
MX007	Sótano del Barro	Querétaro	859			1							
MX009	Ciénegas del Lerma	Estado de México	7,446		1			X		X			
MX010	Tecolutla	Veracruz	661		1	1	1	X		X			
MX011	Sierra Norte	Oaxaca	1,423,726		1	1	2	X					
MX012	Sierra de Miahuatlán	Oaxaca	248,826		1	1		X					
MX014	Sur del Valle de México	Distrito Federal, Estado de México, Morelos	100,150		1		1	X					
MX015	Sierra de Zongolica	Veracruz	67,617		1	1	2	X					
MX017	Sierra de Taxco-Nevado de Toluca	Estado de México, Guerrero	179,308					X					
MX018	Cañon del Zopilote	Guerrero	92,374			1	3	X					
MX019	Acahuizotla-Agua del Obispo	Guerrero	66,580		1	4	3	X					
MX020	Sierra de Atoyac	Guerrero	171,664	1	1	4	2	X					
MX021	Omiltemi	Guerrero	4,958			2		X					
MX022	Vallecitos de Zaragoza	Guerrero	54,814			3	3	X					
MX023	Cuenca Baja del Balsas	Guerrero, Michoacán	191,653			2	3						
MX024	Lagunas Costeras de Guerrero	Guerrero	20,846				1	X	X	X			
MX025	Coalcomán-Pómaro	Michoacán	437,084		1	3	3						
MX026	Valle de Tehuacán-Cuicatlán	Oaxaca, Puebla	459,578			1	2	X					
MX028	Tlaxiaco	Oaxaca	149,901			1		X					
MX029	Islas Marietas	Nayarit	5,346				1				X		
MX030	Islas Marías	Nayarit	23,784		1								
MX031	Islas Revillagigedo	Colima	39,620	1	1	1	1	X	X		X		
MX032	Nevado de Colima	Colima, Jalisco	13,666		1		1	X					
MX033	Chamela-Cuitzmala	Jalisco	13,339		1	2	3	X	X				
MX035	Tlanchinol	Hidalgo	22,301		2	1							
MX037	Ciénega de Tláhuac	Distrito Federal, Estado de México	2,860							X			
MX038	Cuetzalan	Puebla	26,051			1							
MX039	Cañón de Lobos	Morelos	4,500				2	X					
MX040	Sierra de Huautla	Guerrero, Morelos, Puebla	248,056				2	X					
MX041	Humedales de Alvarado	Veracruz	183,538		1		1			X			
MX042	Huayacocotla	Veracruz	62,834			1							
MX045	Sierra del Abra-Tanchipa	San Luis Potosí	20,742					X					
MX046	El Carricito	Jalisco	109,479		1		1						
MX048	Reserva Ecológica Sierra de San Juan	Nayarit	16,118			1		X					
MX050	Isla Isabel	Nayarit	4,144				1						
MX053	Sierra de Valparaiso	Zacatecas	119,865				1						

[2] Lagunas Costeras de Guerrero (MX024), Presa Cajón de Peñas (MX059), Islas Revillagigedo (MX031), Los Tuxtlas (MX151), La Encrucijada (MX168), Sian Ka'an (MX179), Ría Celestún (MX183), Ría Lagartos (MX186), Yum-balam (MX187), Uxpanapa (MX193)

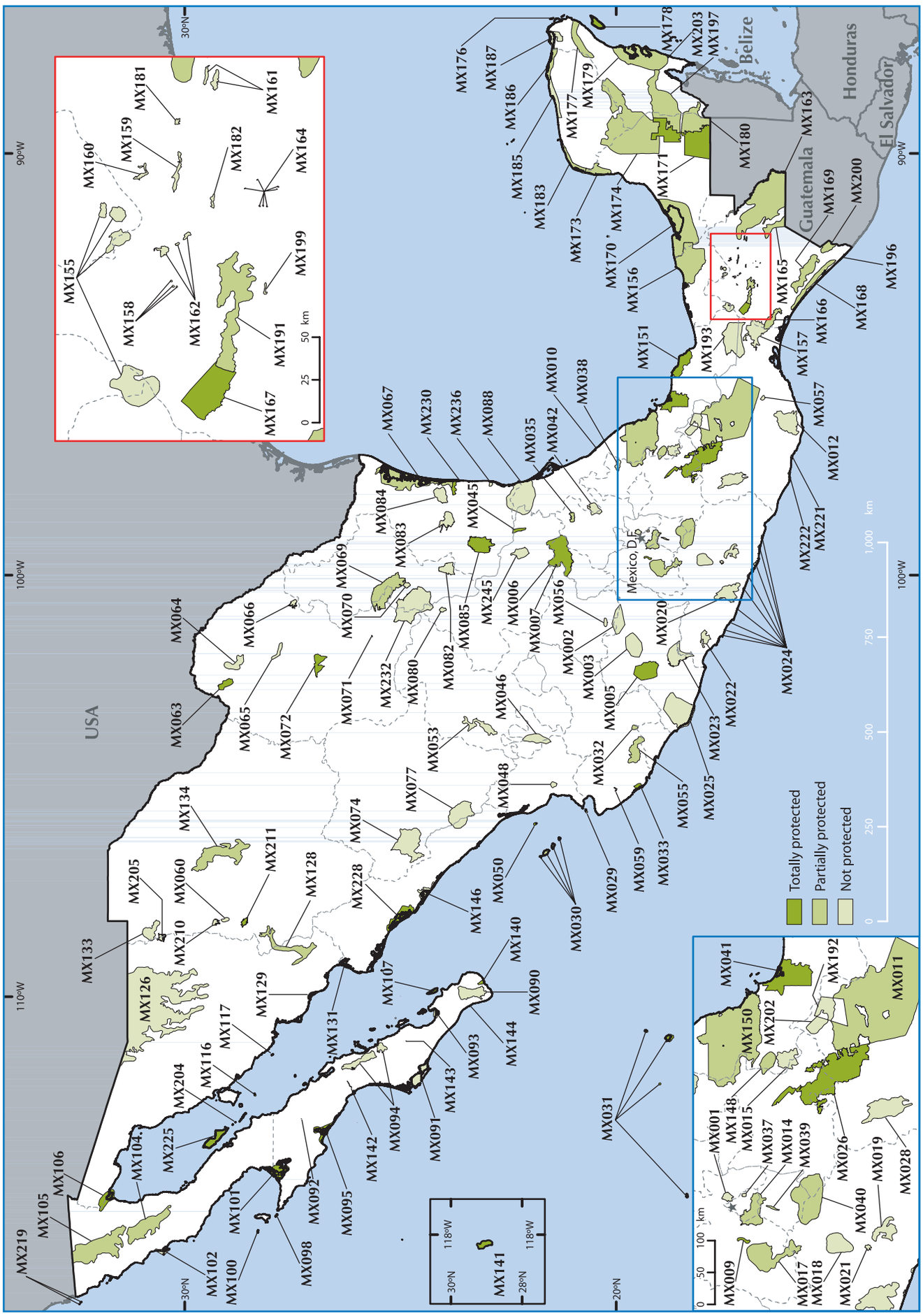
IBA code	IBA name	Adm unit	Area (ha)	A1				A2	A3	A4			
				CR	EN	VU	NT			A4i	A4ii	A4iii	A4iv
MX055	Sierra de Manantlán	Colima, Jalisco	138,878		1	2	1						
MX056	Laguna de Yuriria	Guanajuato	14,739		1								
MX057	Cerro Piedra Larga	Oaxaca	8,800				1	X					
MX059	Presa Cajón de Peñas	Jalisco	2,647		1	2	1	X	X	X			
MX060	Babícora	Chihuahua	13,860							X			
MX063	Sierra Maderas del Carmen	Coahuila	52,856			1	5	X					
MX064	Sierra del Burro	Coahuila	86,209			1	2	X					
MX065	Nacimiento Río Sabinas, SE Sierra de Santa Rosa	Coahuila	32,316			1	5						
MX066	Presa Venustiano Carranza	Coahuila	19,998				4						
MX067	Laguna Madre	Tamaulipas	529,769				3			X			
MX069	Sierra de Arteaga	Coahuila, Nuevo León	354,762			1	1	X					
MX070	El Potosí	Nuevo León	15,657			1	1				X		
MX071	Presa el Tulillo	Coahuila	569				3						
MX072	Cuatro Ciénegas	Coahuila	83,598				2						
MX074	San Juan de Camarones	Durango	355,822					X					
MX077	Río Presidio-Pueblo Nuevo	Durango, Sinaloa	274,755				1	X					
MX080	El Manantial	San Luis Potosí	13,251		1	2	2						
MX082	San Antonio Peña Nevada	Nuevo León	77,269			1	3	X			X		
MX083	Presa Vicente Guerrero	Tamaulipas	90,501		1		1						
MX084	Parras de la Fuente	Tamaulipas	92,378				2				X		
MX085	El Cielo	Tamaulipas	184,041		3	3	4	X					
MX088	Humedales del Sur de Tamaulipas y Norte Veracruz	Tamaulipas, Veracruz	448,784		2	2	2	X					
MX090	Sierra de La Laguna	Baja California Sur	153,924					X	X				
MX091	Bahía Magdalena-Almejas	Baja California Sur	96,724							X	X		
MX092	Oasis San Ignacio	Baja California Sur	46	1				X					
MX093	Ensenada de la Paz	Baja California Sur	28,342					X					
MX094	Sierra La Giganta	Baja California Sur	155,074					X					
MX095	Complejo Lagunar San Ignacio	Baja California Sur	107,626							X			
MX098	Isla Natividad	Baja California Sur	4,738				1						
MX100	Isla Benitos	Baja California	2,848				2						
MX101	Complejo Lagunar Ojo de Liebre	Baja California Sur	135,470									X	
MX102	Area San Quintín	Baja California	38,460				1			X			
MX104	Sierra San Pedro Martir	Baja California	342,815			1	1	X	X				
MX105	Sierra Juárez	Baja California	570,588			1		X	X				
MX106	Delta del Río Colorado	Baja California, Sonora	107,702				1			X			
MX107	Isla Cerralvo	Baja California Sur	28,575							X			
MX116	Isla San Pedro Martir	Baja California	2,316							X	X		
MX117	Isla San Pedro Nolasco	Sonora	3,236							X	X		
MX126	Sistema de Sierras de la Sierra Madre Occidental	Sonora	2,290,087				1						
MX128	Alamos-Río Mayo	Chihuahua, Sonora	238,184			1	1	X	X				
MX129	Sistema Tóbari	Sonora	21,538				1						
MX131	Agiabampo	Sinaloa, Sonora	41,393							X			
MX133	Janos-Nuevo Casas Grandes	Chihuahua	99,090			2	3			X			
MX134	Sierra del Nido	Chihuahua	401,932		1								
MX140	Estero de San José	Baja California Sur	13,017	1				X					
MX141	Isla Guadalupe	Baja California	46,457			2	1						
MX142	Oasis La Purisima y San Isidro	Baja California Sur	866	1									
MX143	Oasis San Pedro de la Presa	Baja California Sur	83	1				X					
MX144	Oasis Punta San Pedro-Todos Santos	Baja California Sur	84	1									
MX146	Ensenada de Pabellones	Sinaloa	76,147							X			
MX148	Río Metlac	Veracruz	48,728			1	1	X					
MX150	Centro de Veracruz	Veracruz	806,599		1	2	2	X		X			
MX151	Los Tuxtlas	Veracruz	154,673		2		3	X	X	X			
MX155	Sierra de Tabasco	Tabasco	61,861			1	2	X					
MX156	Pantanos de Centla	Tabasco	508,699		1					X			
MX157	Chimalapas	Oaxaca	199,352			1	2	X					
MX158	Cerros de Tapalapa	Chiapas	247		1		1						
MX159	Cerro Saybal-Cerro Cavahlná	Chiapas	3,909		1	1	1						
MX160	Cordón Jolvit	Chiapas	2,053		1	1	1						
MX161	Sierra Chixtontic-Sierra Canjá	Chiapas	4,541			1	1						

IBA code	IBA name	Adm unit	Area (ha)	A1				A2	A3	A4			
				CR	EN	VU	NT			A4i	A4ii	A4iii	A4iv
MX162	Cerro Blanco, La Yerbabuena y Jotolchén	Chiapas	3,582		1	1	1						
MX163	Montes Azules	Chiapas	1,085,138			1	2		X	X			
MX164	Cerros de San Cristóbal de las Casas	Chiapas	233		1	1	1	X					
MX165	Lagos de Montebello	Chiapas	112,651		1		1	X					
MX166	La Sepultura	Chiapas	85,691			1	3	X	X				
MX167	El Ocote	Chiapas	49,437			2	4	X					
MX168	La Encrucijada	Chiapas	166,489				1	X	X	X	X		
MX169	El Triunfo	Chiapas	214,222		1	1	3	X					
MX170	Laguna de Términos	Campeche	750,032		1				X	X	X		
MX171	Calakmul	Campeche	712,466				3		X				
MX173	Los Petenes	Campeche	116,083				1			X			
MX174	Sierra de Ticúl-Punto Put	Campeche, Quintana Roo, Yucatán	1,510,698				3						
MX176	Isla Contoy	Quintana Roo	4,280	1			2	X		X	X		
MX177	Corredor Central Vallarta-Punta Laguna	Quintana Roo	176,425				3	X	X				
MX178	Isla Cozumel	Quintana Roo	73,343				3	X	X				
MX179	Sian Ka'an	Quintana Roo	567,776				4	X	X	X			
MX180	Sur de Quintana Roo	Quintana Roo	243,147				2			X			
MX181	Sierra Anover	Chiapas	689		1	1	1						
MX182	Cerros de Chalchihuitán	Chiapas	1,095		1	1	1	X					
MX183	Ría Celestún	Yucatán	96,892				2	X	X	X			
MX185	Reserva Estatal de Dzilám	Yucatán	98,026				3	X		X			
MX186	Ría Lagartos	Yucatán	84,431				4	X	X	X			
MX187	Yum-balam	Quintana Roo	87,285				3	X	X	X			
MX191	Corredor Laguna Bélgica-Sierra Limón-Cañon Sumidero	Chiapas	648,282			2	3	X					
MX192	Cerro de Oro	Oaxaca, Veracruz	67,431				3	X					
MX193	Uxpanapa	Oaxaca, Veracruz	362,203		1	1	2	X	X				X
MX196	Laguna Pampa El Cabildo	Chiapas	214					X					
MX197	Corredor Calakmul-Sian Ka'an	Quintana Roo	615,668				3	X	X				
MX199	Zapotal-Mactumatza	Chiapas	634				1						
MX200	El Tacaná	Chiapas	67,038		2	2	2	X					
MX202	Presa Temascal	Oaxaca	48,091				3	X		X			
MX203	Uyumil Ce'h	Quintana Roo	1,152					X	X				
MX204	Isla Rasa	Baja California	60				2			X			
MX205	Mesa de Guacamayas	Chihuahua, Sonora	19,522		1		2					X	
MX210	Cebadillas	Chihuahua	16,370		1		1						
MX211	Maderas Chihuahua	Chihuahua	19,552		1		2						
MX219	Islas Coronado	Baja California	104		1								
MX221	Laguna de Manialtepec	Oaxaca	3,727				2		X				
MX222	Laguna de Chacahua-Pastoría	Oaxaca	8,630						X				
MX225	Isla Angel de la Guarda	Baja California	104,843						X				
MX228	Bahía Santa María	Sinaloa	165,099							X			
MX230	Desembocadura Río Soto La Marina	Tamaulipas	38,664					X					
MX232	Pradera de Tokio	Coahuila, Nuevo León, San Luis Potosí, Zacatecas	504,747		1	3	3			X			
MX236	Rancho Los Colorados y área de influencia	Tamaulipas	6,650		2		1	X					
MX245	San Nicolás de los Montes	San Luis Potosí	72,606			1							

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

Red-breasted Chat
(*Granatellus venustus*)
Photo: Scott Somershoe

Figure 1. Location of Important Bird Areas in Mexico



The Endangered Thick-billed Parrot (*Rhynchopsitta pachyrhyncha*) is endemic to NW Mexico and triggers IBA criteria at seven sites, including Mesa de Guacamayas (MX205). Photo: Fulvio Eccardi

IBAs in Mexico hold 73 of 95 threatened and Near Threatened species (BirdLife International 2007). Twenty-one threatened or Near Threatened species meet IBA criteria at just a single site in Mexico (Table 2), of which 14 occur at just one IBA in the Americas (in bold). El Cielo (MX085), in the state of Tamaulipas, has the highest number of species (10) meeting IBA criteria at a single site, followed by Acahuizotla-Agua del Obispo (MX019) and Sierra de Atoyac (MX020) with eight.

Of the 24,223,487 ha designated as IBAs in Mexico, a little less than 7 million ha (28%) are protected under a federal protection category. Other private and state conservation mechanisms also exist in some IBAs.

Although new databases and better knowledge of birds over the last 10 years have allowed the national IBA inventory to be updated and reviewed, a gap analysis concluded that to achieve a target of 10% of habitat conserved for certain resident birds, it will be necessary to conserve almost 20% of the country (CONABIO *et al*. 2007). Using this study as a basis, CONABIO and Pronatura are collaborating on promoting the identification of new IBAs in the country.

"CONABIO and Pronatura are collaborating on promoting the identification of new IBAs in the country."

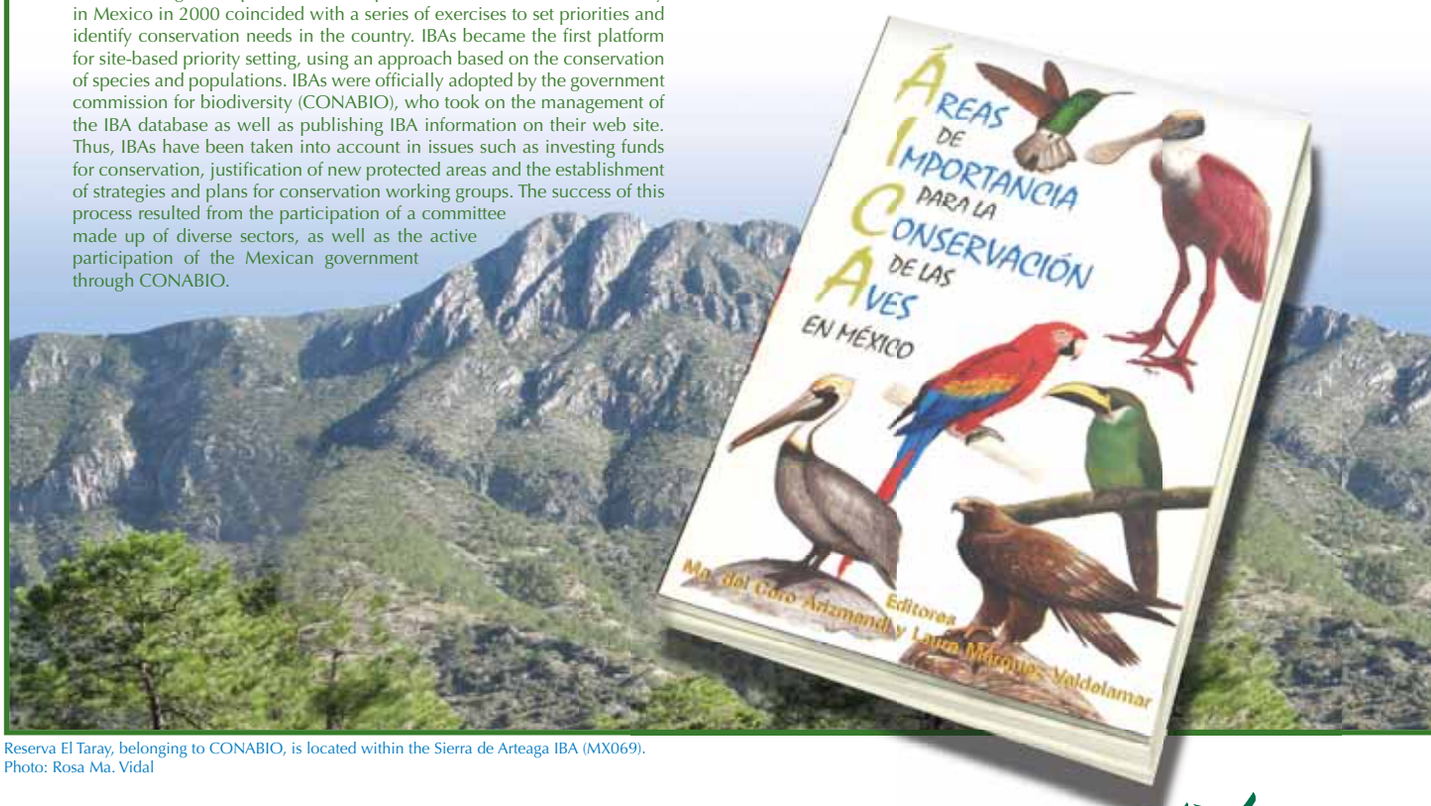
Table 2. A1 species meeting IBA criteria at a single site in Mexico

Common name	Scientific name	IUCN category 2007	IBA name
Ocellated Quail	*Cyrtonyx ocellatus*	NT	El Triunfo (MX169)
Laysan Albatross	***Phoebastria immutabilis***	VU	Isla Guadalupe (MX141)
Ashy Storm-petrel	*Oceanodroma homochroa*	EN	Islas Coronado (MX219)
Piping Plover	*Charadrius melodus*	NT	Laguna Madre (MX067)
Elegant Tern	*Sterna elegans*	NT	Isla Rasa (MX204)
Xantus's Murrelet	*Synthliboramphus hypoleucus*	VU	Isla Guadalupe (MX141)
Tuxtla Quail-dove	***Geotrygon carrikeri***	EN	Los Tuxtlas (MX151)
Socorro Parakeet	***Aratinga brevipes***	EN	Islas Revillagigedo (MX031)
Short-crested Coquette	***Lophornis brachylophus***	CR	Sierra de Atoyac (MX020)
Blue-capped Hummingbird	***Eupherusa cyanophrys***	EN	Sierra de Miahuatlán (MX012)
Mexican Woodnymph	***Thalurania ridgwayi***	VU	Reserva Ecológica Sierra de San Juan (MX048)
Belted Flycatcher	*Xenotriccus callizonus*	NT	Corredor Laguna Bélgica-Sierra Limón-Cañon Sumidero (MX191)
Tufted Jay	***Cyanocorax dickeyi***	NT	Río Presidio-Pueblo Nuevo (MX077)
Socorro Wren	***Troglodytes sissonii***	NT	Islas Revillagigedo (MX031)
Clarion Wren	***Troglodytes tanneri***	VU	Islas Revillagigedo (MX031)
Socorro Mockingbird	***Mimus graysoni***	CR	Islas Revillagigedo (MX031)
Cozumel Thrasher	***Toxostoma guttatum***	CR	Isla Cozumel (MX178)
Sierra Madre Sparrow	***Xenospiza baileyi***	EN	Sur del Valle de México (MX014)
Oaxaca Sparrow	***Aimophila notosticta***	NT	Valle de Tehuacán-Cuicatlán (MX026)
Rose-bellied Bunting	***Passerina rositae***	NT	La Sepultura (MX166)
Azure-rumped Tanager	*Tangara cabanisi*	EN	El Tacaná (MX200)

National conservation strategies integrate IBAs

Box 1

The IBA designation process and the publication of the first site directory in Mexico in 2000 coincided with a series of exercises to set priorities and identify conservation needs in the country. IBAs became the first platform for site-based priority setting, using an approach based on the conservation of species and populations. IBAs were officially adopted by the government commission for biodiversity (CONABIO), who took on the management of the IBA database as well as publishing IBA information on their web site. Thus, IBAs have been taken into account in issues such as investing funds for conservation, justification of new protected areas and the establishment of strategies and plans for conservation working groups. The success of this process resulted from the participation of a committee made up of diverse sectors, as well as the active participation of the Mexican government through CONABIO.



Reserva El Taray, belonging to CONABIO, is located within the Sierra de Arteaga IBA (MX069).
Photo: Rosa Ma. Vidal

Opportunities

IBAs in Mexico have been used as criteria to select sites for conservation projects, for example by the Mexican Nature Conservation Fund and National Science and Technology Council (CONACyT). IBAs have also informed regional-scale conservation initiatives, for example, the Mesoamerican Biological Corridor (Box 2). At present, no systematic inventory exists of protection efforts, conservation projects or research implemented at IBAs. However, many IBAs, especially those that are protected areas, already have management plans. Also, Local Conservation Groups made up of community members have implemented conservation projects at many sites, including sustainable production initiatives and ecotourism, among others. Different regional Pronatura offices have implemented projects and/or monitoring in at least 50 IBAs, and many other local organizations and universities have supported the study and conservation of birds, including research groups at Universidad Nacional Autónoma de México, Universidad Michoacana, Instituto Tecnológico de Estudios Superiores de Monterrey, Centro de Investigación Científica de Ensenada, Universidad Juarez Autónoma de Tabasco and El Colegio de la Frontera Sur, to name just a few. Local NGOs implementing bird conservation projects include groups such as Profauna, Amigos de Sian Ka¨an, Naturalia, Isla and Terra Peninsular (Box 3).

Among the main challenges facing the IBA program in Mexico, are:

- increasing the area of IBAs covered by legal or private protection categories;
- establishing a monitoring network (biological and conservation focused);
- strengthening IBA networks for conservation of priority sites for migratory and congregatory species;
- implementing management actions for threatened species;
- increasing local participation;
- strengthening grass-roots organizations supporting conservation and sustainable production.

"Principal challenges in the IBA program will be in ecosystems vulnerable to climate change and in the establishment of marine IBAs."

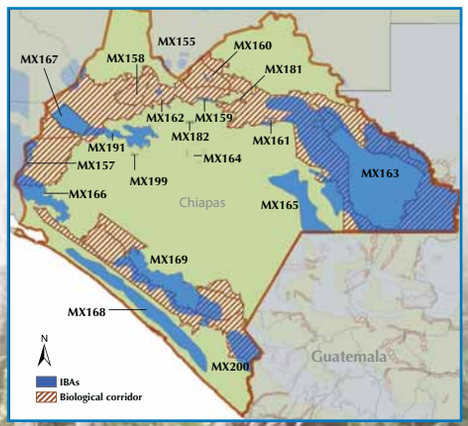
However, the principal challenges will undoubtedly be in those ecosystems most vulnerable to climate change, such as montane cloud forests, as well as in the establishment of marine IBAs. In the next few years, and as part of Pronatura's agenda in Mexico, Pronatura and CONABIO will work to position IBAs as priority sites for conservation in the country, and to coordinate a strategy for their long-term conservation.

Monitoring, education and bird guide training are part of a project to protect the Critically Endangered Belding's Yellowthroat (*Geothlypis beldingi*) at Estero de San José (MX140), Baja California.
Photo: Javier Lascurain; www.rarebirdsyearbook.com

Box 2

IBA network guides definition of Mesoamerican Biological Corridor

Figure 2. IBAs and the Mesoamerican Biological Corridor in Chiapas, Mexico.



During the 1990s, a group of ornithologists (Philip Bubb, Claudia Macias and the first author) identified a network of important montane cloud forest sites in the north of Chiapas (Figure 2). As well as providing habitat to important and endemic species of flora and fauna, these sites also represent the northernmost limits of the range of the Resplendent Quetzal (*Pharomachrus mocinno*). Information on the designation of these sites as Important Bird Areas, including maps, was published and has been used in different planning exercises. The Mesoamerican Biological Corridor Project also identified these sites as the basis for delimiting the corridor in the northern part of Chiapas. However, investment to date has been scarce over the majority of the corridor's area and cloud forest fragments remain threatened. Although indigenous communities in the region have promoted its protection through local strategies and the production of shade-grown coffee, the region continues to be characterized by its high levels of poverty and great vulnerability.

Cloud forest in Cerros de Tapalapa (MX158), north Chiapas.
Photo: Rosa Ma. Vidal

Further information

National IBA directory

Áreas de Importancia para la Conservación de las Aves en México (Arizmendi & Marquez V. 2000).

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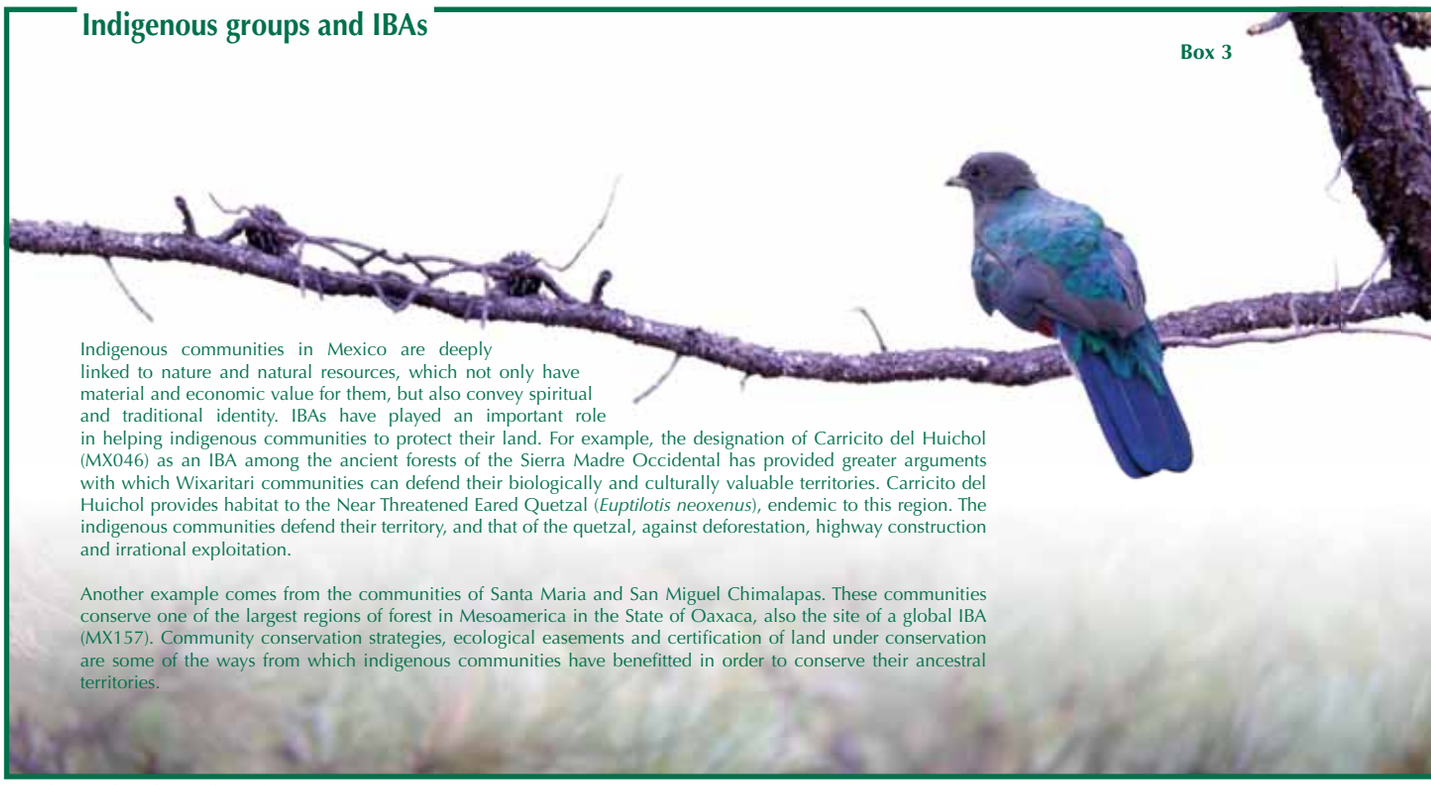
Indigenous groups and IBAs

Box 3



Indigenous communities in Mexico are deeply linked to nature and natural resources, which not only have material and economic value for them, but also convey spiritual and traditional identity. IBAs have played an important role in helping indigenous communities to protect their land. For example, the designation of Carricito del Huichol (MX046) as an IBA among the ancient forests of the Sierra Madre Occidental has provided greater arguments with which Wixaritari communities can defend their biologically and culturally valuable territories. Carricito del Huichol provides habitat to the Near Threatened Eared Quetzal (*Euptilotis neoxenus*), endemic to this region. The indigenous communities defend their territory, and that of the quetzal, against deforestation, highway construction and irrational exploitation.

Another example comes from the communities of Santa Maria and San Miguel Chimalapas. These communities conserve one of the largest regions of forest in Mesoamerica in the State of Oaxaca, also the site of a global IBA (MX157). Community conservation strategies, ecological easements and certification of land under conservation are some of the ways from which indigenous communities have benefitted in order to conserve their ancestral territories.

Near Threatened Eared Quetzal (*Euptilotis neoxenus*)
Photo: Brennan Mulrooney

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Globally important concentrations of Willet (*Catoptrophorus semipalmatus*) and Marbled Godwit (*Limosa fedoa*) are found at three IBAs in Mexico.
Photo: Marco Antonio Bernal