

Important Bird Areas of the Neotropics: **Guatemala**

Knut Eisermann and Claudia Avendaño

In the fourth article in our series on the Important Bird Areas of the Neotropics, leading figures from Guatemala's leading conservation organisation discuss that country's key sites for bird conservation.



Male Wine-throated Hummingbird *Atthis ellioti* gather at courtship leks at high elevations in northern Central America, here in the Reserva Chelemhá. The species has been recorded in six Guatemalan IBAs

All photographs by Knut Eisermann



Above: Blue-and-white Mockingbird *Melanotis hypoleucus* is common in secondary scrub and open pine-oak forests and has been recorded in seven Guatemalan IBAs; this is an immature

Inset: Azure-rumped Tanager *Tangara cabanisi* at the Reserva Los Tarrales on the south-eastern slope of Atitlán volcano (IBA GT015). Endangered due to considerable habitat loss of habitat in its small distribution range, this species has been recorded in three Guatemalan IBAs

As regular readers of this series will know, BirdLife International and its allied organisations apply consistent and quantitative criteria worldwide in their quest to identify Important Bird Areas (IBAs). These comprise: the occurrence of globally threatened, restricted-range and biome-restricted species, and significant bird congregations. Birds falling into these categories are conservation priorities, and many of them are also target species for birders. So IBAs are often where birding and conservation can come together. This is true of Guatemala, an attractive birding destination with more than 725 bird species⁶.

Guatemala is a primarily agricultural country where c.12 million people live in an area roughly the size of Bulgaria or the state of Tennessee, USA. Guatemala contains three distinct zoogeographic regions: the Atlantic slope lowlands cover about half of the country, with the highlands encompassing a third, and the Pacific slope lowlands (including interior valleys) accounting for the remainder (Fig. 1).

Restricted-range species in the highlands

The natural vegetation of the Guatemalan highlands is characterised by conifer and mixed forest, and, on the most humid mountain slopes, by cloud forest. Most of Guatemala's inhabitants live here, taking advantage of the favourable climate and fertile soils. Consequently, forests have been fragmented and one-third of the area is now used for agriculture.

The north Central American highlands of which Guatemala forms part is isolated by the isthmus of Tehuantepec in Mexico and the Nicaraguan lowland, and harbours many endemic plant and animal species. The Guatemalan highlands are home to 22 restricted-range species (constituting 9% of the region's 250 breeding species)^{5,18}. Horned Guan *Oreophasis derbianus*, Bearded Screech Owl *Megascops barbarus*, Pink-headed Warbler *Ergaticus versicolor*, Azure-rumped Tanager *Tangara cabanisi* and Black-capped Siskin *Carduelis atriceps* occur

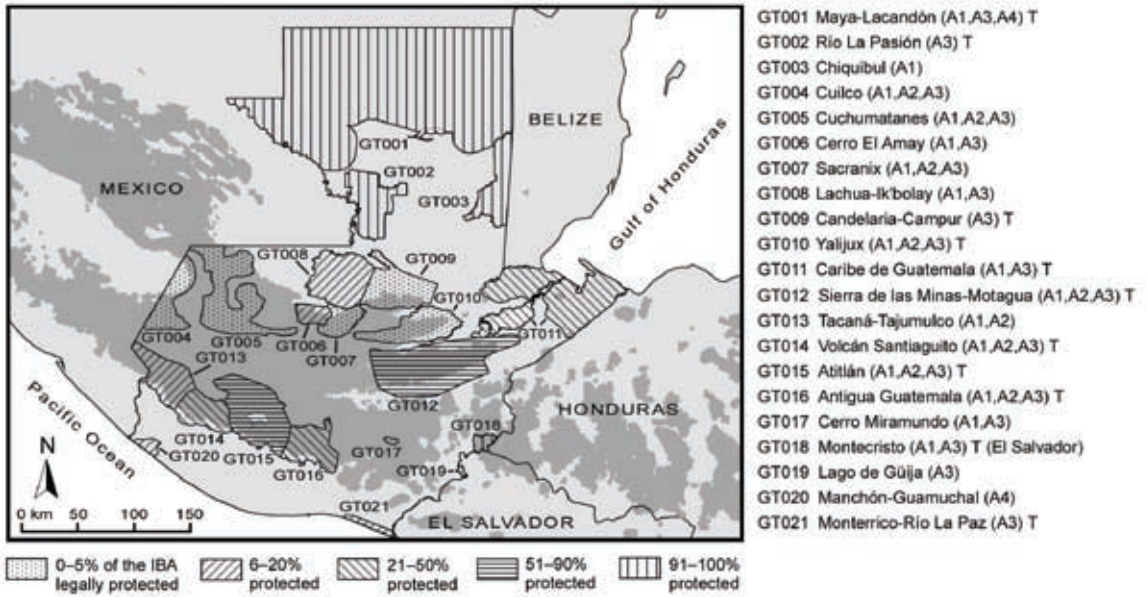


Figure 1. Guatemala's Important Bird Areas.

Dark grey=highlands over 1000 m altitude. IBA criteria: A1=site supports at least one globally threatened species; A2=site supports at least 33% of the restricted-range species occurring in the country; A3=site supports at least 33% of the biome-restricted species occurring in the country, A4=site supports 1% of the population of a waterbird species. IBAs marked with 'T' have birding sites with well-developed tourism infrastructure.

only in the mountains of Guatemala and the state of Chiapas in southern Mexico¹² and are by no means common within this small range. For example the population of Horned Guan is split into several tiny fragments, inhabiting a handful of isolated cloud forests above 2,000 m altitude.

Most restricted-range species occur only in forest: the few that can also persist in open areas such as coffee plantations and secondary growth include Bushy-crested Jay *Cyanocorax melanocyaneus*, Rufous-collared Thrush *Turdus rufitorques* and Blue-and-white Mockingbird *Melanotis hypoleucus*. While most restricted-range birds appear to be resident, hummingbirds such as Wine-throated Hummingbird *Atthis ellioti* and Slender Sheartail *Doricha enicura* occur seasonally; their local movements are not yet fully understood.

Highest species richness in the Atlantic slope lowland

Sixty years ago, the lowlands on Guatemala's Atlantic slope were covered with vast rainforests. A subsequent government programme promoted colonisation of the area, leading to extensive deforestations in the southern province of Petén. Today cattle farms rule the landscape

and extensive forest is restricted to a single IBA: Maya-Lacandón (GT001), north of Lake Petén Itzá. Taken together with adjacent forests in Belize and in the Mexican states of Campeche and Quintana Roo, this IBA is part of the largest Neotropical rainforest north of the Amazon basin. Maya-Lacandón has sufficient forest to hold species with large home ranges such as Crested Eagle *Morphnus guianensis* and top predators such as Jaguar *Panthera onca*.

The Atlantic slope lowlands have the greatest avian species richness of any area in Guatemala, holding more than 500 species. Of these, 27 occur exclusively in the Atlantic slope lowlands of Mesoamerica (including the Yucatán peninsula). These include Ocellated Turkey *Meleagris ocellata*, Tawny-winged Woodcreeper *Dendrocincla anabatina*, Chestnut-colored Woodpecker *Ceuleus castaneus*, White-collared Manakin *Manacus candei*, Nightingale Wren *Microcerculus philomela*, Black-throated Shrike-Tanager *Lanio aurantius* and Montezuma Oropendula *Psarocolius montezuma*. Even so, the avifauna of the Atlantic slope lowlands has lower levels of endemism than that of the highlands, with many species also occurring in southern Central America.

Pacific slope lowland: dry but with important wetlands

During the colonial era (16–19th century), forests on the Pacific coastal plain were clear-cut for cacao plantations and cattle farms. Today these areas are dominated by extensive sugar cane plantations that are avian deserts, bereft of birdlife. The Pacific lowland is generally dry and thorn scrub in the Motagua valley is the driest region in Central America. Birds that occur only in this kind of habitat include Lesser Ground Cuckoo *Morococcyx erythropygus*, Russet-crowned Motmot *Momotus mexicanus* and White-lored Gnatcatcher *Polioptila albiloris*.

The whole isthmus of Mesoamerica is a bottleneck for bird populations migrating between North and South America. Stopover sites are especially important for their conservation. Large numbers of American White Pelican *Pelecanus erythrorhynchos*, Great Egret *Ardea alba*, Little Blue Heron *Egretta caerulea* and Snowy Egret *Egretta thula* gather in two internationally important wetlands on Guatemala's Pacific coast. Manchón-Guamuchal IBA (GT020) supports more than 1% of the world population of American White Pelican.

Globally threatened species

Of Guatemala's landbirds, eight species are considered to be globally threatened¹. These include Highland Guan *Penelopina nigra*, uplisted from Near Threatened to Vulnerable in 2007. This cracid mainly inhabits cloud forest, which is also the habitat of Horned Guan (Endangered) and Pink-headed Warbler (Vulnerable). Azure-rumped Tanager (Endangered) is endemic to humid broadleaf forests of the Pacific slope mountains of Guatemala and Chiapas (Mexico) and is threatened by habitat loss. Two species of the Atlantic slope lowlands are threatened, namely Yellow-headed Parrot *Amazona oratrix* (Endangered) and Keel-billed Motmot *Electron carinatum* (Vulnerable). An additional 21 species are classified as globally Near Threatened¹; continued habitat destruction risks them being uplisted to one of the higher categories of threat. In addition to deforestation, some bird populations suffer from direct persecution. Horned and Highland Guans are targets for illegal hunters^{9,11} and Yellow-headed Parrot risks national extinction as a result of nest poaching⁴.

Of the 226 non-resident bird species in Guatemala, four are globally threatened. Golden-cheeked Warbler *Dendroica chrysoparia*

(Endangered) breeds in Texas (United States) and requires pine-oak forests on its wintering grounds in northern Central America¹⁶. Cerulean Warbler *Dendroica cerulea* (Vulnerable) uses rainforests on Guatemala's Atlantic slope as stopover sites between its wintering grounds in South America and breeding terrain in the north-eastern USA¹⁹. Two threatened seabirds, Pink-footed Shearwater *Puffinus creatopus* (Vulnerable) and Parkinson's Petrel *Procellaria parkinsoni* (Vulnerable) forage in pelagic waters off Guatemala's Pacific coast.

Sadly, the global 'Red List' contains two other birds known from Guatemala. Atitlan Grebe *Podilymbus gigas*, formerly endemic to Lake Atitlán, went extinct in the 1980s¹³. Eskimo Curlew *Numenius borealis* (Critically Endangered or Probably Extinct¹) has been recorded reliably only once in Guatemala, with a specimen collected in the 19th century¹⁷.

Overview of Guatemala's IBAs

The identification of IBAs in Guatemala was led by the Ornithological Society of Guatemala, in collaboration with more than 50 institutions and communities. Using as a basis the most recent compilation of bird distribution provided by the PROEVAL RAXMU Bird Monitoring Programme⁵, five workshops with local specialists were held in 2006 to compile unpublished data and to discuss IBA delimitation. As a result, 21 IBAs have been identified in Guatemala^{7,8} (Fig. 1). A further six terrestrial sites lack sufficient field data to justify classification, but are expected to hold important species judging from their geographic location and vegetation cover. Another potential IBA is the pelagic waters off the Guatemalan Pacific coast, which are used by foraging Parkinson's Petrels and Pink-footed Shearwaters.

Sites meeting BirdLife's IBA criteria cover a total of 47% of Guatemala's land area. Guatemalan IBAs were delimited using habitat requirements of the species of special concern. Because of the hefty space requirements of certain species, for example due to their altitudinal migrations, the size of Guatemalan IBAs can be rather large, ranging from 4.4–20,950 km². We included within the IBAs not only intact habitat (which comprised 60% of the total area), but also land where restoration efforts are needed (40%).

To protect bird habitat in nearly half the country is challenging: Guatemala's human population is growing so rapidly that it is predicted to double between 2010 and 2050². Consequently, pressure on natural habitats will increase. Guatemala already has one of the highest



Clockwise from top left:

Flock of Black-capped Swallow *Notiochelidon pileata* at Yalijux (IBA GT010). In Guatemala, this hirundine is common above 1,500 m, and has been recorded in ten IBAs

Blue-throated Motmot *Aspatha gularis* in the Reserva Chelemhá, one of ten IBAs from which it is known. In Guatemala, it is common in forests above 1,800 m

Rufous Sabrewing *Campylopterus rufus* at Finca El Pilar (IBA GT016). It is restricted to the Pacific slope mountains of Chiapas (Mexico), Guatemala and El Salvador; in Guatemala it has been recorded in three IBAs

Male Garnet-throated Hummingbird *Lamprolaima rhami* at Mexican thistle *Cirsium mexicanum* flower in the Reserva Chelemhá

The humid broadleaf forest of the Reserva Los Tarrales on the south-eastern slope of Atitlán volcano supports populations of four globally threatened species: Highland Guan *Penelopina nigra*, Horned Guan *Oreophasis derbianus*, Pink-headed Warbler *Ergaticus versicolor* and Azure-rumped Tanager *Tangara cabanisi*



Top: Fulvous Owl *Strix fulvescens* is restricted to high-elevation cloud forests. The species has been recorded in five IBAs, here in the Reserva Chelemhá (IBA GT010)

Bottom: Ocellated Turkey *Meleagris ocellata* is restricted to the Yucatán peninsula; Tikal in the Maya-Lacandón (IBA GT001) is one of the best sites to see this species

Inset: Bushy-crested Jay *Cyanocorax melanocyaneus* is common in plantations and open pine-oak forests and has been recorded in nine Guatemalan IBAs

deforestation rates in Latin America, with 1.3% of remaining forest destroyed per year¹⁰, equivalent to a loss of 343 km². Legally protected areas cover 32% of the country³, but several exist only on paper and lack adequate management. A case in point is the Reserva Biosfera Maya (Maya-Lacandón IBA), which is threatened by forest fires, illegal timber extraction, unsustainable use of non-wood natural resources, conversion of forest to agricultural land and extraction of crude oil¹⁴. As if this were not enough, there are plans to construct several roads within this IBA. If all were built, an estimated 183,000 ha of forest would be lost¹⁵, 10% of the IBA.

The National Forest Institute is paying landowners for five years to protect primary forests and to reforest; such incentives are valuable but of only short-term value. In the longer term, it will be necessary to increase environmental awareness through education (no easy task given that 28% of people aged over 15 are illiterate²) and to create alternative income from sustainable land use. On the first of these two elements, we believe that environmental education programmes need to be reinforced in settlements and urban areas, for example in the colonial city of Antigua Guatemala, which is surrounded by several volcanoes and is part of IBA GT016 Antigua Guatemala. On the second element, low-impact tourism—such as from birdwatching—could provide a financially sustainable means of habitat protection.

Birding in Guatemala's IBAs

Since 1996, when a long-lasting civil war finally ended, there has been a boom in tourist infrastructure in Guatemala. Visitors can now stay in comfort at the country's birding sites, and transfer between them quickly. Birding is good year-round in Guatemala, although April is probably the best month as it lies in both the main breeding season (March–June) and the migration period for northbound Nearctic migrants. An overview of birding hotspots in Guatemala is available online at www.guatemalabirding.com/Destination.html.

At present, 11 of Guatemala's IBAs have tourist destinations of international standard, with access roads, birding trails, viewpoints, lodges, restaurants and local birding guides (Fig. 1). Initiatives such as Los Trrales (IBA GT015 Atitlán; www.tarrales.com) and Chelemhá (IBA GT010 Yalijux; www.chelemha.org) are, quite simply, world-class birding sites. New birding destinations are under development, examples

being Finca El Pilar in IBA Antigua Guatemala GT016 (for which see www.guatemalabirding.com/pilar.htm) or Laguna Lodge Atitlán in IBA GT015 (see www.guatemalabirding.com/lagunalodge.htm). The Guatemalan Birdwatching Roundtable—which comprises private enterprises, communities and government agencies—actively promotes birding in Guatemala. Since 2004, it has run an annual international birdwatching meeting.

The IBA programme will hopefully stimulate the development of further local tourism initiatives, which in turn contribute to the conservation of priority areas. Low-impact birding tourism (following the American Birding Association's principles of birding ethics, for which see www.americanbirding.org/abaethics.htm) can provide particularly valuable economic support for private reserves, which comprise 79 of the 94 protected areas designated in Guatemala from 2001–2006³. These private reserves are of key importance for bird conservation. For example, a network of private reserves at Atitlán volcano (IBA GT015) protects populations of four globally threatened species (Horned and Highland Guans, Pink-headed Warbler and Azure-rumped Tanager), and several private protected areas in Yalijux IBA (GT010) provide habitat for 16 restricted-range bird species.

Birding tourism has another potential benefit. As Daniel Lebbin explained in *Neotropical Birding* 4: 13–18, citizen science programmes can be tools to monitor bird populations in IBAs and to involve more people in conservation. Birders can make their sightings available to researchers and conservationists by uploading them to eBird Guatemala (www.ebird.org/content/guatemala/).

Alternatively, birders can take part in one of Guatemala's two Christmas Bird Counts, coordinated through the Americas as a whole by the National Audubon Society in the United States. The Count in Parque Nacional Tikal (part of IBA GT001) in 2006 was the first in three decades in Guatemala. Another Count now takes place on Atitlán volcano (part of IBA GT015); both are organised by Cayaya Birding. For illustrated reports of the Counts see www.cayaya-birding.com/birdcount.htm.

ACKNOWLEDGMENTS

The identification of IBAs in Guatemala was a combined effort by many individuals and institutions. Special thanks to all authors who have published on the birds of Guatemala, to all contributors of unpublished information and to all participants of critical discussions during the IBA identification. Rob Clay and David Díaz of BirdLife International guided the IBA identification

process in Central America. Funding was provided by US Fish and Wildlife Service, Critical Ecosystem Partnership Fund, BirdLife International, Conservation International, PROEVAL RAXMU Bird Monitoring Programme, Wildlife Conservation Society–Guatemala, IUCN Mesoamerica, Partners in Flight Mesoamerica, Sociedad Guatemalteca de Ornitología, Audubon Panama, Ramsar Regional Center for Training and Research on Wetlands in the Western Hemisphere, International Cooperation Department of the Netherlands Ministry of Foreign Affairs and Consejo Nacional de Áreas Protegidas, Guatemala.

REFERENCES

- BirdLife International (2008) *Threatened birds of the world 2008*. CD-ROM. Cambridge, UK: BirdLife International.
- Comisión Económica para América Latina (2007) *2006 Anuario estadístico de América Latina y el Caribe/Statistical yearbook for Latin America and the Caribbean*. Santiago de Chile: United Nations.
- Consejo Nacional de Áreas Protegidas (2007) *Lista de áreas protegidas inscritas en el SIGAP*. Database (accessed June 2007). Guatemala: Consejo Nacional de Áreas Protegidas.
- Eisermann, K. (2003) Status and conservation of the Yellow-headed Parrot *Amazona oratrix guatemalensis* on the Atlantic coast of Guatemala. *Bird Conserv. Int.* 13: 359–364.
- Eisermann, K. & Avendaño, C. (2006) Diversidad de aves en Guatemala, con una lista bibliográfica. In: E. Cano (ed.) *Biodiversidad de Guatemala, 1*. Guatemala: Universidad del Valle de Guatemala.
- Eisermann, K. & Avendaño, C. (2007) *Lista comentada de las aves de Guatemala/Annotated checklist of the birds of Guatemala*. Barcelona: Lynx Edicions.
- Eisermann, K. & Avendaño, C. (2007) *Áreas propuestas para la designación como IBA (Área Importante para la Conservación de Aves) en Guatemala, con una priorización para la conservación adentro de las IBAs y una evaluación de las IBAs para aves migratorias Neárticas–Neotropicales*. www.avesdeguatemala.org/iba.htm (accessed 10 October 2008).
- Eisermann, K. & Avendaño, C. (in press) Guatemala. In: BirdLife International *Important Bird Areas Americas*. Quito: BirdLife International.
- Eisermann, K., Herrera, N. & Komar, O. (2006) Highland Guan (*Penelopina nigra*). In: Brooks, D. M. (ed.) *Conserving cracids: the most threatened family of birds in the Americas*. *Misc. Publ. Houston Mus. Nat. Sci.* 6.
- FAO (2006) *Global forest resource assessment 2005*. Rome: Food and Agriculture Organisation of the United Nations.
- González-García, F., Rivas Romero, J. A. & Cobar Carranza, A. J. (2006) Horned Guan (*Oreophasis derbianus*). In: D. M. Brooks (ed.), *op.cit.*
- Howell, S. N. G. & Webb, S. (1995) *A guide to the birds of Mexico and northern Central America*. Oxford: Oxford University Press.
- LaBastille, A. (1992) The giant grebes of Atitlán: a chronicle of extinction. *Living Bird Quarterly* 11: 10–15.
- ParksWatch (2005) *Park profile—Guatemala: Laguna del Tigre National Park and Laguna del Tigre—Río Escondido Protected Biotope*. Guatemala: ParksWatch. www.parkswatch.org (accessed 15 September 2008).
- Ramos, V. H., Burgués, I., Colombo Fleck, L., Castellanos, B., Albacete, C., Paiz, G., Espinosa, P. & Reid, J. (2007) *Análisis económico y ambiental de carreteras propuestas dentro de la Reserva de la Biosfera Maya*. Arcata, CA: Conservation Strategy Fund.
- Rappole, J. H., King, D. I. & Leimgruber, P. (2000) Winter habitat and distribution of the endangered Golden-cheeked Warbler (*Dendroica chrysoparia*). *Animal Conserv.* 3: 45–59.
- Salvin, O. (1861) A list of species to be added to the ornithology of Central America. *Ibis* 3: 351–357.
- Stattersfield, A. J., Crosby, M. J., Long, A. J. & Wege, D. C. (1998) *Endemic bird areas of the world: priorities for biodiversity conservation*. Cambridge, UK: BirdLife International.
- Welton, M. J., Anderson, D. L., Colorado, G., Pérez, E. S. & Beachy, T. (2007) *Migration habitat and stopover ecology of Cerulean Warblers and other Nearctic–Neotropical migrant songbirds in northern Central America: Honduras, Guatemala, and Mexico 2007*. Franklin, TN: Gulf Coast Bird Observatory.

KNUT EISERMANN AND CLAUDIA AVENDAÑO

Sociedad Guatemalteca de Ornitología (Ornithological Society of Guatemala), c/o Apartado postal 98 Periférico, Guatemala Ciudad, Guatemala. E-mail: iba@avesdeguatemala.org

HELPING ON NEOTROPICAL BIRDING

Now that *Neotropical Birding* is well established, we are looking to add new members to our editorial team. If you have ideas for articles that should be commissioned, a flair for design, an eye for an image and/or expertise in copy-editing, please e-mail us at neotropical.birding@neotropicalbirdclub.org