

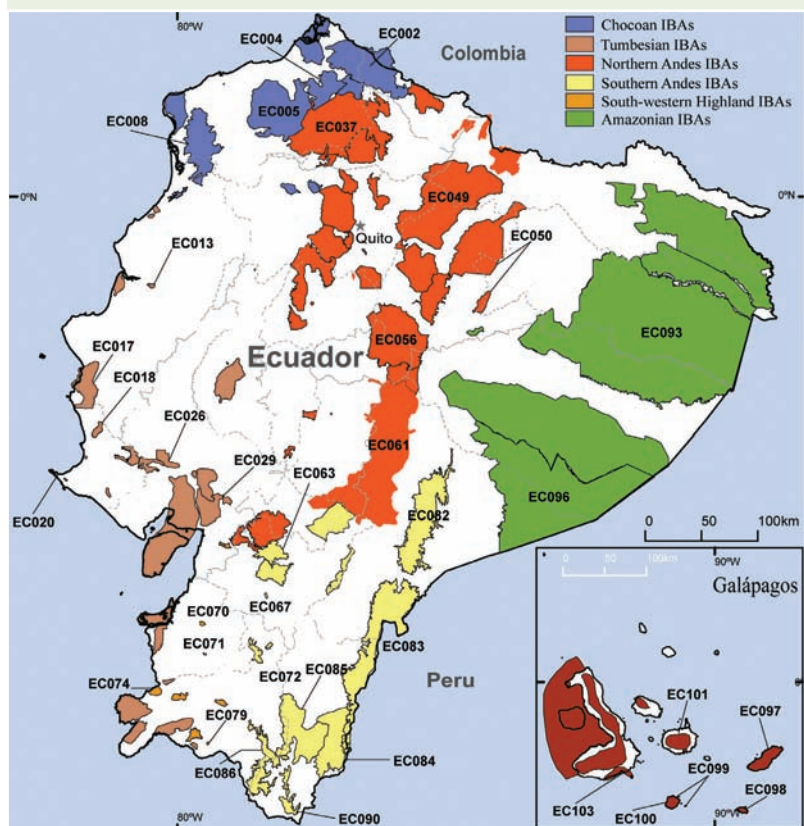
Important Bird Areas of the Neotropics: **Ecuador**

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The rare, little-known and localised Empress Brilliant *Heliodoxa imperatrix* can be found at Los Bancos-Milpe IBA (Nick Athanas/Tropical Birding)

Our fifth article on the Important Bird Areas of the Neotropics introduces us into the splendid geography and avifauna of South America's smallest megadiverse country.



Clockwise from top:

The Critically Endangered Yellow-eared Parrot *Ognorhynchus icterotis* is apparently extinct in Ecuador; a tiny hope exists of relocating it (Murray Cooper)

Recently found in Ecuador, the Peruvian Pigeon *Patagioenas oenops* has its largest population in the Peruvian side of the Marañón Valley (Nick Athanas/Tropical Birding)

Map of Ecuador showing all 107 IBAs. Colours indicate different biogeographic regions. Labeled IBAs are those mentioned in the text. For further information consult recent publications^{6,9}

Ecuador: land of birds

Ecador, one of the ornithologically richest countries on the globe, houses over 1,600 species⁸ in less than 260,000 km² (about the size of the United Kingdom). This situation is repeated for nearly all major life forms: Ecuador is a centre of megadiversity concentrated in a pill.

Political endemism in mainland Ecuador is low due to the country's small size, but it includes awesome species like Black-breasted Puffleg *Eriocnemis nigrivestis* (Critically Endangered), El Oro Parakeet *Pyrrhura orcesi* (Endangered) and Violet-throated Metaltail *Metallura baroni* (Endangered), in addition to 26 species endemic to the oceanic province of Galapagos⁸. Furthermore, Ecuador harbours a high number of 'regional endemics' confined to particular Endemic Bird Areas (EBAs)¹⁵. Ten such areas include over 150 mainland endemics, like Five-colored Barbet *Capito quinticolor* (Vulnerable), Velvet-purple Coronet *Boissonneaua jardini* and Chestnut-bellied Cotinga *Doliornis remseni* (Vulnerable).

In the west, the coastal lowlands alone harbour more than 100 regional endemic species, as the north is characterised by humid to wet Chocó forests and the south by a complex assortment of xeric to deciduous forests and scrub, with various semideciduous habitats in the intervening area. The eastern lowlands are carpeted by vast Amazonian forests, with little endemism but an astonishing diversity, including c.600 species found at a single site¹¹.

Furthermore, the complexity of the Andes has produced an outstanding gradient of ecosystems, from wet and tall foothill forests, to stunted, moss-laden Andean forests, capped by grassy, shrubby or even dry and barren páramos. The Ecuadorian Andes, with roughly 800 species, is the richest area in Ecuador. Finally, the relatively low species richness of the Galapagos (c.160 species) is countered by its high endemism¹⁶.

A megadiverse country with many threats...

Large-scale, exportation-oriented agriculture is the primary cause of habitat loss in continental Ecuador, threatening up to 15% of its avifauna, and leaving most Ecuadorian endemic species on the brink of extinction^{3,10}. Even though Ecuador has an official National Protected Areas Network (SNAP) covering about 20% of its territory⁷, efforts are still insufficient to guarantee the conservation of the country's rich biodiversity, particularly in the coastal lowlands where very

little natural habitat remains. Many species have paid the price, including Plumbeous Forest Falcon *Micrastur plumbeus* (Vulnerable), Pacific Royal Flycatcher *Onychorhynchus (coronatus) occidentalis* (Vulnerable) and Scarlet-breasted Dacnis *Dacnis berlepschi* (Vulnerable). The western forests along the extensive río Guayas floodplain are almost completely gone, whereas Chocó jungles to the north are rapidly diminishing due to large-scale timber extraction. Likewise, inappropriate agricultural practices (slash-and-burn and extensive use of fire) are destroying Andean forests, scrub and páramo, as well as forests in the south-west, where range-restricted species like Red-faced Parrot *Hapalopsittaca pyrrhops* (Vulnerable) and El Oro Tapaculo *Scytalopus robbinsi* (Endangered) coexist^{8,9}.

The oil industry and mining concessions play an unchecked role through severe water pollution and habitat destruction. Concurrently, new roads are continuously being opened in fragile areas, triggering further colonisation and consequent habitat degradation, threatening birds such as Cinnamon-breasted Tody-Tyrant *Hemitriccus cinnamomeipectus* (Near Threatened, endemic to the Cordillera del Cóndor) and Orange-crested Manakin *Heterocercus aurantiivertex* (endemic to the black-water forests of western Amazonia¹). In Galapagos, habitat loss is less extensive but introduced species (predators, disease vectors, parasites, competitors, habitat modifiers), unsustainable practices (e.g. long-line fisheries), and political turmoil are driving the unique Galapagos avifauna to a critical situation¹⁷.

... and some actions: Ecuador's Important Bird Area programme

Bird conservation in Ecuador is challenging. One important step was the identification of Important Bird Areas (IBAs)⁹ as part of the tropical Andes regional initiative⁴. Although a large amount of data on Ecuadorian birds have been published^{11,13}, no previous efforts had focused on the identification of such IBAs. During 2003 Aves&Conservación (BirdLife in Ecuador), BirdLife's Regional Office, Conservation International and the Ministry of Environment of Ecuador began the identification of IBAs. This process included extensive review of published literature, and a continuous interaction between ornithologists, academic institutions and environmental organisations, through a number of meetings and workshops. The final result: a

list of 107 IBAs⁹, 37 of which were postulated by landowners, communities and NGOs.

Ecuadorian IBAs: an overview

The 107 IBAs in Ecuador cover 35.7% of its territory and harbour 99 threatened and Near Threatened species, 69 EBA endemics, 44 species restricted to Neotropical biomes and 24 congregatory species. Ten IBAs are located in the Galapagos Islands and 97 in continental Ecuador. Twenty-five IBAs are completely protected within the National Protected Areas Network (which currently includes private reserves and protection forests), 60 are partially protected, while 22 are not protected at all¹⁴. IBAs are rather evenly distributed throughout Ecuador, but more sites are on the northern Andean slopes and in the south-western deciduous forests.

An adventure into Ecuadorian IBAs

Breathtaking cotingas, tiny-winged jewels like the endemic Esmeraldas Woodstar *Chaetocercus berlepschi* (Endangered), skillful dancers, petit raptors, and mysterious singers like the near-endemic Cocha Antshrike *Thamnophilus praecox* (Near Threatened), are but a sample of the amazing diversity contained within Ecuadorian IBAs. With so many species, and so many IBAs, we could fill an entire issue of *Neotropical Birding*! Obviously, we will not. Instead, we review some key IBAs, with the aim of inviting readers to undertake their next birding trip to those areas.

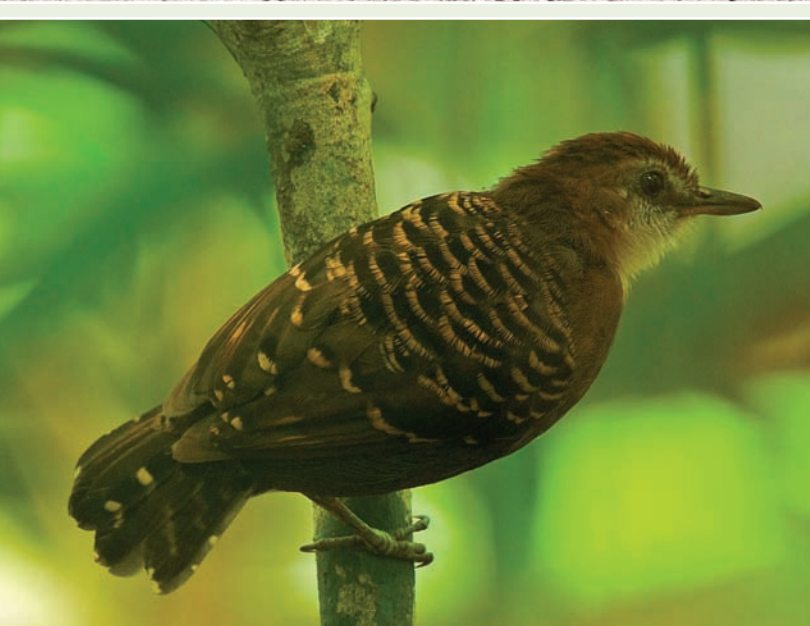
The Chocó lowland and premontane forests are covered by 12 IBAs, just five of them large (>60,000 ha) and extensively forested. Twenty-nine threatened and Near Threatened species inhabit these IBAs, along with all the Chocó endemics, and are home to Harpy Eagle *Harpia harpyja* (Near Threatened), the elusive Great Curassow *Crax rubra* (Vulnerable) and Great Green Macaw *Ara ambiguus* (Endangered) in western Ecuador. The IBAs Cayapas-Santiago-Wimbí (EC004) and Verde-Ónzole-Cayapas-Canandé (EC005) are ideal for them. Further, IBAs EC040 and 041 (Río Caoní and Los Bancos-Milpe) offer excellent opportunities to search for Chocó endemics, including Black-tipped Cotinga *Carpodectes hopkei* and the near-mythical Banded Ground Cuckoo *Neomorphus radiolosus* (Endangered), while at the same time supporting local conservation initiatives¹⁴.

The Tumbesian region of western Ecuador is covered by deciduous and semideciduous

forests, and arid scrub; it has the highest number of IBAs (28) reflecting its critical situation. Three formally protected areas: Machalilla National Park (EC017), Manglares-Churute (EC029) and Arenillas Ecological Reserves (EC035), and nine private reserves, such as Bosque Protector Cerro Blanco (EC026) are keystone conservation sites. These IBAs are important for the sought-after Esmeraldas Woodstar, Blackish-headed Spinetail *Synallaxis tithys* (Endangered), Slaty Becard *Pachyramphus spodiurus* (Endangered) and Saffron Siskin *Carduelis siemiradzkii* (Vulnerable). A total of 26 threatened and Near Threatened species and all of the species confined to the Equatorial Pacific Coast biome and Tumbesian EBA inhabit these IBAs. Several Tumbesian IBAs are important for aquatic birds, namely Ecuasal-Salinas Lagoons (EC020), La Segua Marshes (EC013), and Manglares-Churute Ecological Reserve. Rare and threatened species include Pinnated Bittern *Botaurus pinnatus*, Brown Wood Rail *Aramides wolfei* (Vulnerable) and Elegant Tern *Thalasseus elegans* (Near Threatened).

The south-west highlands, covered in wet, semi-deciduous and deciduous forests include eight IBAs, whose precarious situation is caused by intensive agricultural expansion, cattle ranching and timber extraction². Reserva Buenaventura (EC071), Utuana-Bosque de Hanne (EC079), La Tagua (EC074) and Daucay (EC070) IBAs are the few sites, if not the only ones, where you will find the localised El Oro Parakeet, El Oro Tapaculo and the rare Grey-headed Antbird *Myrmeciza griseiceps* (Vulnerable).

In the northern Andes, subtropical and montane forests, *páramos* and wetlands are covered by 26 IBAs, encompassing 12 officially protected areas, several small private reserves and some unprotected areas. The first IBA to be designated in tropical America, Mindo y Estribaciones Occidentales del Volcán Pichincha (EC043, formerly Mindo IBA) holds the largest known population of Black-breasted Puffleg. The most important conservation areas in Andean Ecuador, Cotacachi-Cayapas (EC037) and Cayambe-Coca (EC049) Ecological Reserves, and Sangay (EC061), Llanganates (EC056) and Sumaco-Napo Galeras (EC050) National Parks, occur in this region. All of the northern Andean IBAs are quite easily accessed from Quito⁵, where Empress Brilliant *Heliodoxa imperatrix*, Crescent-faced Antpitta *Grallaricula lineifrons* (Near Threatened), Beautiful Jay *Cyanolyca pulchra* (Near Threatened), Indigo Flowerpiercer *Diglossopsis indigotica*



Top to bottom:

Toucan Barbet *Semnornis ramphastinus* (Murray Cooper); one of the most characteristic endemics of the Chocó cloud forests

The Vulnerable Española Mockingbird *Mimus macdonaldi* is confined to a single island without introduced predators (Nick Athanas/Tropical Birding)

A rare ant-follower, Lunulated Antbird *Gymnophaps lunulatus* (Murray Cooper); Amazonian IBAs harbour more than 500 species



Clockwise from top:

The rare and localised Olive Finch *Arremon castaneiceps* occurs in several Andean IBAs (Murray Cooper)

The population recovery of the Pale-headed Brush Finch *Atlapetes pallidiceps*, from <20 to >60 breeding pairs, gives us hope (Murray Cooper). Fires, grazing, competition with other brush finches, and cowbird parasitism threaten its tiny population

The highly localised and Endangered Violet-throated Metaltail *Metallura baroni* is known from a handful of sites around Cuenca city (Roger Ahlman)

The Chocó endemic Indigo Flowerpiercer *Diglossa indigotica*, recently found at a site about to be postulated as an IBA (Murray Cooper)



Threatened by introduced pests and trampers, the Galapagos Petrel *Pterodroma phaeopygia* wanders to continental Ecuadorian waters during the non-breeding season (Nick Athanas/Tropical Birding)



Left: Although all of its breeding colonies are protected, the main threat to Waved Albatross *Phoebastria irrorata* is at sea: long-line fishing (Nick Athanas/Tropical Birding)



Right: The population of Lava Gull *Leucophaeus fuliginosus* is estimated at <800 pairs; the Vulnerable category probably under-estimates its true status (Nick Athanas/Tropical Birding)

and Masked Mountain Tanager *Buthraupis wetmorei* (Vulnerable) will be waiting for you!

The southern Andes have 17 IBAs, including only a few officially protected areas (Cajas EC063, Podocarpus EC085, and the newly created Yacuri EC086 National Parks). Extensively forested areas

still exist in the east of this region, particularly along the isolated Kutukú (EC082) and Cóndor (EC083) cordilleras. This region includes two IBAs in the small extension of the dry Marañón Valley that enters southernmost Ecuador (Palanda EC089 and Zumba-Chito EC090), where seven endemic

species occur. A large number of threatened and endemic species are found in the southern Andes: 32 threatened and Near Threatened species, and nearly 25 species endemic to five EBAs, including Bar-winged Wood Wren *Henicorhina leucoptera* (Near Threatened), White-breasted Parakeet *Pyrrhura albipictus* (Vulnerable), Peruvian Pigeon *Patagioenas oenops* (Vulnerable), Marañón Crescentchest *Melanopareia maranonica* (Near Threatened), Neblina Metaltail *Metallura odomae* (Near Threatened) and Jocotoco Antpitta *Grallaria ridgelyi* (Endangered). Two threatened and range-restricted Ecuadorian endemics, Violet-throated Metaltail and Pale-headed Brush Finch *Atlapetes pallidiceps* (Critically Endangered), are entirely confined to valleys and páramos in Azuay province. The sole remaining population of the brush finch is confined to a single and tiny privately owned IBA (Yunguilla, EC067) which is completely surrounded by degraded areas.

The Amazonian lowlands are covered by six IBAs, all of them encompassing large extensions of mainly undisturbed habitats; Gran Yasuní (EC093) being the largest IBA in Ecuador with more than 1.6 million ha. All IBAs are totally or partially protected by the SNAP, private reserves or Indigenous Territories. Eight threatened or Near Threatened species are covered by these Amazonian IBAs, along with all of the EBA endemics, and all biome-confined species of this region, including specialities such as Red-winged Wood Rail *Aramides calopterus*, Yasuní Antwren *Epinecrophylia fjeldsaai*, Lunulated Antbird *Gymnopithys lunulata* and Ecuadorian Cacique *Cacicus sclateri*.

Ten IBAs in Galápagos hold 11 threatened endemic species and 16 congregatory species. San Cristóbal Island (EC097) is home to the endemic San Cristóbal Mockingbird *Mimus melanotis*, and together with Santa Cruz Island (EC101), has significant populations of probably the rarest gull on Earth, Lava Gull *Leucophaeus fuliginosus* (Vulnerable), and Galapagos Petrel *Pterodroma phaeopygia* (Critically Endangered). Española Island (EC 098) has the endemic Española Mockingbird *Mimus macdonaldi* (Vulnerable) and holds the major population of Waved Albatross *Phoebastria irrorata* (Critically Endangered); otherwise there is a tiny colony on Isla de la Plata, off the Manabí coast (EC016). A visit to Floreana Island (EC100) is your only chance for Medium Tree Finch *Camarhynchus pauper* (Critically Endangered), while two islets nearby (Champion and Gardner, EC099) are the only site in the world for Floreana Mockingbird

Mimus trifasciatus (Critically Endangered). All of the Galapagos IBAs lie partially or wholly within the Galapagos National Park.

Some final musings

The tremendous bird diversity of Ecuador and the fairly adequate knowledge of bird species distributions has resulted in a large number of IBAs⁴. Several IBAs are of urgent conservation priority because they embrace all or nearly all the known global population of some highly threatened species, endemic or nearly endemic to Ecuador.

The identification of IBAs is one step towards bird conservation in Ecuador, and a new tool for setting conservation priorities. It is not the first prioritising exercise and it will not be the last¹². To become effective conservation sites, the IBAs depend on actions by local communities, landowners, stakeholders, environmental authorities and conservation organisations. Urgent actions must be taken for the conservation of bird diversity in Ecuador: from further land protection in top-priority areas, through effective control of devastating extractive activities and sustainable economic alternatives, to an integral plan of capacity building and environmental education throughout the country.

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Clockwise from top:

White-faced Nunbird *Hapaloptila castanea* is a low-density resident of Andean slopes (Murray Cooper)

Great Curassow *Crax rubra* is one of the rarest and most endangered cracids in Ecuador, with certainly fewer than 200 individuals left (Scott Olmstead)

Charcoal production and slash-and-burn agriculture threaten the small population of Black-breasted Puffleg *Eriocnemis nigrivestis* (Murray Cooper)

The Tumbesian endemic Collared Warbling Finch *Poospiza hispaniolensis* is numerous at several IBAs (Murray Cooper)





Clockwise from top:

A pair of Beautiful Jays *Cyanolyca pulchra* at the first-ever nest to be found, in a private reserve within Mindo y Estribaciones Occidentales del Volcán Pichincha IBA (Murray Cooper)

Two Golden-plumed Parakeets *Leptosittaca branickii* at their nest (Murray Cooper)

Trampling by cattle inside Tumbesian dry forests is a major threat to endemics like the Slaty Becard *Pachyramphus spodiurus* (Murray Cooper)

Esmeraldas Woodstar *Chaetocercus berlepschi* (Murray Cooper). Until recently, little was known about this localised hummingbird found in a handful of Tumbesian IBAs

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