

Last refuges of endangered species mapped, showing nearly half lack protection

Global assessment shows hundreds of species face extinction without immediate action

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New AZE website and AZE site map available here: www.zeroextinction.org

A major assessment by the international Alliance for Zero Extinction – the global conservation partnership that works to identify, map and safeguard sites holding the only known locations of highly threatened species – finds that nearly half of these irreplaceable sites are currently unprotected, but that with concerted action, hundreds of extinctions can be prevented.

The new analysis – the culmination of a three-year effort led by BirdLife International, International Union for Conservation of Nature (IUCN) and American Bird Conservancy (ABC) – mapped the ranges of 1,483 highly threatened species known only to occur in a single site. To qualify for AZE status, a site must be the last known location of an Endangered or Critically Endangered species – the two highest extinction threat categories on the IUCN Red List of Threatened Species™.

Dr Ian Burfield, Global Science Coordinator at BirdLife International and lead coordinator of the new AZE site assessment, says: “We now recognise 853 AZE sites – far more of these last refuges for species than previously known. In order to save any species, the number one priority is to protect their habitats, but 43% of these sites lack any formal protection whatsoever.”

This work falls under a wider project, led by BirdLife and supported by the Global Environment Facility (GEF) and the United Nations Environment Programme, working with the governments of Brazil, Chile, Madagascar and other countries to better embed AZE sites in their national land use planning and conservation efforts.

“It’s been proven that well-managed protected areas prevent extinctions,” says Mike Parr, AZE Chairman and President of ABC. “The governments of at least 20 nations are already acting to protect their AZE sites, but we urgently need all 109 countries and territories with AZE sites to take action to protect these unique places.”

One of the countries with the most AZE sites, Brazil, is taking a leading role by becoming the first country to put in place legislation to ensure AZE sites are taken into account in national development and conservation planning. Brazil is now calling for other Parties to the Convention on Biological

Diversity (CBD) to support initiatives to conserve AZE sites at the upcoming UN Biodiversity Summit to be held in Egypt, 17-29 November.

Ugo Eichler Vercillo, Director of the Department of Species Conservation and Management in the Brazilian Ministry of the Environment, says: “With some way still to go to meet agreed global targets to increase protected areas and tackle species declines, protecting AZE sites would be the fastest way to achieve both at the same time and should be a global conservation priority.”

The latest update demonstrates that effective protection does work, with several former AZE species being removed from the list as a result. For example, in Colombia, the establishment of the Ranita Dorada Amphibian Reserve to protect two spectacular species of poison-dart frogs (*Andinobates dorisswansonae* and *Andinobates tolimense*) has improved their status to the extent that neither now qualifies as an AZE trigger species.

Craig Hilton-Taylor, Head of the IUCN Red List Unit, says: “From the Amazon to Australia, well-informed conservation action is working to safeguard species. We are living in a period of the sixth-mass extinction. It is therefore important we learn from conservation success stories, such as those in Colombia, to protect species that are threatened with extinction. As world leaders meet in Egypt next week to discuss the future of biodiversity after 2020, it is these positive stories they should learn from in order to set tangible targets and achievable conservation goals.”

However, with human activity wiping out the world’s wildlife at an unsustainable pace, the need to safeguard the world’s remaining AZE sites has never been more urgent. Just two months ago, BirdLife International announced it is set to confirm the likely extinction in the wild of eight further bird species, including the iconic Spix’s Macaw of Brazil – better known as Blu, star of the animated film *Rio*. To try to save this species from extinction, the Brazilian government plans to reintroduce captive Spix’s Macaws next year at the AZE site where they most recently were found.

Dr Noëlle Kümpel, Head of Policy at BirdLife International and coordinator of the project, says: “The loss of these eight species from the wild is a real wake-up call, but with concerted action it is not too late to turn things around for others. AZE sites really are our last chance – if we lose these areas, we lose entire species found nowhere else on Earth. The threats to these sites from unsustainable development are only increasing, so we urgently need other governments to follow Brazil’s lead and to put in place strong measures to protect these irreplaceable places.”

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Notes for editors

About the 2018 AZE reassessment

Sites qualifying for AZE status must meet three criteria: (1) **Endangerment:** An AZE site must contain at least one globally Endangered (EN) or Critically Endangered (CR) species, as listed on the IUCN Red List. (2) **Irreplaceability:** An AZE site should only be designated if it is the sole area where an EN or CR species occurs, contains the overwhelmingly significant known resident population (>95%) of the EN or CR species, or contains the overwhelmingly significant known population (>95%) for one life history segment (e.g. breeding or wintering) of the EN or CR species. (3) **Discreteness:** The area must have a

definable boundary within which the character of habitats, biological communities, and/or management issues have more in common with each other than they do with those in adjacent areas.

From 2015 to 2018, a team comprising BirdLife International, the International Union for Conservation of Nature (IUCN) and American Bird Conservancy (ABC) reviewed, updated and expanded the AZE data set as part of a 3-year project supported by the United Nations Environment Programme (UN Environment) and funded by the Global Environment Facility (GEF). Since it was first launched in 2005 and updated in 2010, the AZE data set had become increasingly out of date, owing to changes in taxonomy, new IUCN Red List assessments, improved knowledge of the distributions and populations of species, and genuine changes in species' conservation status. The current update focused on the following taxonomic groups, all of which had been comprehensively assessed for the IUCN Red List by the end of 2016: **amphibians, birds, cacti, cone snails, conifers, corals, cycads, freshwater crabs, freshwater crayfish, freshwater shrimps, mammals, mangrove plants, selected marine fish (blennies, groupers, pufferfish, wrasses), selected reptiles (chameleons, crocodiles, iguanas, tortoises, turtles), sharks, rays, and selected birches.**

The 2018 update involved extensive consultation with an international network of over 150 species experts and key stakeholders around the world. The resulting inventory comprises 853 AZE sites triggered by 1,483 highly threatened species in 109 countries and territories (many sites have more than one AZE species confined to them). Most of the newly identified sites relate to those triggered by taxa that had not been comprehensively assessed at the time the previous AZE assessment took place in 2010. All confirmed AZEs are now also Key Biodiversity Areas (KBAs). From 2019 onwards, it will be possible for anyone to nominate potential AZE sites for relevant qualifying species as candidate KBAs.

AZE by the numbers:

Of the 1,483 global AZE trigger species, 41% are amphibians, 15% mammals, 13% birds, 10% freshwater crustaceans, 9% cacti, 4% cycads and 8% other taxa.

78% of the 853 AZE sites are triggered by a single species, but some sites are triggered by multiple species from different taxonomic groups. Some extreme examples include:

- Sierra de Juárez (Oaxaca, southwest Mexico) is triggered by 27 species of amphibians, mammals and cycads.
- Massif de la Hotte (southwest Haiti) is triggered by 14 species of *Eleutherodactylus* frogs.
- Sinharaja (Morningside and Handapan Ella Plains, southwest Sri Lanka) is triggered by 13 species of freshwater crabs, amphibians (especially *Pseudophilautus* shrub frogs) and a shrew.
- Sierra Nevada de Santa Marta (northeast Colombia) is triggered by 13 species of birds, amphibians and mammals.
- Udzwunga Mountain Range (central Tanzania) is triggered by 11 species of amphibians, mammals and chameleons.

133 (16%) of the 853 AZE sites are triggered by birds. Some examples of sites triggered by multiple bird species include:

- Sierra Nevada de Santa Marta and Serranía de Perijá, both in Colombia, with 7 and 4 bird triggers, respectively.
- Haleakala (Maui) and Kauai, both in Hawaii (USA), with 6 and 5 bird triggers, respectively.
- Gough Island, in the South Atlantic (St Helena, to UK), with 4 seabird triggers.

- Gunung Sahendaruman (Sangihe, Indonesia), with 4 bird triggers.
- Isla Socorro (Mexico), with 4 bird triggers.
- Tawi-tawi Island (Philippines), with 4 bird triggers.

Case studies:

New AZE sites/species

AZE is an important tool for identifying threatened sites and prompting specific conservation recovery schemes. Examples of new sites identified are:

- The Marojejy National Park, Madagascar, is a new AZE site for this update. An Endangered Chameleon (*Brookesia karchei*) and seven amphibian species (*Cophyla rava*, *Gephyromantis ranjomavo*, *Rhombophryne minuta*, *Rhombophryne roseifemoralis*, *Rhombophryne savaka*, *Rhombophryne serratopalpebrosa* and *Rhombophryne vaventy*) are trigger species for this site. These species are all recently discovered or have experienced a change in their taxonomic category. As this site has now been highlighted as an AZE site, it is hoped that protection measures will be implemented to protect these rare species.
- The Tanoé Forest Swamp Forest in Côte d'Ivoire is a new AZE site triggered by the Miss Waldron's Red Colobus (*Ptilocolobus waldronae*), a Critically Endangered primate. There have been no confirmed sightings of this species since 1978, but there is new evidence suggesting there may be a small surviving population in this site. In March 2008, calls by what is believed to be Miss Waldron's Red Colobus were heard by a team of scientists from the Swiss Centre for Scientific Research in the Ehy Forest (Tanoé Swamps Forest) in Côte d'Ivoire, and a fresh skin of a red colobus was recovered from a poacher. Protection measures in this AZE site are essential to protect any remaining Miss Waldron's Red Colobus.
- The Belize Barrier Reef was removed from the list of UNESCO World Heritage Sites in Danger earlier this year due to some conservation measures being put in place, such as a ban on oil drilling. However, it became an AZE site due to threats to the Endangered Social Wrasse *Halichoeres socialis* and specific efforts to conserve this fish must now be implemented.

AZE species removed from the list

The 2018 AZE site update removed 107 species that had formerly triggered AZE sites. Several of these were due to successful conservation action and improved site management motivated by their AZE listing. For example:

- The Millerbird (*Acrocephalus familiaris*) was removed from the AZE list in 2018 following its successful translocation to and establishment on a second Hawaiian island by American Bird Conservancy, the U.S. Fish and Wildlife Service (FWS) and others. These groups translocated a population (from Nihoa to Laysan), which means that the species now occurs at two sites (two islands).
- The Azores Bullfinch (*Pyrrhula murina*) occurs only on the small island of São Miguel in the Azores. Invasive plants were choking out the native vegetation that the Bullfinch relied upon for its survival, but conservation action led by SPEA (BirdLife in Portugal), with funding from the European Union's LIFE Programme, have stemmed the spread of these invasive species so effectively that the population has recovered from just 40 pairs in 2005 to almost 1,000 mature

individuals in 2016. As a result, the bird has been downlisted to Vulnerable on the IUCN Red List, and hence no longer qualifies as an AZE trigger.

- The Ranita Dorada Amphibian Reserve in the Cuenca Hidrográfica del Río San Francisco area of Colombia, set up in 2008 as the first protected area in the world for the conservation of threatened amphibians, led to a lower threat status for two spectacular species of poison-dart frogs, which means neither now qualifies as an AZE trigger: *Andinobates dorisswansonae* (which was reassessed as Vulnerable, from Critically Endangered) and *Andinobates tolimensis*.
- Many AZE sites are located in indigenous communities. The Chilean government has been working closely with Mapuche communities in southern Chile to conserve an AZE site for the Critically Endangered Barrio's frog, which exists only in a 10-square-kilometre patch of temperate Valdivian rainforest. Through participatory efforts, the government and community have created and are currently implementing a conservation plan to safeguard this frog through educational efforts and by protecting the ravines in which it lives from livestock impacts and timber harvesting.

There are also more discouraging examples of species removal from the list. For example:

- The Bramble Cay Mosaic-tailed Rat (*Melomys rubicola*), a former AZE trigger species from Australia, was declared extinct in 2014. It was formerly restricted to Bramble Cay, a tiny coral island between Australia and Papua New Guinea, which has lost most of its vegetation (and hence food resources) as a result of storm surges. Despite searches and monitoring, the species has not been re-found.

AZE sites remaining on the list

- The Araripe Oasis Reserve in northeastern Brazil remains an AZE site for the Critically Endangered Araripe Manakin, which numbers fewer than 1,000 individuals. Brazilian NGO [Aquasis](#), with support from ABC, secured more than 170 acres of habitat for the species in 2018, doubling the size of the existing [Araripe Oasis Reserve](#) and connecting it to the much larger Araripe National Forest. This and other conservation efforts, including reforestation, give the bird a better chance of survival.
- There are five AZE sites in Jamaica, including Hellshire Hills, which holds the last known population of the Critically Endangered Jamaican Rock Iguana. Since 2013, the Jamaican government has actively worked with the Jamaican Iguana Recovery Group, a collaborative effort between many local and international organizations, to build a stable population of this species. The protected area in Hellshire Hills is being expanded, new nesting sites are being developed and new invasive control techniques are being tested. A possible reintroduction site is under consideration, which, if successful, would lead to the removal of this site from the AZE list.

About the project

The GEF-AZE project

The [three-year GEF-funded project](#) 'Alliance for Zero Extinction (AZE): Conserving Earth's Most Irreplaceable Sites for Endangered Biodiversity' aims to prevent species extinctions at priority sites identified through the Alliance for Zero Extinction (AZE). Led by [BirdLife International](#), project partners include [American Bird Conservancy](#) (ABC), [IUCN](#), [UN Environment](#), GEF, and the Governments of Brazil, Chile and Madagascar.

Alliance for Zero Extinction (AZE)

Launched globally in 2005, the Alliance for Zero Extinction (AZE) was established to identify and effectively conserve the most important sites in the world for preventing imminent species extinctions. The Alliance comprises over 90 non-governmental biodiversity conservation organisations, and engages with governments, multilateral institutions, the private sector and others to achieve its goals.

www.zeroextinction.org

Key Biodiversity Areas (KBAs)

AZE sites are a subset of KBAs, which are 'sites contributing significantly to the global persistence of biodiversity'. A [Global Standard for the identification of KBAs](#) was launched in 2016. Confirmed AZE sites represent those KBAs identified under criterion A1e in this Standard. Over 15,000 KBAs have been identified to date, in terrestrial, freshwater and marine realms and in all countries worldwide. The KBA Partnership was launched in 2016 to advance the identification, documentation, update, monitoring and conservation of KBAs worldwide. The Partnership comprises: BirdLife International, International Union for the Conservation of Nature, Amphibian Survival Alliance, Conservation International, Critical Ecosystem Partnership Fund, Global Environment Facility, Global Wildlife Conservation, NatureServe, Rainforest Trust, Royal Society for the Protection of Birds, Wildlife Conservation Society and World Wildlife Fund. Data on KBAs and information on the KBA Partnership and programme are available at www.keybiodiversityareas.org.

Convention on Biological Diversity (CBD)

The 14th Conference of the Parties to the [Convention on Biological Diversity](#) (CBD) – otherwise known as the UN Biodiversity Summit - will be held in Sharm El Sheikh, Egypt, 17-29 November 2018. Parties will be reviewing progress towards the Convention's Strategic Plan for Biodiversity 2011-2020, which includes 20 Aichi Biodiversity Targets to be met by 2020, before considering the process for developing a transformative new post-2020 global biodiversity framework that will ensure nature is at the heart of sustainable development. AZE sites are the last strongholds for species on the brink of extinction, and protecting them offers a fast track to help achieve Aichi Targets 11 (on increasing protected and conserved areas) and 12 (on preventing species extinctions).

First bird extinctions confirmed this decade

BirdLife scientists previously reported that eight bird species look set to have their likely extinctions in the wild confirmed following a robust new assessment of Critically Endangered species. See here for the full story: <https://www.birdlife.org/worldwide/news/spixs-macaw-heads-list-first-bird-extinctions-set-be-confirmed-decade>,

About the assessment leading partners

BirdLife International is the world's largest nature conservation partnership, made up of 117 national NGOs (one per country), regional secretariats in six continents, and an international secretariat based in Cambridge, UK. BirdLife strives to conserve birds, their habitats and global biodiversity, working with people towards sustainability in the use of natural resources. BirdLife plays a key role in the provision of data, information and tools on species conservation (e.g. BirdLife is the Red List Authority for birds on the IUCN Red List, and led the development of the Red List Index) and critical sites for biodiversity and ecosystem services (e.g. Important Bird and Biodiversity Areas/IBAs, Key Biodiversity Areas/KBAs, Alliance for Zero Extinction/AZE sites, Integrated Biodiversity Assessment Toolkit/IBAT and Toolkit for

Ecosystem Service Site-Based Assessment/TESSA). BirdLife is the lead partner of the GEF-AZE project. www.birdlife.org.

American Bird Conservancy is a non-profit organization dedicated to conserving birds and their habitats throughout the Americas. With an emphasis on achieving results and working in partnership, we take on the greatest problems facing birds today, innovating and building on rapid advancements in science to halt extinctions, protect habitats, eliminate threats, and build capacity for bird conservation. abcbirds.org.

IUCN is a membership Union composed of both government and civil society organisations. It harnesses the experience, resources and reach of its more than 1,300 Member organisations and the input of more than 10,000 experts. This year, IUCN celebrates its 70th anniversary. Since its establishment in 1948 in the French town of Fontainebleau, IUCN has become the global authority on the status of the natural world and the measures needed to safeguard it. www.iucn.org