

# STATE OF THE WORLD'S BIRDS

*Indicators for our changing world*



# Biodiversity underpins our lives, but is rapidly being eroded

*Biodiversity—the variety of life—provides critical ecosystem services on which human lives depend: pure air, drinking water and fertile soil. Yet we are losing it fast. We are using more and more of our planet's resources at the expense of future generations. Governments recognise the need to take action, but too little is being done at too slow a rate, and our efforts need to be geared up tremendously.*

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## Overview

In 2002, the world's governments took an unprecedented step, committing themselves to achieve a significant reduction in the rate of biodiversity loss by 2010. Two years later, BirdLife International produced a comprehensive assessment of the state of the world's birds, as a marker to help monitor progress towards this target. Four years on, and with only two years to go before the 2010 deadline, what has changed? What can birds tell us about our current chances of achieving this ambitious but vital goal?

The messages are mixed. Thanks to the efforts of many people and organisations, including the worldwide network of Partners that constitutes BirdLife, we know much more about the state of biodiversity than we did even four years ago. We have also identified still more clearly what needs to be done: the mapping of over 10,000 sites of crucial importance for the conservation of birds and other biodiversity is a major contribution to this. The world at large has become far more aware of the enormous environmental challenges that we face, particularly in the light of climate change. There is greater awareness too of the need to maintain biodiversity and ecosystem services if the human population, and particularly the world's poor, are to cope with an increasingly uncertain future.

Despite this, our data show that the state of the world's biodiversity, as reflected by its 9,856 living bird species, continues to get worse, and that, if anything, this deterioration is accelerating, not slowing. Moreover, while governments have made copious verbal commitments to conserving biodiversity and safeguarding the environment, the resources available for this have scarcely grown in ten years and still fall far short of what is needed. Alarm calls from the world's birds are becoming ever louder and more urgent. It's time to listen properly to what the birds are telling us, and start making changes that are positive and significant.

## About this report

This report is a brief summary of the information available on BirdLife's *State of the world's birds* website. Using the most up-to-date analyses, it outlines why birds and biodiversity are important, what we know about the changing state of the world's birds (**STATE**), why birds are declining (**PRESSURE**) and what can be done to improve their status (**RESPONSE**). It presents and lists a small sample of the case studies providing evidence for these messages and examples of BirdLife's work. **For more detailed information on these and other case studies, visit BirdLife's *State of the world's birds* website and database at [www.birdlife.org/sowb](http://www.birdlife.org/sowb).** A companion publication, *A strategy for birds and people*, sets out BirdLife's strategy until 2015.

### Recommended citation

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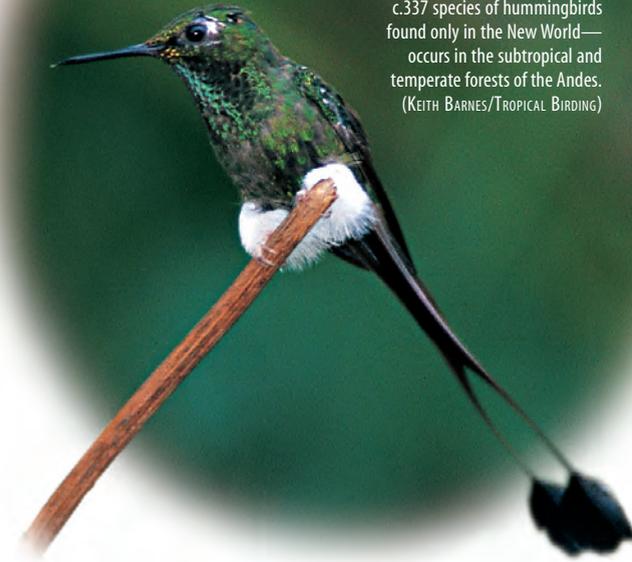


## Birds are an important component of biodiversity

*Birds comprise nearly 10,000 living species—the building blocks of biodiversity. Birds are found nearly everywhere, but each species is unique in its ecology and distribution. Many have small ranges and most are restricted to particular kinds of habitat. Taken together, they provide a picture of how biodiversity is distributed, and serve as valuable indicators for global environmental change.*

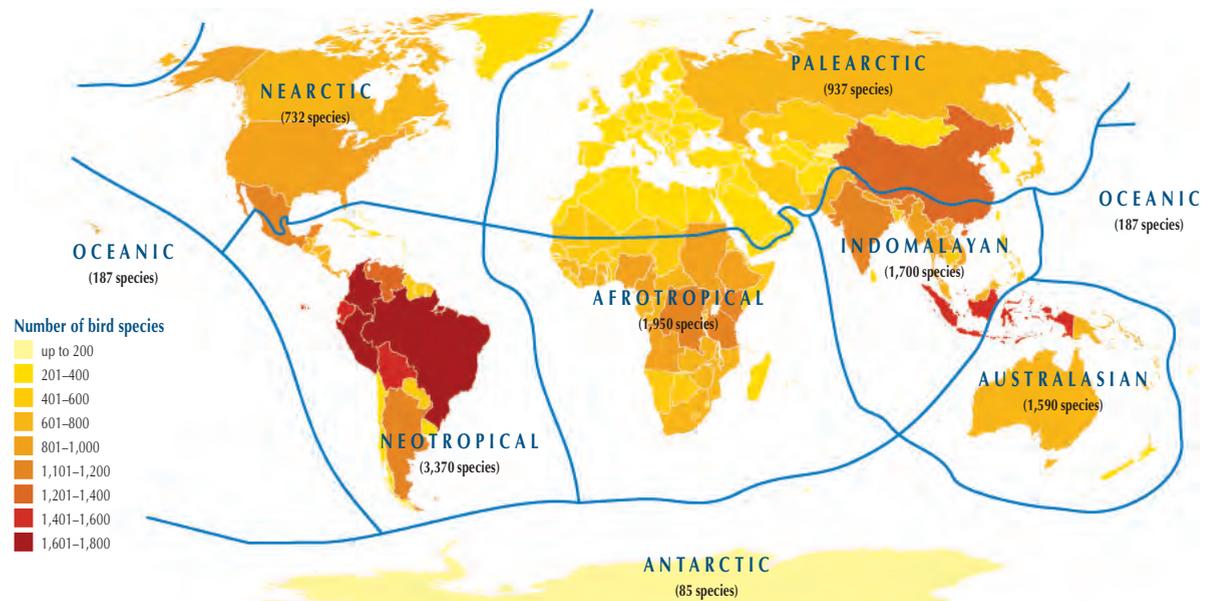
### Birds are found almost everywhere in the world, from the poles to the equator

Birds occur on land, sea and freshwater, and in virtually every habitat, from the lowest deserts to the highest mountains. Our knowledge of bird species can tell us a great deal about the state of the world and wider biodiversity. Patterns of bird diversity are driven by fundamental biogeographic factors, with tropical countries (especially in South America) supporting the highest species richness.



Booted Raquet-tail—one of c.337 species of hummingbirds found only in the New World—occurs in the subtropical and temperate forests of the Andes. (KEITH BARNES/TROPICAL BIRDING)

### Distribution of the world's birds by geographic realm and country



**SOURCES** Analysis of data held in BirdLife's World Bird Database (2008). Newton (2003) *The speciation and biogeography of birds*. London: Academic Press.

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Birds occur in all major habitat types, with forest being particularly important

Many bird species have very small ranges and occur together in Endemic Bird Areas

Most Endemic Bird Areas are in the tropics and important for other biodiversity too

Birds are very useful indicators for other kinds of biodiversity

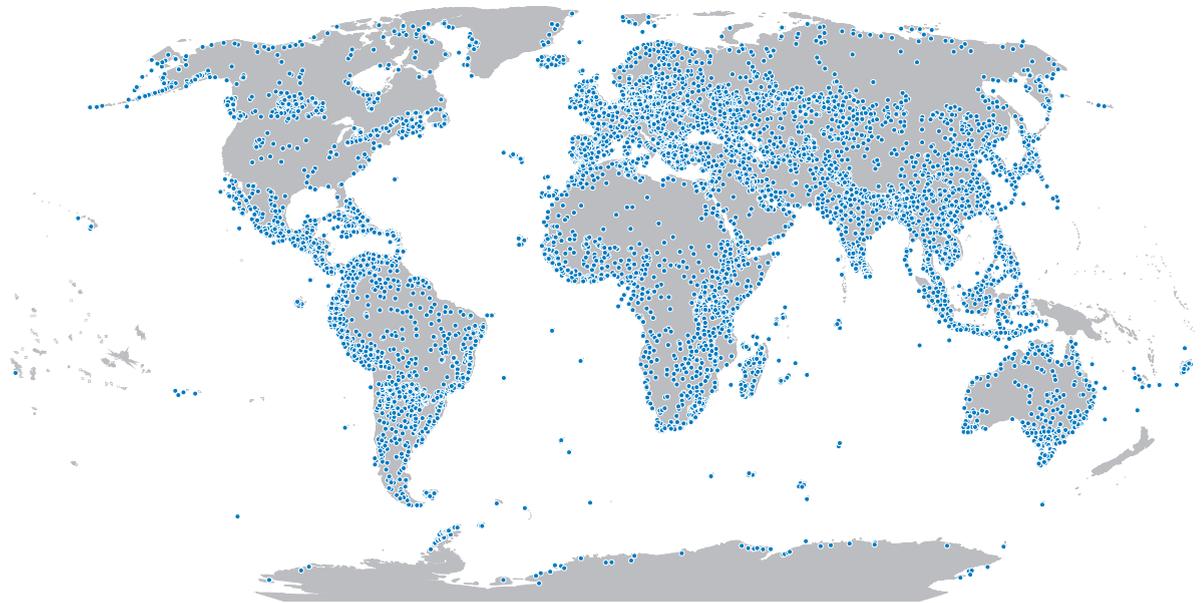
## Key species identify key sites— Important Bird Areas

*Sites of particular significance for birds have been identified by BirdLife as Important Bird Areas (IBAs). For many bird species, effective conservation depends on protecting networks of IBAs. These networks also capture much other biodiversity, so are an excellent first cut for the larger set of Key Biodiversity Areas—an extension of the IBA approach to other taxa. IBAs have been identified around the world, so far mainly on land and for freshwater, but increasingly attention is turning to the oceans.*

### To date, more than 10,000 Important Bird Areas have been identified

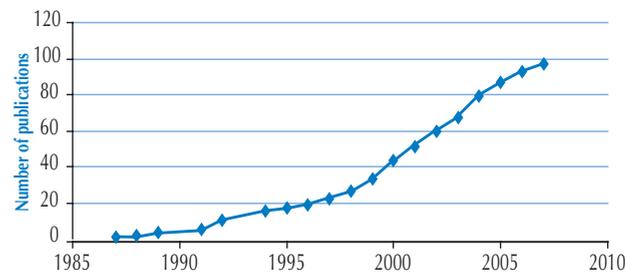
Important Bird Areas (IBAs) have been identified in nearly 200 countries and territories, using a set of standardised, objective criteria, designed to select sites of global significance. In some regions, IBAs have also been selected at the regional and sub-regional levels.

#### Location of IBAs of global significance



Note that IBAs shown only include those entered into the World Bird Database as at 31 July 2008. The process of identification actively continues in some parts of the world and has yet to begin in others.

#### Cumulative number of national IBA publications 1987–2007



SOURCE Analysis of data held in BirdLife's World Bird Database (2008).

Parque Nacional San Rafael, the first IBA to be declared in Paraguay, has been identified on the basis of more than 70 'trigger' species, including 25 that are globally threatened or near-threatened. (BIRDLife)



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**Important Bird Areas for the marine environment are being identified in many regions**



**A network of critical sites for migratory waterbirds is being identified across Africa–Eurasia**



**Important Bird Areas in Endemic Bird Areas: an example from the East Andes**



**What are Key Biodiversity Areas?**

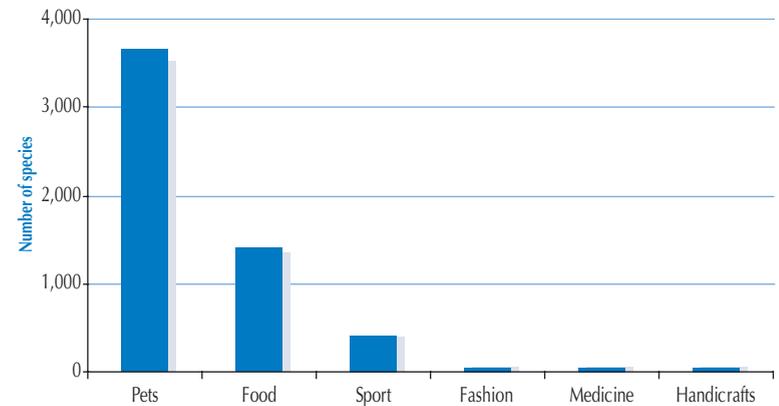
## We value birds for many reasons

*Birds inform us about the rest of the natural world, but we value them for much more than this. Over the millennia, and across all cultures, birds have given human beings inspiration, imagery and companionship; nowadays, birdwatching is a major economic force in many places. Birds are an important source of food for many communities, and the ecological services that birds provide to us are crucial and irreplaceable.*

### Nearly half of all bird species are used directly by people

Human uses have been recorded for one purpose or another for 45% of the world's nearly 10,000 bird species. Over a third of species are kept as pets and around one in seven is hunted for food. It is difficult to know how many individual birds are used, although it is estimated that between half a billion and one billion songbirds are hunted each year in Europe alone, for sport and food.

Principal ways in which birds are used by people



SOURCE Analysis of data held in BirdLife's World Bird Database (2008).



Bird cages for sale: wild birds are caught in large numbers for the local bird trade in Indonesia. (BURUNG INDONESIA)

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Feathers have always been used by humans as decoration and status symbols



Megapode eggs are an important source of food to many Indo-Pacific communities



Seabird guano, especially from Peru, transformed western agriculture in the nineteenth century



Birds control insect pests in farmlands and forests

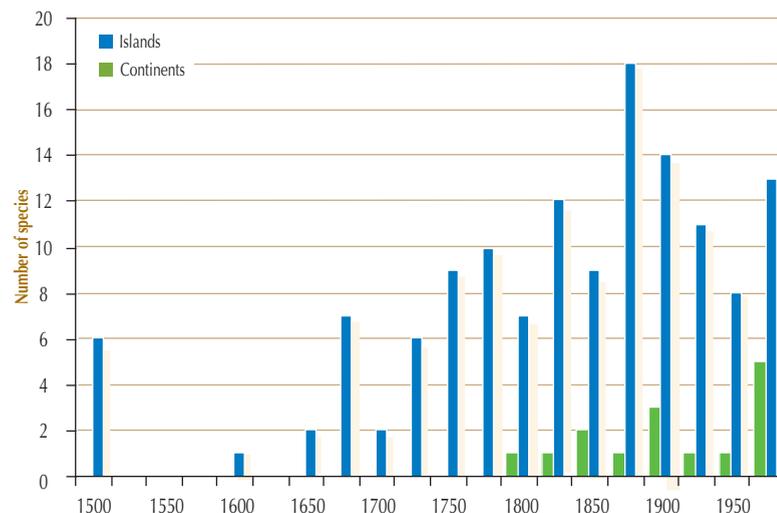
## Numerous bird species have been driven extinct

*In modern times, birds have gone extinct at an exceptionally high rate, estimated to be 1,000 to 10,000 times the natural background rate. Most documented extinctions have been of species restricted to small islands, but the rate of extinctions on continents is increasing. Some species survive in very small numbers or with tiny ranges and are almost certainly doomed to extinction, unless effective conservation measures are urgently taken.*

### We have lost over 150 bird species since 1500

A total of 153 bird species is believed to have become extinct since 1500. Avian extinctions are continuing, with 18 species lost in the last quarter of the twentieth century and three more known or suspected to have gone extinct since 2000. The rate of extinctions on continents appears to be increasing, principally as a result of extensive and expanding habitat destruction.

Number of bird species extinctions per 25 years, by continents and islands



Totals include bird species classified as Extinct, Extinct in the Wild, Critically Endangered (Possibly Extinct) and Critically Endangered (Possibly Extinct in the Wild).

**SOURCE** Analysis of data held in BirdLife's World Bird Database (2008).



Spix's Macaw (from Brazil) and Hawaiian Crow were driven extinct in the wild in 2000 and 2002 respectively, and the last Poo-uli (from Hawaii) died in captivity in 2004. (MACAW: LUIZ CLAUDIO MARIGO, CROW AND POO-ULI: US FISH AND WILDLIFE SERVICE)

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**Time-lags mean that current extinction rates are underestimated**

**In the Neotropics, many species have been driven extinct across large parts of their range**

**In Australia, the extinction of birds since 1750 can be linked to human impacts**

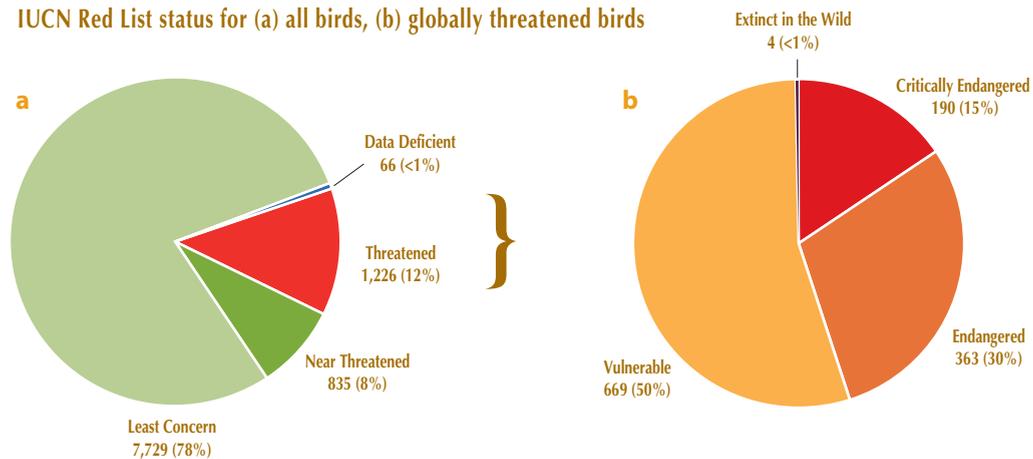
## Many bird species are close to extinction

Over 1,200 bird species are considered globally threatened, because they have small and declining populations or ranges. Of these, 190 are Critically Endangered and face an extremely high risk of extinction in the immediate future. Threatened birds are found throughout the world, but are concentrated in the tropics and especially in forests. Population declines may be quick and catastrophic, but even small increases in mortality can threaten the survival of some species.

## One in eight of all bird species is threatened with global extinction

BirdLife International is the official IUCN Red List Authority for birds and, in this capacity, coordinates the categorisation and documentation of all bird species for the IUCN Red List. In the latest assessment in 2008, 1,226 species (one in eight of the total) were considered threatened with extinction. Threatened species are not evenly distributed among bird families: there are particularly high proportions among albatrosses (82%), cranes (60%), parrots (27%), pheasants (23%) and pigeons (20%). Overall, larger-bodied species and those with low reproductive rates (owing to small clutch sizes) are more likely to be threatened.

IUCN Red List status for (a) all birds, (b) globally threatened birds



**SOURCE** Analysis of data held in BirdLife's World Bird Database (2008).



This booklet is a summary review of the state of the world's Critically Endangered birds, including Orange-bellied Parrot from Australia (on cover) and Brazilian Merganser (right). (PARROT: CHRIS TZAROS, MERGANSER: ADRIANO GAMBARINI/WWW.RAREBIRDSYEARBOOK.COM)



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Threatened birds occur in nearly all countries and territories



Nearly half of Europe's birds have an unfavourable conservation status



Asian vulture populations have declined precipitously in less than a decade



Many albatross species are in alarming decline

## Bird species are becoming more threatened

*Changes in the IUCN Red List for birds show that over the past twenty years the status of the world's bird species has deteriorated, with more species slipping closer to extinction. This has happened in all major ecosystems, but the changes have not occurred evenly across the world: birds in Oceania and seabirds are substantially more threatened on average and have declined the fastest, while Asian birds show a sharp decline linked to forest destruction.*

### Red List assessments show that the status of the world's birds has deteriorated over the last 20 years

The Red List Index for birds shows that there has been a steady and continuing deterioration in the status of the world's birds between 1988 and 2008. The index is based on the movement of species between the categories of the IUCN Red List, with values relating to the proportion of species expected to survive in the near future, assuming no additional conservation action. Over these 20 years, 225 bird species have been uplisted to a higher category of threat because of genuine changes in status, compared to just 32 species downlisted.

The Red List Index for the world's birds 1988–2008



**SOURCE** Analysis of data held in BirdLife's World Bird Database (2008).

Rhinoceros Hornbill is one of several species which has deteriorated in status as a result of forest destruction in the Sundaic lowlands of Indonesia.  
(DR CHAN AH LAK)



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**Birds have deteriorated in status in all major ecosystems**



**Birds in some regions, notably Oceania and Asia, have deteriorated in status faster than others**



**Birds in some families, notably seabirds, have deteriorated in status faster than others**

## Many common bird species are declining

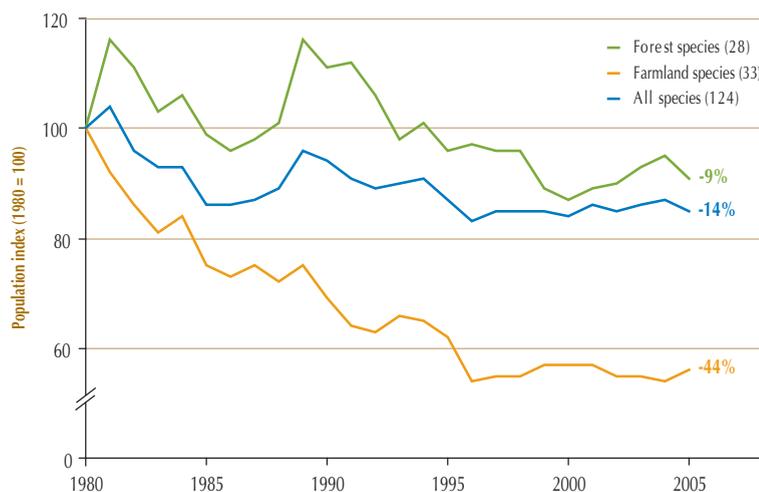
*In much of the world, many of the familiar bird species that we value are in decline.*

*These declines are taking place in both temperate and tropical regions and in a variety of different habitats, such as farmlands, forests and wetlands, alerting us to wider environmental problems. There are exceptions: some bird populations are stable and a few are increasing—a reflection of conservation efforts, but also because they can thrive in altered habitats.*

### Europe-wide monitoring schemes highlight declines in widespread farmland birds

An analysis of 124 of Europe's common birds has revealed that, over a 26-year period, 56 species (45%) have declined across 20 European countries, with farmland birds doing particularly badly. These population trends of representative suites of wild birds can indicate the health of the environment, for birds and wider biodiversity.

The Wild Bird Index for Europe 1980–2005



**SOURCES** EBCC/RSPB/BirdLife International/Statistics Netherlands. PECBMS (2007) *State of Europe's common birds, 2007*. Prague, Czech Republic: CSO/RSPB.

**ACKNOWLEDGEMENT** Graphic reproduced with kind permission of the Pan-European Common Bird Monitoring Scheme.



Corn Bunting, characteristic of farmland habitats, has declined by more than 60% across Europe between 1982 and 2005. (JOACHIM ANTUNES)

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**North American monitoring schemes are revealing declines in migratory species**



**Seabird communities are declining in the Southern Californian Current System**



**West African raptors are faring poorly outside protected areas**



**Waterbirds are showing widespread declines, particularly in Asia**

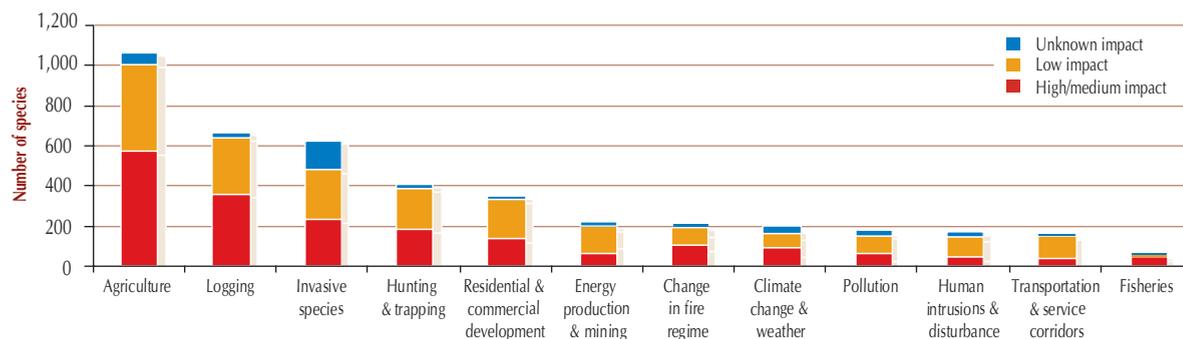
## Human actions are putting pressure on species, sites and habitats

Humans are responsible for most of the threats to birds. Expanding and intensifying agriculture and forestry, the biggest problems, cause habitat destruction, degradation and fragmentation. Fisheries degrade the marine environment and kill seabirds through accidental bycatch. The spread of invasive alien species, pollution and over-exploitation of wild birds are also major threats. In the long term, human-induced climate change may be the most serious threat of all.

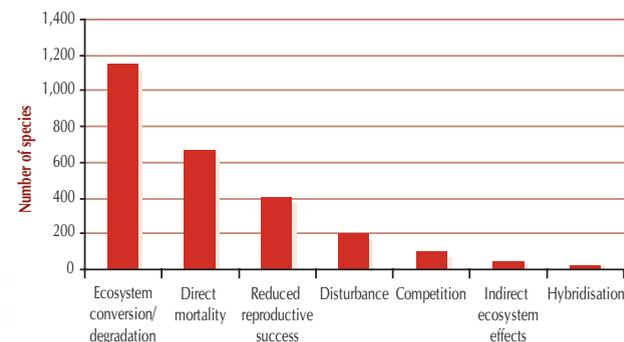
### A range of threats drives declines in bird populations

The threats leading to population declines in birds are many and varied: agriculture, logging and invasive species are the most severe, respectively affecting 1,065 (87%), 668 (55%) and 625 (51%) globally threatened species. These threats create *stresses* on bird populations in a range of ways, the commonest being habitat destruction and degradation, which affect 1,146 (93%) threatened species.

#### Main threats to globally threatened birds worldwide



#### Main stresses on globally threatened birds worldwide



**SOURCE** Analysis of data held in BirdLife's World Bird Database (2008).

The loss of tropical forests, and particularly of lowland forests as shown here in Thailand, represents one of the greatest threats to bird diversity globally. (MARK EDWARDS/BIRD LIFE)

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**Agriculture and forestry are key drivers of habitat destruction in Important Bird Areas**



**In Argentina, agriculture and settlement are increasingly fragmenting native grasslands**



**In Australia, fires are linked to habitat changes and the decline of many bird species**

## Invasive alien species, including diseases, are spreading

*Invasive species of animals, plants and disease-causing micro-organisms have already caused numerous extinctions, and remain a particular threat to birds on oceanic islands. Certain diseases appear to be spreading to previously unaffected bird populations, some of which are already threatened by other factors. Global travel, worldwide trade and a changing climate are encouraging the further spread of invasives.*

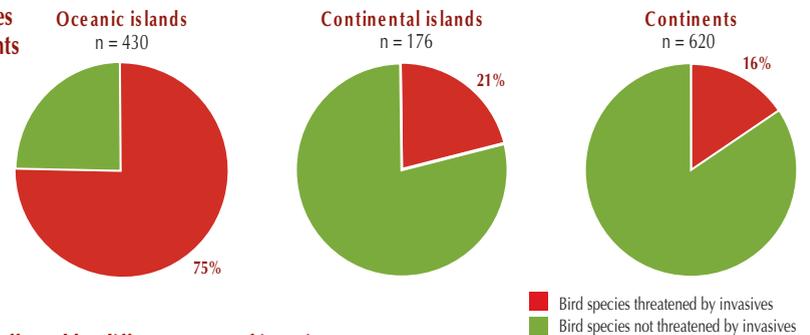
### Small island birds are most at risk from invasive alien species

Three-quarters of all threatened bird species occurring on oceanic islands are at risk from introduced species. Invasive predators, especially rats and cats, represent the greatest threat, but the impacts of habitat modification by herbivores and reduced fitness resulting from introduced micro-organisms are also significant. There are many examples of where these threats, alone or combined, have caused extremely rapid declines and even extinctions.

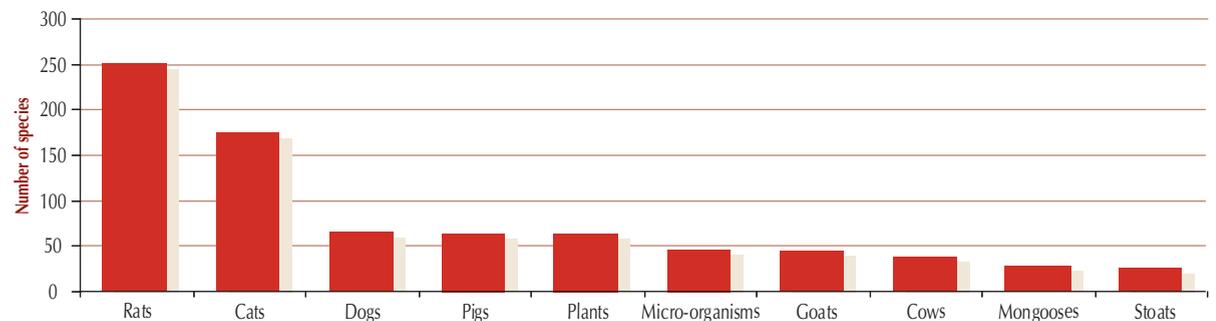


Rats are a threat to the native birds of New Zealand. (DAVID MUDGE)

Proportion of globally threatened bird species affected by invasives on islands and continents



Number of globally threatened bird species affected by different types of invasives



**SOURCE** Analysis of data held in BirdLife's World Bird Database (2008).

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**Invasive alien species have been implicated in nearly half of recent bird extinctions**



**Seabirds on Gough Island are being devastated by house mice**



**Native forest birds in the Hawaiian Islands are limited by introduced avian diseases**



**The H5N1 avian influenza virus: a threat to bird conservation—but indirectly**

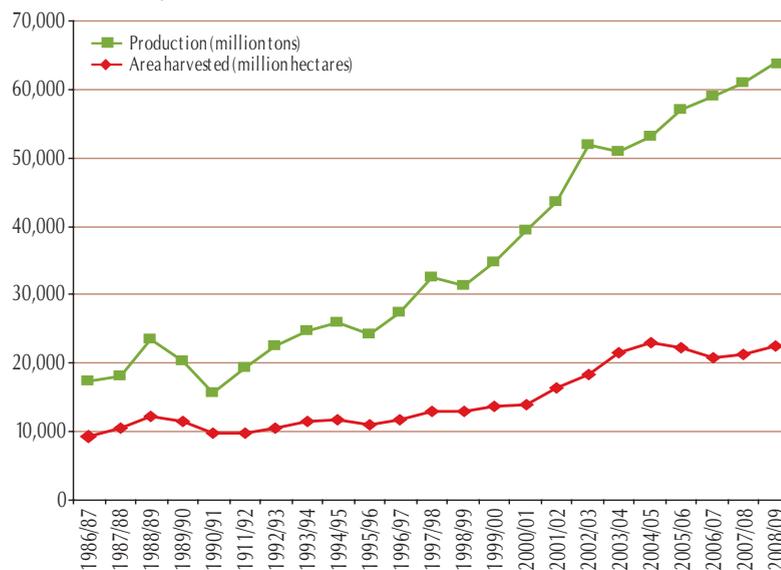
## Agriculture destroys and degrades more habitat than any other factor

*The expansion of agriculture, resulting in habitat destruction, is one of the greatest threats to the world's remaining biodiversity—especially in tropical regions. Intensification of farming practices, leading to the degradation of agricultural and semi-natural habitats, is also causing declines in biodiversity across huge areas. Growing human populations, increasing demand for animal protein, and policies promoting biofuel production are the underlying causes for these trends.*

### Farming is destroying the Brazilian *cerrado*—one of the world's richest savannas

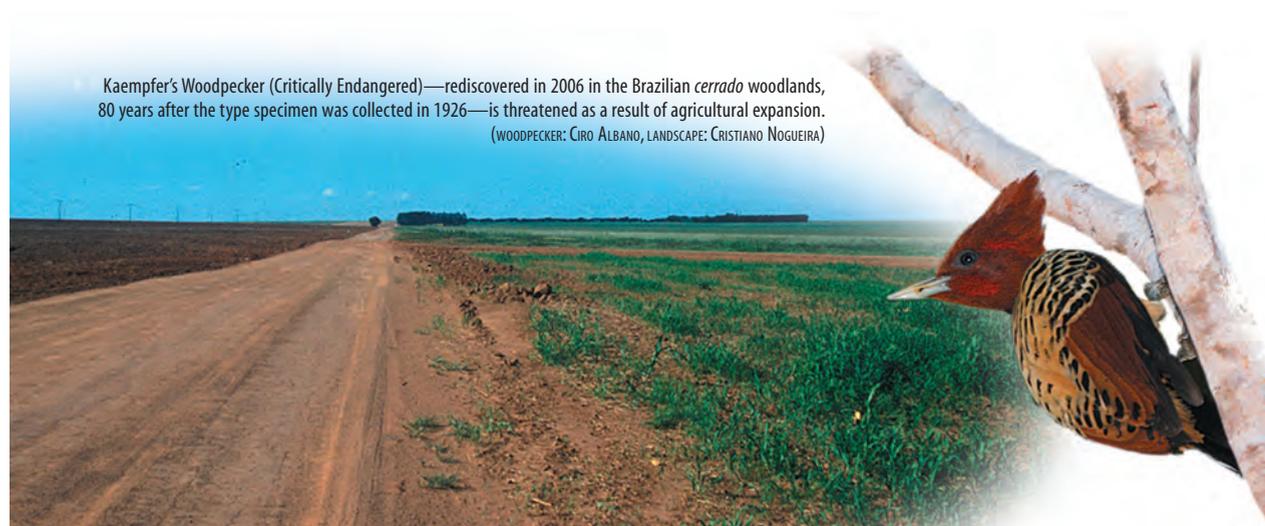
The *cerrado* covers 21% of Brazil, hosts 935 bird species and 10,000 plant species, and is an important carbon store, but farming has reduced it to less than half of its original size. The growing demand for food and biofuels has led to large-scale cultivation of soybean and sugarcane, forcing cattle ranchers and slash-and-burn farmers to re-locate ever deeper into the Amazon rainforest.

Production of soybean and area harvested in Brazil 1986–2008



**SOURCE** Data downloaded from <http://www.fas.usda.gov/psdonline/psdQuery.aspx>.

**ACKNOWLEDGEMENT** Graphic reproduced with kind permission of the U.S. Department of Agriculture's Foreign Agricultural Service.



Kaempfer's Woodpecker (Critically Endangered)—rediscovered in 2006 in the Brazilian *cerrado* woodlands, 80 years after the type specimen was collected in 1926—is threatened as a result of agricultural expansion. (WOODPECKER: CIRO ALBANO, LANDSCAPE: CRISTIANO NOGUEIRA)

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**Globally, agricultural land has expanded six-fold since 1700 and Endemic Bird Areas have suffered**



**Abolition of set-aside in Europe threatens farmland birds**



**Sugarcane plantations in the Tana River Delta threaten Kenyan birds, biodiversity and livelihoods**



**US corn ethanol boom is putting pressure on declining grassland birds in the Prairie Pothole Region**

## Forest loss is one of the major threats to biodiversity

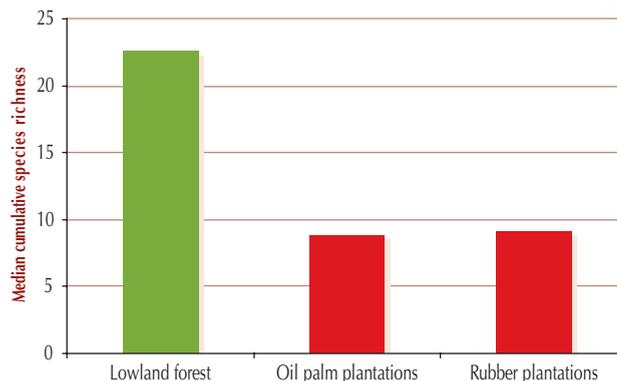
Nearly two-thirds of bird species are found in forests, mainly in the tropics, and many can live nowhere else.

Yet more than one million hectares of tropical forest are destroyed each year, to make space for commodity crops and biofuels, and to produce paper and timber. Selective logging degrades standing forests, bringing in its train disturbance, encroachment and increased hunting pressure. Deforestation also affects the world's climate, accounting for about one fifth of all human-induced greenhouse gas emissions every year.

### Many forest birds cannot survive in oil palm and rubber plantations

The conversion of lowland forest to commercial oil palm and rubber plantations is particularly common across parts of South America and South-East Asia, and poses a significant threat to birds and other biodiversity. Many forest birds, especially those with more specialised dietary requirements, are lost once forest is converted to plantation. In one study in southern Thailand, 60% of the 128 forest bird species recorded were not found outside lowland forest.

Bird species richness in natural lowland forest, oil palm plantations and rubber plantations in southern Thailand



n = 30 oil palm plantations and 30 rubber plantations, and adjacent forests. Species richness is based on Times Species Counts recorded over two 20-minute observation periods.

**SOURCE** Aratrakorn et al. (2006) *Bird Conservation International* 16: 71–82.

Oil palm in Indonesia: the global area of oil palm production nearly tripled between 1961 and 2000, covering at least 10 million hectares globally, mostly at the expense of natural habitats. (MARCO LAMBERTINI/BIRDLIFE)

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**In Papua New Guinea, deforestation for oil palm is causing declines in endemic birds**



**Biofuel plantations on forested lands: double jeopardy for biodiversity and climate**



**Forest bird communities are depleted even under selective logging regimes**



**The rapid loss of Paraguay's Atlantic Forest and the status of protected areas**

## Infrastructure development is a growing problem

*Our ever-spreading infrastructure of housing, industry, water, energy and transport networks is destroying and degrading natural habitats. Expansion and upgrading of infrastructure facilitate the spread of other activities, such as agriculture and logging, which can themselves be damaging unless properly managed. Artificial structures of many kinds also pose a direct threat to birds, particularly those on migration.*

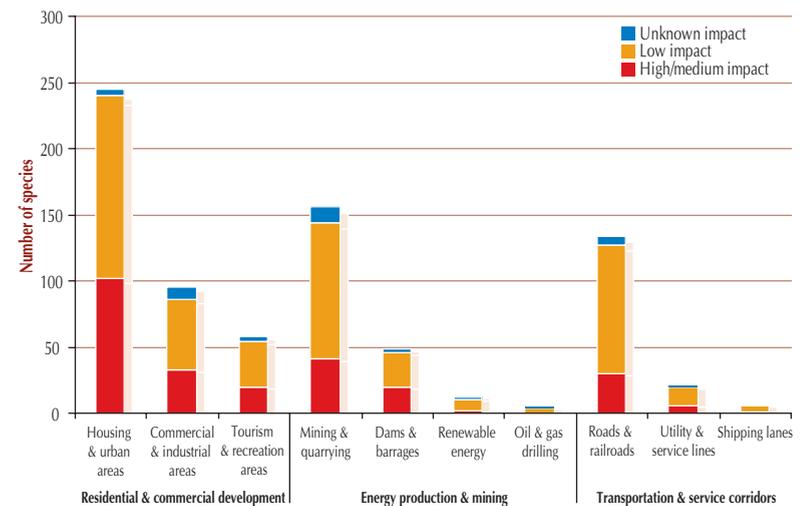
### Threatened birds indicate the consequences of unchecked infrastructure development

Ongoing infrastructure development—encompassing residential and commercial growth, energy production, mining, transport and dams—poses a serious threat to the world's birds. Residential and commercial development is having the greatest impact, affecting nearly 30% of all threatened species, with a high proportion in Asian-Pacific countries.

Construction site in China: it is predicted that in 25 years time over 70% of the Earth's land surface will have been impacted by infrastructure development. (LINQONG/DREAMSTIME.COM)



Number of globally threatened bird species impacted by infrastructure development



SOURCE Analysis of data held in BirdLife's World Bird Database (2008).

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**Uranium mining and Important Bird Areas in Namibia: a need for strategic environmental assessment**

**Soda extraction plant at Lake Natron, Tanzania, threatens East Africa's Lesser Flamingos**

**Large dams and barrages are an increasing threat to wetland-dependent birds**

**Collisions and electrocutions pose real threats for young and migrating birds**

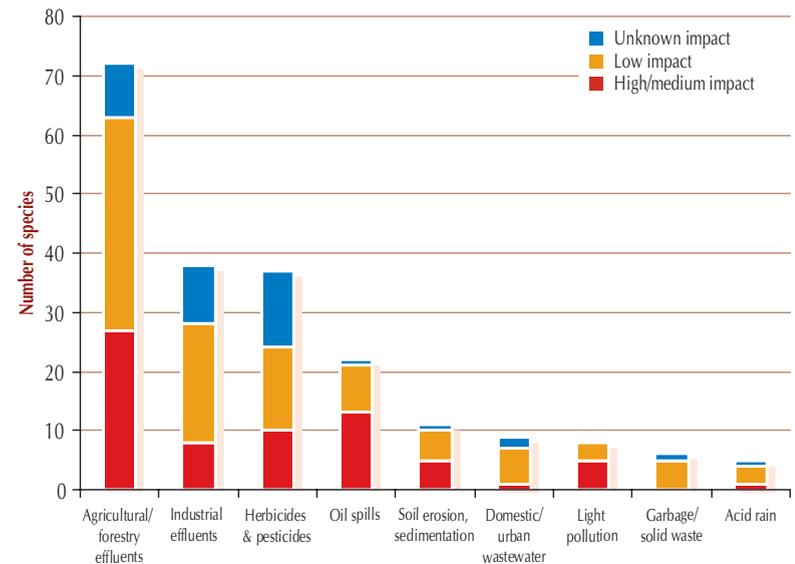
## Pollution remains a serious concern

*Pollution, of many diverse types, has direct and indirect impacts on birds—an indication of the wider problems it creates for humans and biodiversity alike. Water-borne pollutants can devastate otherwise productive wetland and coastal habitats. Many pesticides linked to bird deaths are still in widespread use, especially in developing countries. Oil spills remain a threat to some seabirds, while solid waste is an increasing problem. Little is known of the long-term effects of many pollutants, including those that persist and accumulate in the environment.*

### Pollution from agriculture, forestry and industry has significant impacts on birds

Pollution affects species directly, leading to mortality (in 6% of globally threatened birds) or reduced reproductive success (3%), as well as indirectly, through the degradation of habitats (affecting 11%). Pollution associated with agriculture, forestry and industry is the most common threat, and has the greatest impact on marine and freshwater environments and the species that depend upon them.

Number of globally threatened bird species affected by different types of pollutants



SOURCE Analysis of data held in BirdLife's World Bird Database (2008).



Crop spraying in Pakistan: while pesticides are valuable tools in food production, they can also have significant environmental impacts. (IAN DENHOLM)

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Vultures are under threat from the veterinary drug diclofenac



Pesticides continue to poison birds on a large scale



Lead ammunition continues to build up in the environment, poisoning birds



Seabirds suffer from eating our junk

## Overexploitation affects many bird species

*Unsustainable hunting for food or sport and trapping for the cage-bird trade has been implicated in the extinction of many bird species, and remains a significant threat today. Overexploitation particularly affects some bird families, including parrots, pigeons and pheasants, and is most prevalent in Asia. Many internationally traded birds continue to deteriorate in status, with illegal trade a contributory factor.*

### Unsustainable exploitation of birds is most prevalent in Asia

Some 50 bird species that have become extinct since 1500 (c.40% of the total) have been subject to over-harvesting. In 2008, overexploitation affects one third of all globally threatened bird species. Its impacts are most prevalent in Asia: eight out of the top ten countries with the highest numbers of birds at risk from exploitation are in Asia.



Red-and-blue Lory is confined to the Talaud Islands, Indonesia, where trade represents a significant threat. (ALAIN COMPOST/BIRDLIFE)

### The ten countries with the highest numbers of globally threatened bird species affected by overexploitation



**SOURCE** Analysis of data held in BirdLife's World Bird Database (2008).

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**The Red List Index for utilised bird species illustrates their deterioration in status**

**Overexploitation is a threat to many large and conspicuous bird species**

**The Red List Index for internationally traded bird species shows their deterioration in status**

**The illegal parrot trade remains a problem in Latin America**

## Commercial fisheries seriously threaten seabirds

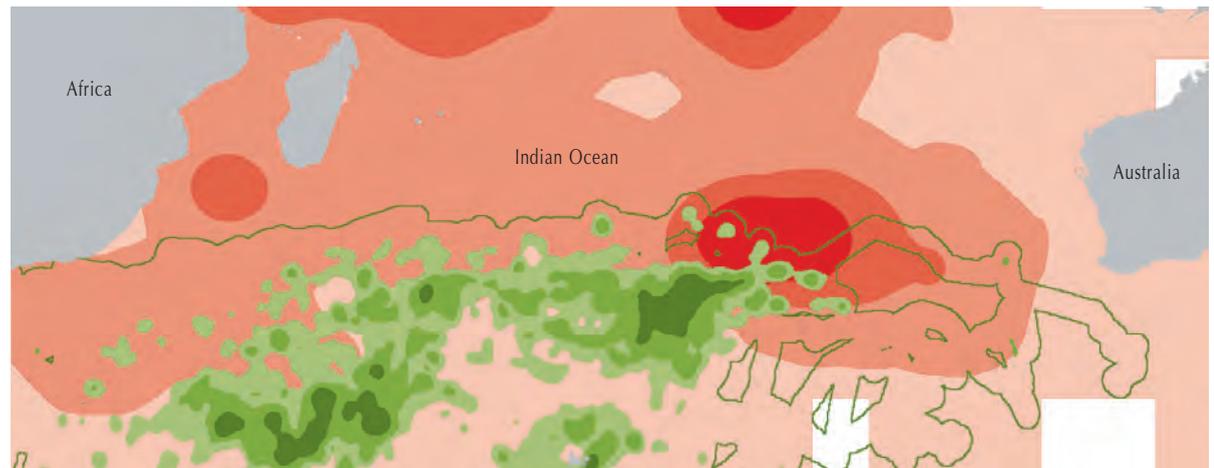
*Global commercial fisheries have expanded dramatically since the 1960s, both in intensity and spread across the high seas. This is having direct and indirect impacts on seabirds worldwide. Commercial longline and trawl fisheries are responsible for the deaths of hundreds of thousands of seabirds each year. This threatens the survival of a number of species, especially albatrosses. Seabirds are also suffering as fishing pressure degrades the marine environment.*

### Longline fishing effort overlaps with foraging hotspots for seabirds

Some of the world's richest longline fishing grounds coincide with key foraging areas for vulnerable seabird species. Even a partial overlap between foraging and fishing areas is significant, since small increases in albatross mortality can have severe effects on these long-lived birds.

### Overlap between longline fishing effort for tuna and swordfish in the Indian Ocean and foraging areas of albatrosses, petrels and shearwaters

- Tuna and swordfish longline fishing effort areas, with the darkest shades indicating the most intensively used areas
  - Areas within the official boundary of the Indian Ocean Tuna Commission, but where there is no fishing effort
  - Seabird foraging areas during the breeding season, with the darkest shades indicating the most intensively used areas
  - Boundary of the known seabird foraging areas
  - Land
- The fishing effort shown is the average from 2002 to 2005



SOURCE BirdLife International Global Procellariiform Tracking Database.

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**Trawl fisheries are causing significant mortality to albatrosses along the west coast of southern Africa**



**Gillnets are increasing and a significant threat to some seabird populations**



**Fisheries are targeting smaller fish with serious implications for seabirds**

## Human-induced climate change may pose the greatest challenge

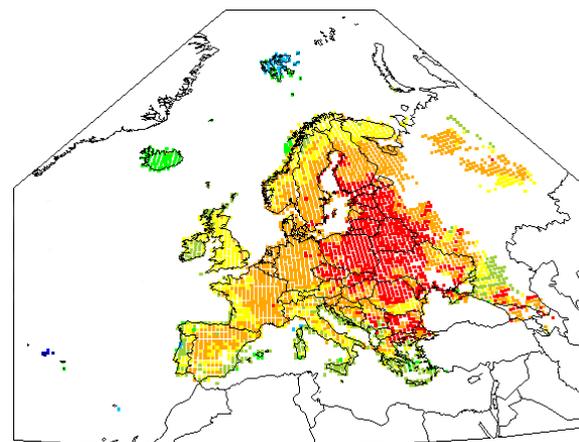
*The climate of our planet is changing rapidly because of human activities, especially the burning of fossil fuels and destruction of forests. We can already see direct impacts of climate change on biodiversity, while other threats may be made much worse. Many species may have to shift their ranges to survive, and considerably more losers than winners are expected. Inappropriate or poorly planned mitigation measures (such as biofuel cultivation) could also do grave damage to biodiversity.*

### Climate change may force European species northwards

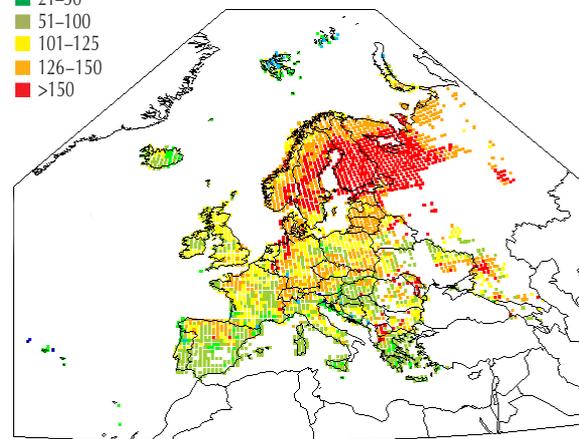
Modelling suggests that, by the end of this century, the breeding ranges of European birds will shift north-eastwards by several hundred kilometres. On average, future ranges are expected to be 20% smaller than they are now, with limited overlap (c.40%) with present breeding distributions. Such projected shifts pose significant challenges for conservation.



Avian species richness in Europe simulated for the present (top) and for 2085 (bottom)



Number of bird species



**SOURCE** Huntley *et al.* (2007) *A climatic atlas of European breeding birds*. Durham, Sandy and Barcelona: Durham University, RSPB and Lynx Edicions.

**ACKNOWLEDGEMENT** Graphic reproduced with kind permission of Brian Huntley and Lynx Edicions.

Azure-winged Magpie could lose 95% of its range in Spain and Portugal as a result of global warming. (ALEJANDRO TORÉS SÁNCHEZ)

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**There is strong evidence that climate change is impacting a wide range of organisms**



**Climate change is already affecting birds in diverse ways**



**In the Arctic tundra, climate change will cause dramatic losses in waterbird breeding habitat**



**The number of montane endemic birds that go extinct in Australia will depend on the degree of warming**

## Threats to biodiversity have much deeper causes

*Biodiversity is vital for sustaining human life, and yet is still being lost. Why is this? Our economic systems fail to account for the enormous value of wild nature, which can be difficult to express in monetary terms. These systems therefore favour short-term gains from converting natural capital, without considering long-term costs. The problems are made worse by global imbalances in power and wealth, perverse incentives for the destruction of natural resources, and the rise in both human numbers and individual consumption.*

### The perverse economics of habitat conversion

The conversion of natural habitats makes no economic sense once currently unmarketed ecological services are taken into account. On average, c.50% of the total economic value of natural habitat is lost following its wholesale conversion to a more intense human use.

#### Total economic value of relatively intact natural habitat compared to an alternative land use, for five case-studies across four biomes



Deforestation in Sumatra: what is the value of intact forest versus cleared land? (MARCO LAMBERTINI/BIRDLIFE)

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**How much do we value wild nature?**

**In current global markets, oil palm plantations are valued more highly than ancient forest**

**More bird species are threatened in the developing world than the developed world**

**People and biodiversity are often concentrated in the same areas**

## Sound environmental governance is the fundamental starting point for conservation

*Over the past few decades, the world's governments have endorsed many international agreements relevant to the conservation of biodiversity, demonstrating their willingness to cooperate in tackling important environmental issues. The challenge now is to harness this commitment and ensure that concrete actions are taken where they are most needed. In several countries, the engagement of civil society and indigenous peoples' organisations has resulted in impressive progress. There are signs of increasing action in the private sector, too.*

### Political will saves important tropical forest sites in Sierra Leone and Indonesia

The governments of Sierra Leone and Indonesia, in collaboration with BirdLife Partners, are leading the way to demonstrate that strong political will can turn commitments made under the Convention on Biological Diversity (CBD) into conservation action. Gola Forest (750 km<sup>2</sup>) in eastern Sierra Leone and Harapan Rainforest (1,010 km<sup>2</sup>) in Sumatra are immensely valuable for wildlife, essential resources for indigenous peoples, and make an important contribution to the fight against climate change.

Actions being undertaken in Gola Forest and Harapan Rainforest as a contribution to the CBD's 'Programme of Work on Protected Areas'

	Gola Forest, Sierra Leone	Harapan Rainforest, Indonesia
Political will	<ul style="list-style-type: none"> <li>Agreements established between central / local government, NGOs &amp; chiefdoms</li> <li>Declared first rainforest national park in the country</li> <li>Presidential order to ban all mineral exploration</li> </ul>	<ul style="list-style-type: none"> <li>New law passed to allow forest restoration concession</li> <li>Agreements established by national, provincial &amp; district governments</li> <li>Supportive relationship developed with local law enforcement bodies</li> </ul>
	 <p>(ALEX HIPKISS/RSPB)</p>	 <p>(MARCO LAMBERTINI/BIRD LIFE)</p>
Resources	<ul style="list-style-type: none"> <li>Trust Fund established</li> <li>Running costs being met by donor support from European Union &amp; French government</li> <li>Potential to raise carbon financing for 'Avoided Deforestation' from 2012</li> </ul>	<ul style="list-style-type: none"> <li>Trust Fund being established</li> <li>Strong efforts being put into developing capacity among local communities</li> <li>Potential to raise carbon financing for 'Avoided Deforestation' from 2012</li> </ul>

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Lists of species form a key part of several conventions, and need to be reviewed and updated regularly



Many Important Bird Areas are recognised under global or regional conventions, but many remain neglected



Working with Regional Fishery Management Organisations reduces albatross declines



Finding ways to offset private sector impacts on biodiversity

## Larger and better-targeted investment is needed for effective conservation

*Global conservation investment still falls far short of what is needed.*

*Conservation financing is rarely sustained, and often not directed to where it can do most good. The biggest shortfalls are in developing countries—often biodiversity rich, but economically poor.*

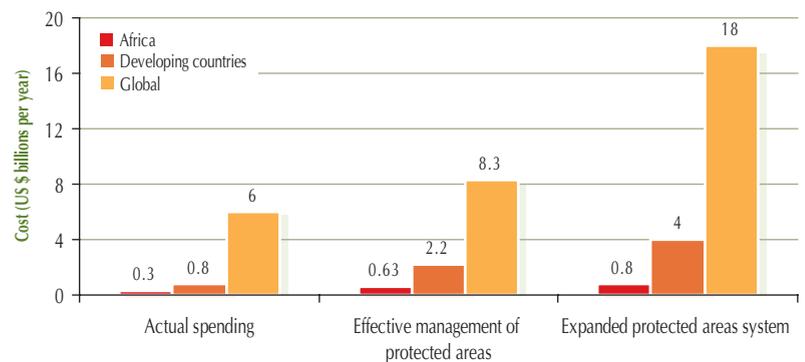
*Those who benefit from biodiversity as a global good have an obligation to contribute more to looking after it. Effective biodiversity conservation is, in fact, easily affordable, requiring relatively trivial sums at the scale of the global economy.*

## A comprehensive and effective African protected areas network needs more resources but represents excellent value

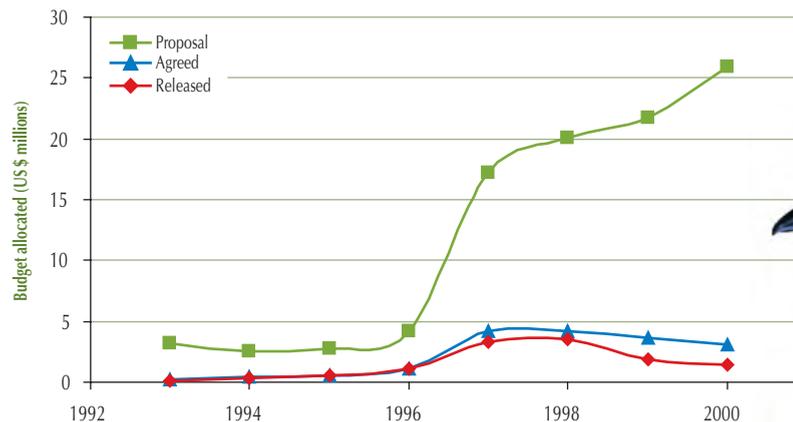
In 2005, the African protected area network received around US \$300 million, less than 40% of the funding required for an expanded and effectively managed system. In Nigeria, the annual allocation for protected area management, 1993–2000, was a small fraction of the budgeted requirements, and the money released was even less.

Making up the difference would go a long way to ensuring the conservation of 90% of the continent's irreplaceable biodiversity—in global terms, an absolute bargain.

Estimated costs of protected areas conservation in Africa, developing countries and the world, 2005



Budget allocations for protected area conservation in Nigeria 1993–2000



Grey-necked Picathartes (Vulnerable) occurs in protected areas throughout its west-central African range, including the Cross River National Park in Nigeria, but encroachment by farmers, hunters and loggers means that even these populations are under threat. (PICATHARTES: TASSO LEVENTIS, CROSS RIVER NATIONAL PARK: DAVID THOMAS/BIRDLIFE)



**SOURCES** James *et al.* (2001) *BioSciences* 51(1): 43–52. Bruner *et al.* (2004) *BioSciences* 54 (12): 1119–1126. BirdLife International (2005) Financing protected areas in Africa. Nairobi: BirdLife International Africa Secretariat and African Protected Areas Initiative (Workshop, 1st–2nd February, 2005). Marguba (2005) Recurrent costs and shortfalls of managing protected areas in Nigeria. Nairobi: BirdLife International Africa Secretariat and African Protected Areas Initiative (Presentation at Workshop on 'Financing protected areas in Africa', 1st–2nd February, 2005).

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Those who benefit from biodiversity conservation should pay the costs

More needs to be invested in biodiversity conservation, especially in developing countries

Security or sustainability first? The fate of Endemic Bird Areas depends on the choices we make

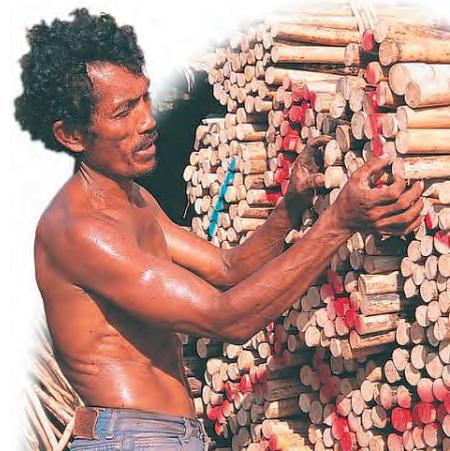
Are we doing enough to save the world's birds?

## Linking biodiversity conservation to people's livelihoods and wellbeing

*Conserving biodiversity and eliminating poverty are linked global challenges. The poor, particularly the rural poor, depend on nature for many elements of their livelihoods, including food, fuel, shelter and medicines. Working alongside people who will ultimately benefit from conservation can build social capital, improve accountability and reduce poverty. In contrast, excluding people from conservation actions can increase conflict, resentment and poverty.*

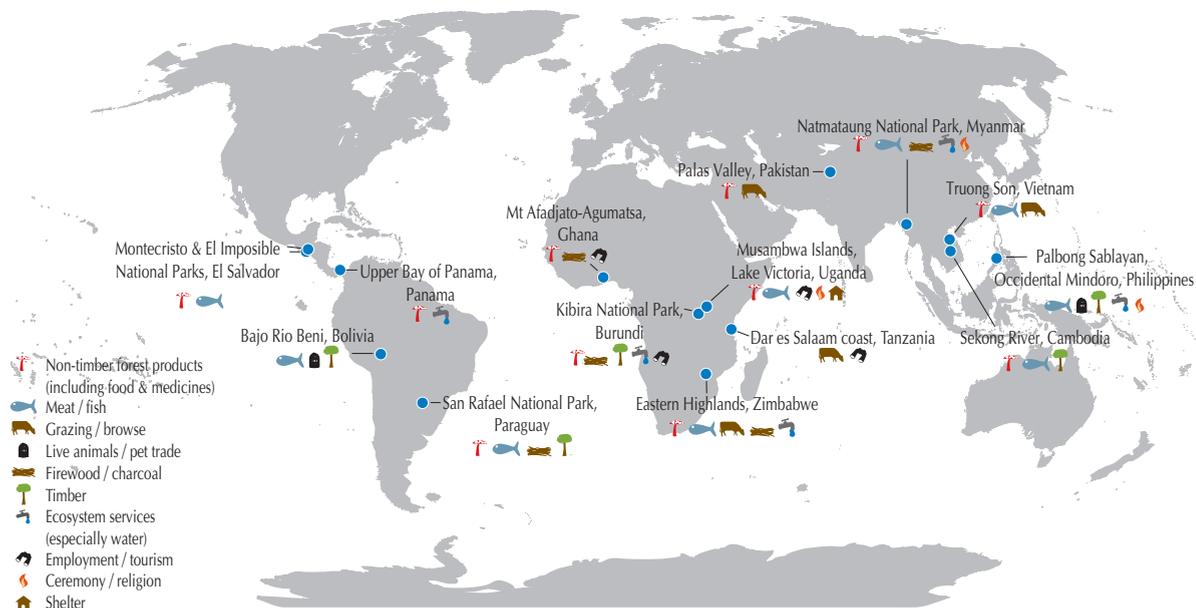
### Understanding local needs: the role of Important Bird Areas in people's livelihoods

Understanding how people experience poverty locally is essential in identifying how biodiversity conservation can help improve their livelihoods. BirdLife Partners have worked with communities at Important Bird Areas (IBAs) to develop site-specific solutions to the problems they have identified. Examples include supporting agricultural development around Kabira National Park, Burundi, to help reduce pressure on the park's land and resources, developing ecotourism to generate income at San Marcos, Bolivia, and improving management and marketing of non-timber forest products in Palas Valley, Pakistan.



Natmataung National Park IBA, Myanmar: the forest is a direct provider of food, fuelwood, non timber forest products for sale, and wildlife for social status and exchange. (ALAIN COMPOST)

#### The range of benefits that communities obtain from IBAs



Data summarised for 15 IBAs. Uses were volunteered by the community representatives who were interviewed (note that some of these uses are considered illegal by national authorities).

**SOURCE** BirdLife International (2006) *Livelihoods and the environment at Important Bird Areas: listening to local voices*. Cambridge, UK: BirdLife International.

#### MORE CASE STUDIES ONLINE



Improved livelihoods at Arabuko-Sokoke Forest in Kenya

Using direct payments as an incentive for Important Bird Area conservation in Madagascar

Nature and people's wellbeing: examples from Europe

'Birding routes' in South Africa: integrating sustainable livelihood development with biodiversity conservation

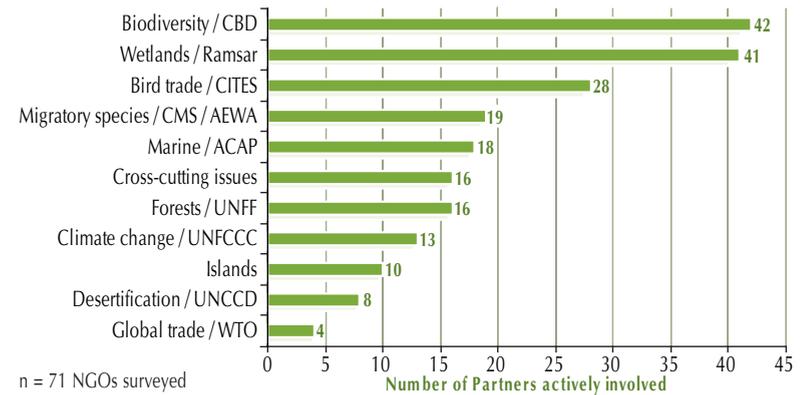
## Building broad constituencies of people to bring about change

*To avert the current biodiversity crisis, we must renew our relationship with nature. Changes in attitudes and approaches are needed at all scales, from the local to the global. Constituencies that recognise the importance of biodiversity for livelihoods and wellbeing, as well as its intrinsic worth, must be built among individuals, communities, corporations and nation states. Working together, they can achieve the challenging but necessary transformation in current patterns of production and consumption.*

### Bird conservation organisations are increasingly engaging with policy work

BirdLife Partners are working to build constituencies at many different levels: through their own membership, through diverse networks of Local Conservation Groups, through strategic partnerships with industry and through constructive engagement with governments. As part of their work with governments, more and more Partners are tackling policy issues, with over 70 active in 2007 compared to just six in 1998. As well as policy sectors that deal directly with biodiversity, Partners are also starting to address those that have a major indirect impact (such as climate change), or cut across the other sectors (such as poverty reduction, conservation finance and tourism).

Number of BirdLife Partners active in different biodiversity-related policy sectors, 2007



WTO = World Trade Organisation, CBD = Convention on Biological Diversity, Ramsar = Convention on Wetlands, CITES = Convention on International Trade in Endangered Species, CMS = Convention on Migratory Species, AEWA = African–Eurasian Waterfowl Agreement, ACAP = Agreement for the Conservation of Albatrosses and Petrels, UNFF = United Nations Forum on Forests, UNFCCC = United Nations Framework Convention on Climate Change, UNCCD = United Nations Convention to Combat Desertification.

**SOURCE** Mwangi (2007) A review of Partner's engagement in policy sectors and use of National Liaison Committees and Frameworks as a tool to achieve biodiversity conservation. Cambridge, UK: BirdLife International (internal report).

Jaqueline Goerck (of SAVE Brasil) presents 'Important Bird Areas in the Atlantic Forest' to Marina Silva, Minister of Environment, Brazil, during the eighth Conference of the Parties to the Convention on Biological Diversity in Curitiba, Brazil, March 2006. (PRICILLA NAPOLI/SAVE BRASIL)



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Working with Community Forest Users Groups in Nepal

The traditional approach of Hima: conserving Important Bird Areas and empowering local people in the Middle East

Strategic partnerships: CEMEX, the global cement and aggregates company, and BirdLife International

National Liaison Frameworks: consultative forums for policy formulation

## Sustaining birds and biodiversity in the wider landscape and seascape

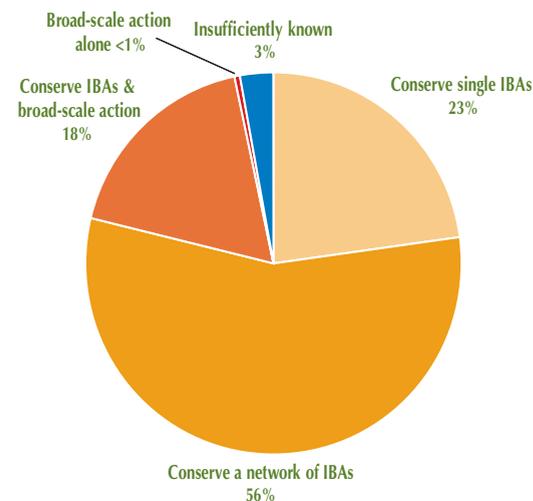
*Most of the world lies outside protected areas—as do most of the world's birds. The fate of this wider environment is crucial for conservation: to link and buffer sites, to meet the requirements of wide-ranging species, and to maintain the familiar species that we know and value. Conservation at this scale requires policies that promote genuinely sustainable development, and that take nature into account alongside the needs of people.*

### Broad-scale conservation is needed alongside site-scale approaches to conserve threatened birds

Conservation at a broad-scale is essential to prevent and reverse declines in relatively abundant and wide-ranging species, but it is important for globally threatened birds, too. While most threatened birds need interventions at particular Important Bird Areas (IBAs) to ensure their survival, a significant minority—around one in five—also require broader scale action. For a small number of highly dispersed threatened species, broad-scale action is the single highest priority.

#### Proportion of globally threatened bird species requiring different scales of conservation action

n = 1,203 (based on 2006 data)



SOURCE Boyd et al. (2008) *Conservation Letters* 1: 37–43.

In the Jordan Valley, a densely settled farmland and key flyway for more than 300 migratory bird species, BirdLife Partners are taking a landscape-level, long-term approach to nature conservation. (EARTH SCIENCES & IMAGES ANALYSIS LABORATORY, NASA, JOHNSON SPACE CENTER)



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Mainstreaming soaring bird conservation through sectoral policy and legislation



Reforming policy for both birds and agriculture in Europe



Towards sustainable hunting in the Middle East



Habitat conservation for birds and other biodiversity in Asia: a guide for governments and civil society

## Conserving Important Bird Areas as key sites for biodiversity

Protecting the 10,000 Important Bird Areas identified to date would make an enormous contribution towards maintaining not just birds but much other biodiversity. While formal protection often remains the preferred option, there are many other, often innovative, approaches that can also be highly effective. These include ensuring effective application of safeguard policies and environmental assessments for development projects. In all cases, maximising the involvement of local communities and stakeholders, and a commitment to long-term engagement, are keys to success.

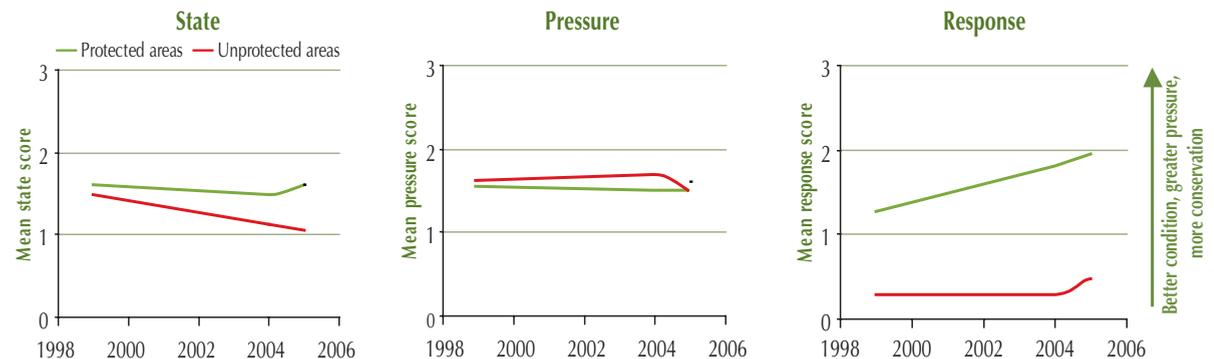
### In Kenya, Important Bird Area monitoring shows the value of formal protection for biodiversity conservation

In Kenya, assessments from using BirdLife's Important Bird Area (IBA) monitoring framework indicate that IBAs with formal protection are in better and more stable condition than those without. IBA indices also show that protected IBAs are subject to marginally lower pressures and have better conservation responses in place, including better management planning and implementation, than are unprotected sites.

Lake Nakuru National Park is internationally famous for its population of Lesser Flamingo, but is also a major feeding ground for Great White Pelican and an important wintering and passage site for large numbers of Palearctic waders. (VICKY JONES/BIRDLIFE)



#### Trends in state (condition), pressure (threats) and response (conservation action) scores for Kenyan IBAs 1999–2005



n = 36 (20 protected and 16 unprotected IBAs). Protected areas include National Parks, National Reserves, Forest Reserves, Game Sanctuaries and National Monuments; non-protected areas include private and trust lands.

SOURCE Mwangi *et al.* (submitted) [Bird Conservation International].

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Protecting Important Bird Areas: Timor-Leste's first National Park



Maintaining bird populations in Special Protection Areas in the European Union



Conserving Important Bird Areas in the face of climate change



The Integrated Biodiversity Assessment Tool (IBAT): information to guide sustainable development

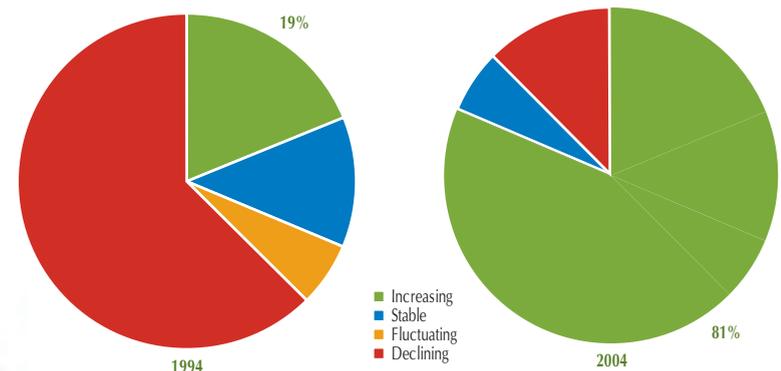
## Species can be saved from extinction

*Action at individual sites, or in the wider environment, can go a long way to achieving conservation goals. Sometimes, however, the problems facing individual species call for more targeted responses. Often this starts with research to understand an observed decline. This may identify specific actions that need to be taken, such as control of predators or provision of nest sites. Translocations of populations, or reintroductions from captivity, may often be viewed as a last resort, but can be remarkably successful.*

### Without conservation action, 16 bird species would have gone extinct over the last ten years

An estimated 16 bird species would have gone extinct between 1994 and 2004 were it not for conservation programmes that tackled their threats, reduced rates of population decline and/or increased population sizes. In addition, during this 10-year period, 49 Critically Endangered species (28%) benefited from conservation action such that they declined less severely (24 species) or improved in status (25 species). To build on these successes, BirdLife has launched a major new initiative: the Preventing Extinctions Programme. This is spearheading greater conservation action, awareness and funding support for the world's most threatened birds, through appointing Species Guardians (to implement the priority actions) and Species Champions (to provide the resources).

Population trends of 16 Critically Endangered bird species that would have gone extinct without conservation action, 1994 and 2004



SOURCES Brooke et al. (2008) *Conservation Biology* 22: 417–427.

Three species that have benefited from conservation action are: Lear's Macaw in Brazil (control of trade, guarding of nest sites and land management), Mauritius Parakeet (captive breeding and habitat management) and Black Stilt in New Zealand (release of substantial numbers of captive-bred birds and predator control). (MACAW: BIRDLIFE, PARAKEET: D. HANSEN/WWW.MAURITIAN-WILDLIFE.ORG, STILT: STEVE ARLOW/WWW.RAREBIRDSYEARBOOK.COM)



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The wintering grounds of Northern Bald Ibis nesting in Syria have been discovered using satellite tracking



Bermuda Petrel is being conserved through translocation and provision of artificial nest-sites



The Albatross Task Force is bridging the gap between conservationists and fishermen



Captive breeding plays a crucial part in bringing the Californian Condor back from the brink

## Birds can help us keep track of progress

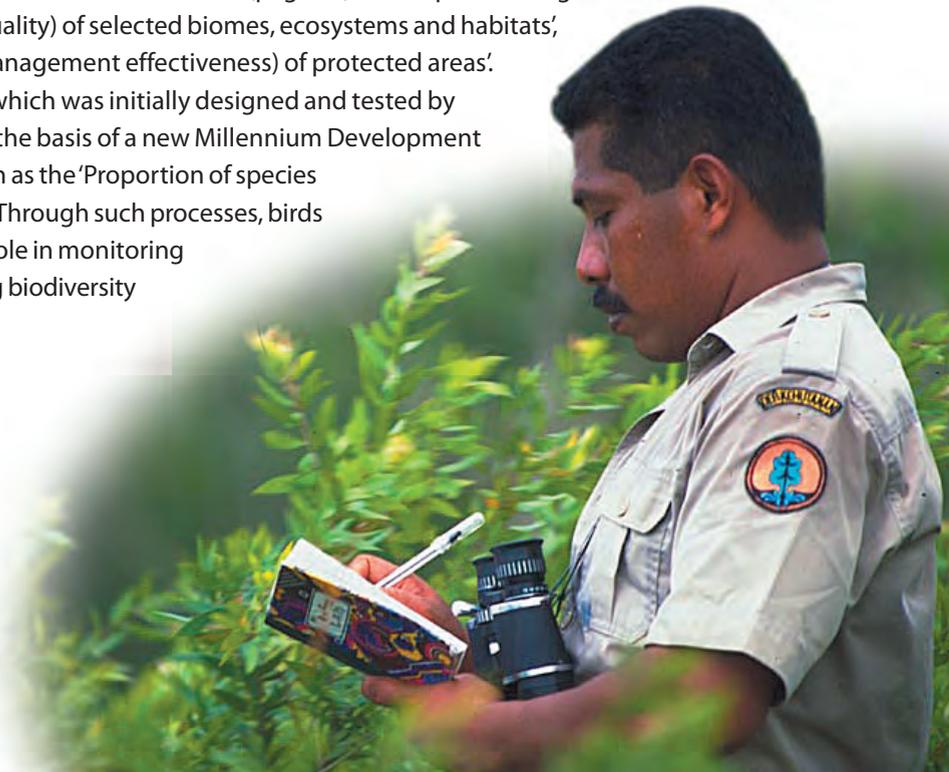
*Globally agreed goals, such as the 2010 target and the Millennium Development Goals for 2015, require a global monitoring system. No such system yet exists for biodiversity, but progress is being made—with birds at the forefront. Birds are easy to monitor, and many people around the world do so, often as volunteers, generating information of vital importance for our future. Overall, birds provide a wonderful window onto nature, a route for environmental engagement and a focus for positive change.*

### Bird indicators make a major contribution to measuring the 2010 target

In 2003, a set of indicators was adopted by the Parties to the Convention on Biological Diversity to measure progress in reducing the rate of loss of biodiversity by 2010. Monitoring of bird species and Important Bird Areas contributes substantially to many of these indicators. Indicators for 'Trends in abundance and distribution of selected species' and 'Change in status of threatened species' are already available for birds (see pages 6 and 7). Important Bird Area indicators (page 23) can help in tracking the 'Trends in extent (and quality) of selected biomes, ecosystems and habitats', as well as 'Coverage (and management effectiveness) of protected areas'. In 2007, the Red List Index, which was initially designed and tested by BirdLife, was selected to be the basis of a new Millennium Development Goal (MDG) indicator, known as the 'Proportion of species threatened with extinction'. Through such processes, birds will continue to play a vital role in monitoring progress towards conserving biodiversity in the years to come.

**SOURCES** [www.cbd.int/2010-target](http://www.cbd.int/2010-target),  
[www.un.org/millenniumgoals](http://www.un.org/millenniumgoals).

Training local government officials in field survey techniques has been a major part of BirdLife's work in Indonesia.  
(M. K. Poulsen/BirdLife)



**Editors-in-chief:** Alison Stattersfield, Leon Bennun and Martin Jenkins.

**Theme editors:** Muhtari Aminu-Kano, Jeremy Bird, Ian Burfield, Stuart Butchart, Nigel Collar, John Fanshawe, Lincoln Fishpool, Melanie Heath, Victoria Jones, Cleo Small and David Thomas.

**Additional contributions from:** Tristram Allinson, Mark Balman, Jonathan Barnard, Ariel Brunner, Michael Evans, Martin Fowle, Ben Lascelles, Adrian Long, Lucy Malpas, Ian May, Kiragu Mwangi, Jonathan Stacey and Jack Tordoff.

**Many of the data underlying the analyses included here were provided by the BirdLife Partnership and a wider expert network.** A full list of contributors to information on threatened birds is given in BirdLife International (2008) *Threatened birds of the world 2008* CD-ROM. Information on globally threatened species, Important Bird Areas and Endemic Bird Areas can be downloaded from [www.birdlife.org/datazone](http://www.birdlife.org/datazone).

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**BirdLife International is a partnership of people for birds and the environment.**

As a worldwide community, we are the leading authority on the status of birds and their habitats. Over 10 million people support the BirdLife Partnership of national non-governmental conservation organisations and local networks. Partners, operating in more than 100 territories, work together on shared priorities, programmes, and policies, learning from each other to achieve real conservation results. The BirdLife Partnership promotes sustainable living as a means of conserving birds and all other forms of biodiversity.

For more information, please contact:  
BirdLife International, Wellbrook Court, Girton Road, Cambridge CB3 0NA, UK.  
Tel: +44 1223 277318 Fax: +44 1223 277200  
Email: [birdlife@birdlife.org](mailto:birdlife@birdlife.org) Internet: [www.birdlife.org](http://www.birdlife.org)



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