

# Briefly

## INTERNATIONAL

### Global decline of wildlife linked to child slavery

New research suggests the global decline in wildlife is connected to an increase in human trafficking and child slavery. The shortage of wild animals means that in many countries more labour is now needed to find food. Children are often used to fill this need, especially in the fishing industry. Harvesting of wild animals from the sea and the land is worth USD 400 billion annually and supports the livelihoods of 15% of the world's population. But the rapid depletion of species has increased the need for slave labour. There is a direct link between the scarcity of wildlife, the labour demands of harvests and the increase in child slavery. Many communities that rely on wildlife resources don't have the economic capacity to hire more labourers, so instead they look for cheap labour, and in many areas this has led to the outright purchasing of children as slaves.

Source: *Science* (2014) [dx.doi.org/10.1126/science.1256734](https://doi.org/10.1126/science.1256734), and *BBC News* (2014) [www.bbc.co.uk/news/science-environment-28463036](http://www.bbc.co.uk/news/science-environment-28463036)

### Deforestation leaves fish hungry

Recent research suggests that deforestation is reducing the amount of leaf litter falling into rivers and lakes, resulting in less food being available to fish. The results illustrate a link between watershed protection and healthy freshwater fish populations. The research found fish that had almost 70% of their biomass made from carbon that came from trees and leaves rather than from aquatic food chain sources. Although plankton raised on algal carbon is more nutritious, organic carbon from trees washed into lakes is an important food source for freshwater fish. Data were sourced from eight locations with varying levels of tree cover around Daisy Lake, Canada, part of the boreal ecosystem. Where there was more forest cover, the fish were fatter than fish found in areas with few or no trees. Generally, the more forest cover around the edge of the lake, the larger the fish in that area.

Source: *Nature Communications* (2014) [dx.doi.org/10.1038/ncomms5077](https://doi.org/10.1038/ncomms5077), and *BBC News* (2014) [www.bbc.co.uk/news/science-environment-27834440](http://www.bbc.co.uk/news/science-environment-27834440)

### Drug may pose threat to eagles

A painkiller that virtually wiped out many of India's vultures is now threatening

birds of prey in Europe and Africa. Golden eagles *Aquila chrysaetos* may be among the species at risk from the use of diclofenac in cattle. A study of dead steppe eagles *Aquila nipalensis* from north India revealed signs of kidney failure and traces of diclofenac in the birds. Steppe eagles may not be the only birds at risk. The other 13 *Aquila* species may also be susceptible to diclofenac because they all scavenge cattle and are now exposed to the drug. Diclofenac was registered for use in Italy and Spain in 2013 and has been sold in Africa since 2007.

Source: *Bird Conservation International* (2014) [dx.doi.org/10.1017/S0959270913000609](https://doi.org/10.1017/S0959270913000609), and *New Scientist* (2014) 2972, 7

### Importance of ecosystem services recognized by UN Environment Assembly

The first UN Environment Assembly passed a landmark decision on ecosystem-based adaptation to climate change, calling on governments to prioritize ecosystems and recognize the importance of ecosystems and biodiversity in enabling climate adaptation. Accordingly, ecosystem adaptation should be integrated as a central facet of national climate, biodiversity and development plans. The Assembly also made a number of important decisions and resolutions in relation to wildlife trade, marine plastics and debris, and chemicals and waste. The meeting, which took place in Nairobi, Kenya, during 23–27 June, was attended by > 1,300 delegates from 170 nations, including more than 100 Environment Ministers. The UN Environment Assembly is the governing body of the UN Environment Programme and the most important global forum for environmental policy-making.

Source: *BirdLife News* (2014) [www.birdlife.org/africa/news/ecosystems-role-climate-adaptation-reinforced-first-united-nations-environment-assembly](http://www.birdlife.org/africa/news/ecosystems-role-climate-adaptation-reinforced-first-united-nations-environment-assembly)

### A more strategic approach to protected areas needed

The Aichi Targets agreed by the Convention on Biological Diversity include a strategy to increase the global protected area network from 13 to 17% of the Earth's land surface by 2020. However, a gap analysis has revealed that one sixth of 4,118 threatened vertebrates do not occur in any protected areas. If protected areas are expanded only in areas of the lowest

agricultural potential and areas that are cheap to protect, this will have little conservation impact on threatened vertebrates. Scientists are therefore calling for a synergistic approach to meeting the Aichi Targets, particularly Target 11 to expand protected areas and Target 12 to protect threatened species, by strategically linking the positioning of new protected areas with threatened species coverage. The gap analysis study, which was carried out by a team of researchers in partnership with IUCN, will be presented at the World Parks Congress in Sydney, Australia, in November.

Source: *IUCN News* (2014) [www.iucn.org/news\\_homepage/?16049/Study-demands-new-strategy-to-save-species](http://www.iucn.org/news_homepage/?16049/Study-demands-new-strategy-to-save-species)

### Conclusive evidence of the dangers of systemic pesticides...

Following a comprehensive analysis of the peer-reviewed literature on the effects of neonicotinoids and fipronil (neonics), the Task Force on Systemic Pesticides has concluded that there is robust scientific evidence that these pesticides pose a global threat to biodiversity and ecosystem services. The group of independent scientists carried out the analysis in response to growing concerns over the use of the pesticides, to confirm conclusively that the chemicals are a serious threat to honey bees and other pollinators, as well as to other beneficial invertebrates such as earthworms, and to vertebrates such as birds. The chemicals are not confined to specifically targeted species and areas but contaminate a much wider area through run-off and have been detected in river, estuarine and coastal marine systems. The Task Force is calling for stricter regulatory control of the pesticides and a move towards a global phase-out or at least a significant reduction of their use.

Source: *IUCN News* (2014) [www.iucn.org/news\\_homepage/?16025/Systemic-Pesticides-Pose-Global-Threat-to-Biodiversity-And-Ecosystem-Services](http://www.iucn.org/news_homepage/?16025/Systemic-Pesticides-Pose-Global-Threat-to-Biodiversity-And-Ecosystem-Services)

### ... which have recently been linked to a decline in common birds

Dutch researchers have found the first scientific evidence linking the neonicotinoid insecticide imidacloprid with a decline in common bird species, including warblers, swallows, starlings and thrushes. They examined long-term datasets on the numbers and health of 15 insectivorous bird

species and compared these with measurements of surface water quality, and found a consistent link between higher concentrations of imidacloprid and bird declines. Imidacloprid is a neonicotinoid chemical that is widely used as an agricultural pesticide, and the researchers ruled out the possibility that the decline in bird populations had begun before imidacloprid was introduced. They also ruled out land-use change as a causal factor. The political debate about the impacts of neonicotinoids is ongoing; meanwhile the EU has declared a 2-year moratorium on their use on flowering crops, although only 15 of 27 countries supported the ban.

Source: *Nature* (2014) [dx.doi.org/10.1038/nature13531](https://doi.org/10.1038/nature13531), and *BBC News* (2014) [www.bbc.co.uk/news/science-environment-28216810](http://www.bbc.co.uk/news/science-environment-28216810)

### Disperse or die: climate challenge for reptiles

In some reptile species, including alligators and some turtles, sex is determined by temperature during egg incubation. Such species are considered to be particularly vulnerable to a warming climate because at higher temperatures only one sex is produced. The tuatara, which is found only in New Zealand, produces only male offspring at higher temperatures; other species of reptiles produce only females. Reptiles may respond to this challenge by digging deeper nests or nesting earlier in the season, or in shaded areas, but a study has revealed that dispersal of the rarer sex may be just as important, if not more so, to species survival, and species that are unable to disperse could face extinction. The findings highlight the importance of conserving natural habitat in terrestrial, aquatic and marine environments and restoring corridors to facilitate dispersal and range expansion among reptiles.

Source: *BMC Ecology* (2014) [dx.doi.org/10.1186/1472-6785-14-19](https://doi.org/10.1186/1472-6785-14-19), and *BBC News* (2014) [www.bbc.co.uk/nature/28212783](http://www.bbc.co.uk/nature/28212783)

### Decline in shade-grown coffee is bad news for biodiversity

Since 1996 the land used to cultivate shade-grown coffee has decreased by 20%, despite the surge in the production of shade-grown coffee in earlier decades. Farmers are switching to sun-grown coffee for a number of reasons, including government incentives to intensify production and increase yields. There is also a common belief that sun-grown coffee is more resistant to fungal diseases, although some studies have indicated that the opposite may be the case, as canopy cover may inhibit dispersal of

fungal spores. Shade coffee is better for biodiversity because it is grown under the canopy of native trees, which provide habitat for plants and animals. Shade coffee systems may also play a role in mitigating potential effects of climate change, such as landslides, and provide connectivity for migratory birds and pollinators in fragmented landscapes.

Source: *Mongabay.com* (2014) [news.mongabay.com/2014/0711-levikov-shade-coffee.html](http://news.mongabay.com/2014/0711-levikov-shade-coffee.html)

### Fertilizer drives biodiversity loss and destabilizes grasslands

A 3-year study of 41 grassland communities across five continents has revealed that fertilizers reduce species diversity and destabilize grassland ecosystems. Grasslands account for > 40% of land area and are one of the most productive and diverse ecosystems. They provide many ecosystem services, including nutrient cycling, carbon storage, water purification and climate regulation, and also provide food for livestock. Although fertilizer is not usually applied directly to grasslands it enters grassland ecosystems through run-off from adjacent croplands. It was found that grasslands that were not subjected to anthropogenic interference had higher species diversity and greater species asynchrony, which results in more stable and consistent biomass production. Nutrient enrichment through fertilization is recognized as a significant threat to global biodiversity.

Source: *Nature* (2014) [dx.doi.org/10.1038/nature13014](https://doi.org/10.1038/nature13014), and *Mongabay.com* (2014) [news.mongabay.com/2014/0714-sutherland-fertilizer-grasslands.html](http://news.mongabay.com/2014/0714-sutherland-fertilizer-grasslands.html)

### New map reveals extent of plastic pollution in oceans

A team of scientists have compiled data from the 2010 Malaspina circumnavigation expedition, regional surveys and published reports to map the global distribution of plastic debris on the ocean surface. There are estimated to be tens of thousands of tonnes of plastic waste in open ocean, accumulating in the convergence zones of the five subtropical gyres, but this is actually less than expected, given the rapid increase in global plastic production since the 1950s. The challenge now is to understand what has become of the plastic that is unaccounted for. Resolving the fate of the missing plastic debris is of fundamental importance to determine the nature and significance of the impacts of plastic pollution in the ocean.

Source: *Proceedings of the National Academy of Sciences of the USA* (2014) [dx.](https://doi.org/10.1073/pnas.1314705111)

[doi.org/10.1073/pnas.1314705111](https://doi.org/10.1073/pnas.1314705111), and *National Geographic News* (2014) <http://news.nationalgeographic.com/news/2014/07/140715-ocean-plastic-debris-trash-pacific-garbage-patch>

### Fisheries urged to halve catches of bluefin tuna

The breeding stock of Pacific bluefin tuna has declined by > 96% of unfished levels, and current management measures in Pacific fisheries are insufficient to preserve the stock. WWF is now urging the two Regional Fisheries Management Organizations covering the Pacific that reducing catches by 50% and implementing measures to protect juveniles are essential to ensure the long-term sustainability of the fishery. A quota was set for commercial catches of tuna in the Eastern Pacific for the first time in 2012 but a significant reduction of this quota, from 5,000 to 2,750 t, is now being recommended if tuna biomass is to stand any chance of recovery. The Eastern Pacific tuna fishery supports the livelihoods of tens of thousands of people in the region. Japan is the largest market for the fish, and Japan, Mexico, USA and South Korea are the major fishing countries.

Source: *WWF News* (2014) [wwf.panda.org/wwf\\_news/?225351/Halve-catches-or-lose-Pacific-bluefin-tuna-WWF-tells-fishery-managers](http://wwf.panda.org/wwf_news/?225351/Halve-catches-or-lose-Pacific-bluefin-tuna-WWF-tells-fishery-managers)

### Property rights for indigenous peoples

A comprehensive review of the relevant literature from the past 10 years has revealed that rates of deforestation are significantly lower on land managed by local communities and indigenous peoples than on land managed by governments or private entities. Communities that rely on forests for food, water, medicine and other ecosystem services have an interest in managing their forests sustainably to maintain healthy ecosystems and secure their livelihoods. However, secure and legally recognized property rights for local and indigenous communities are essential to ensure forest protection. Otherwise, communities may risk being forced from their land to make way for development such as logging and oil palm plantations, as has been reported from Indonesia.

Source: *Mongabay.com* (2014) [news.mongabay.com/2014/0724-morgan-community-forests.html](http://news.mongabay.com/2014/0724-morgan-community-forests.html)

### Acquired resistance may save amphibians from fungal infection

Emerging fungal pathogens are a major threat to biodiversity as well as agricultural

production, having caused declines in bats, bees, corals, snakes, amphibians and a number of plant species. Amphibians are declining globally as a result of infection by the fungus *Batrachochytrium dendrobatidis* but the findings of a recent study indicate that three species of frogs can acquire immunological resistance to the pathogen. This offers hope that other animal taxa threatened by fungal pathogens may be saved by appropriate management based on herd immunity, by ensuring that there are sufficient numbers of resistant individuals in a population.

Source: *Nature* (2014) [dx.doi.org/10.1038/nature13491](https://doi.org/10.1038/nature13491)

### Pangolins face extinction as illegal trade soars

All eight species of pangolins are now threatened with extinction, according to the IUCN Red List of Threatened Species. Commonly known as scaly anteaters, pangolins are traded for consumption, mainly in China and Vietnam. This is despite the ban on the commercial trade of wild-caught pangolins in Asia. It is estimated that > 1 million pangolins have been taken from the wild during the past decade to meet the demand for their meat, which is considered a luxury food. Pangolin scales are also used in traditional Chinese medicine to treat a range of conditions, including psoriasis and poor circulation. With the dramatic decline in the four Asian species of pangolins, traders are now turning to Africa to meet the demand. The IUCN Pangolin Specialist Group has launched an action plan for pangolin conservation, with a focus on awareness-raising in local communities that hunt the animals, strengthening legislation, and reducing consumer demand.

Source: *IUCN News* (2014) [www.iucn.org/news\\_homepage/?17189/Eating-pangolins-to-extinction](http://www.iucn.org/news_homepage/?17189/Eating-pangolins-to-extinction)

### Forests play role in disaster prevention

Growing scientific evidence shows that forests have the potential to prevent avalanches. As part of a recent project, Ecosystems Protecting Infrastructure and Communities, the IUCN Ecosystem Management Programme has been working with the Institute for Snow and Avalanche Research in Davos, Switzerland, to promote the role of forests in protecting people and infrastructure from snow avalanches in Chile and Nepal. Switzerland was chosen as the example to follow because of its 150-year-old policy of natural hazard management through alpine forest conservation. The level of protection that a

mountain forest brings varies according to the species and age of trees, the extent of their root development, as well as other climate and geological factors. The project aims to develop appropriate strategies to manage contrasting mountain forest ecosystems, including understanding the risks in the specific locations and promoting recognition and use of vegetation in avalanche models, in order to prevent disasters.

Source: *IUCN News* (2014) [www.iucn.org/news\\_homepage/news\\_by\\_date/?18219/Protecting-forests-can-save-lives](http://www.iucn.org/news_homepage/news_by_date/?18219/Protecting-forests-can-save-lives)

### Parasitic fig wasps bore with zinc-tipped drill bit

A research team at the Indian Institute of Science in Bangalore has discovered that a parasitic wasp has evolved a zinc-tipped drill to bore into fruit, in which it lays its eggs. The team found that the wasp's fruit-drilling and egg-laying tool—which is thinner than a human hair—has teeth enriched with zinc. The female parasitic fig wasp bores its way through a tough, unripe fig to find the larvae of other pollinating insects already developing inside. Its own offspring will feed on these larvae as they develop within the safety of the fig. The team captured electron microscope images of the insect's ovipositor, revealing that its end resembles a drill bit. Measurements from the teeth-like structures of the tiny drill bit revealed the presence of zinc, which the team believes is there to harden the tips.

Source: *Journal of Experimental Biology* (2014) [dx.doi.org/10.1242/jeb.098228](https://doi.org/10.1242/jeb.098228), and *BBC News* (2014) [www.bbc.co.uk/news/science-environment-27608222](http://www.bbc.co.uk/news/science-environment-27608222)

## EUROPE

### Farm wildlife protection plan fails

The EU Common Agricultural Policy for 2014–2020 was allocated almost 40% of the EU's budget. The new Policy is supposedly greener but a recent report suggests that the new environmental prescriptions are so diluted that they are unlikely to benefit biodiversity. The research shows that 88% of farms will be exempted from key green measures, although Europe's farm union says the original greening proposals were unrealistic. The greening plan involves rewarding farmers for three main activities: keeping grassland, creating environmental focus areas, and growing at least three crops on any farm > 30 hectares. The report says the rules governing these are so vague as to be useless, and the reform will allow a 5% loss in grassland, Europe's

most threatened habitat. Individual Member States, however, can still use flexibility granted by the new Policy to design national plans to protect farmland habitats and species and to ensure long-term provision of ecosystem services.

Source: *Science* (2014) [dx.doi.org/10.1126/science.1253425](https://doi.org/10.1126/science.1253425), and *BBC News* (2014) [www.bbc.co.uk/news/science-environment-27719414](http://www.bbc.co.uk/news/science-environment-27719414)

### Collaborations yield positive conservation outcomes for Lake Skadar

Lake Skadar, which is shared by Montenegro and Albania, is one of Europe's largest bird reserves and is home to the iconic Dalmatian pelican. The two countries share responsibility for sustainable management of the lake. Following a workshop convened by the Critical Ecosystem Partnership Fund, two conservation projects were proposed. The first, to develop a sustainable management system, is being implemented by local NGOs in collaboration with IUCN. It involves trans-border management and education and engagement of local communities on the lake shore. The second project involves conservation of the Vulnerable Dalmatian pelican and aims to protect the colony and improve breeding success while implementing new approaches to monitoring and research. This project includes the use of floating nesting rafts to minimize the impact of changing water levels. This year 48 young pelicans have been counted on the lake, which is the largest number of surviving chicks since counting began over 37 years ago.

Source: *BirdLife News* (2014) [www.birdlife.org/europe-and-central-asia/news/cross-border-cooperation-cepf-lake-skadar-and-its-pelicans](http://www.birdlife.org/europe-and-central-asia/news/cross-border-cooperation-cepf-lake-skadar-and-its-pelicans)

### Safe haven for Scottish wildcat...

A Scottish wildcat sanctuary has been established in a remote area of the Scottish Highlands, on the Ardnamurchan peninsula. The Scottish wildcat is on the brink of extinction, with some estimates suggesting that there may be < 35 pure-bred individuals remaining in the wild. The decline of the species is attributable to loss of habitat, disease and, in particular, interbreeding with domestic cats. Domestic cats in the vicinity of the sanctuary are being neutered to avoid this. The wildcats have the best chance of survival in remote areas such as Ardnamurchan where there are few human inhabitants.

Source: *BBC News* (2014) [www.bbc.co.uk/news/uk-scotland-highlands-islands-28315555](http://www.bbc.co.uk/news/uk-scotland-highlands-islands-28315555)

### ...and increased protection for Scotland's marine environment

Scotland has doubled its marine protected area (MPA) network with the designation of 30 new sites, including the country's first community-led MPA, off the Isle of Arran, and what is thought to be Europe's largest MPA, in the north-east Faroe Shetland channel. The new sites cover diverse habitats, including cliffs, deep ocean seabed, and cold-water reefs, and will protect a range of species, including sponges, sand eels, feather stars, flame shells, black guillemots, common skates, and the ocean quahog, a bivalve that can live buried in sand for >100 years. Although the news was welcomed by conservation organizations, there are calls for a further extension of the MPA network to include protection for minke whales, basking sharks, Risso's dolphins and threatened sea birds, including Arctic skuas, Arctic terns and kittiwakes.

Source: *The Guardian* (2014) [www.theguardian.com/environment/2014/jul/24/scotland-announces-30-new-marine-protected-areas](http://www.theguardian.com/environment/2014/jul/24/scotland-announces-30-new-marine-protected-areas), and *FFI News* (2014) [www.fauna-flora.org/news/thirty-new-marine-protected-areas-declared-in-scotland/](http://www.fauna-flora.org/news/thirty-new-marine-protected-areas-declared-in-scotland/)

### Record sightings of invasive bee

Sightings of an invasive bee species, the tree bumblebee *Bombus hypnorum*, in Britain have reached a record high, according to the Bumblebee Conservation Trust. Tree bumblebees first arrived from continental Europe c. 13 years ago and have now been seen throughout England, Wales and southern Scotland. The Bees, Wasps and Ants Recording Society, which works with the Bumblebee Conservation Trust, received a record number of sightings in 2013 and 2014. It is not yet clear whether the spread of the bumblebee is a bonus or whether it poses a threat. Unusually for a bee, it nests in tree hollows or bird boxes. It was first spotted in the New Forest in 2001 and is spreading at a rate of c. 12,000 km<sup>2</sup> per year. It is unclear whether the bee is providing additional pollination services, perhaps filling an empty niche, or competing with natives bees for flowers or nest sites.

Source: *BBC News* (2014) [www.bbc.co.uk/news/science-environment-27701591](http://www.bbc.co.uk/news/science-environment-27701591)

### Good news for European sea birds

Spain has complemented its existing protected area network with the establishment of 39 new marine protected areas. The new sites are designated Special Protection Areas for Birds, under the European Birds Directive, and cover an area of 50,000 km<sup>2</sup>

in total. Previously, Spain's protected sites for sea birds consisted mainly of small sites at colonies, on islands, and in coastal areas, and predominantly offered protection only while the birds were on land, and not at sea, where they spend most of their time. The designation of offshore sites offers hope for the recovery of threatened sea birds and puts Spain at the forefront of sea bird protection at sea. Spain's Atlantic and Mediterranean coasts and islands are very important areas for European sea birds, including the endemic yelkouan shearwater and Audouin's gull, and Europe's most threatened sea bird, the Balearic shearwater.

Source: *BirdLife News* (2014) [www.birdlife.org/europe-and-central-asia/news/great-step-forward-seabirds-spain](http://www.birdlife.org/europe-and-central-asia/news/great-step-forward-seabirds-spain)

## NORTH EURASIA

### Hand-rearing may save spoon-billed sandpiper

The spoon-billed sandpiper is in decline and there are estimated to be <100 pairs remaining in the wild. Few of the birds survive the 5,000-mile migration to south Asia. Many succumb to exhaustion or starvation, or fall victim to illegal hunting. However, there is hope that an international programme to hand-rear and release birds on their breeding grounds may stabilize the species' population and save it from extinction. Twenty-four spoon-billed sandpipers have been reared and released in north-east Russia during the past 2 years, and the first of these has returned to breed in Chukotka, where it was hatched. The bird was ringed prior to its release in August 2012, and the next reported sighting was in Taiwan in April 2014. It was sighted on the edge of the Arctic Circle on 18 June. This is the first evidence that hand-reared spoon-billed sandpipers behave and migrate normally, and it provides hope that the species can be saved if action is also taken to deal with the threats of illegal hunting and habitat loss.

Source: *WWT News* (2014) [www.wwt.org.uk/news/all-news/2014/06/wwt-news/first-hand-reared-spoon-billed-sandpiper-returns-to-breed/](http://www.wwt.org.uk/news/all-news/2014/06/wwt-news/first-hand-reared-spoon-billed-sandpiper-returns-to-breed/)

## SUB-SAHARAN AFRICA

### New protocols for post-mortem examination of flamingos

Populations of lesser and greater flamingos in Kenya's Rift Valley have suffered a

number of mass die-offs during the past 2 decades, with the loss of hundreds of thousands of birds. The Rift Valley hosts the largest of four populations globally—1.5–2.5 million birds—and therefore the mass mortality events could have implications for the survival of the species. Various potential causes have been investigated, from infectious diseases to poisoning by cyanobacterial toxins, insecticides or heavy metals, but the range of different approaches used by researchers from diverse disciplines has made it difficult to make comparisons between studies and samples. New flexible protocols for post-mortem examination of flamingoes have now been developed, which will facilitate the collection of standardized samples and measurements, and it is hoped that these will help to conclusively identify the cause of mortality, and inform future conservation efforts.

Source: *Ostrich: Journal of African Ornithology* (2014) [dx.doi.org/10.2989/00306525.2014.901433](http://dx.doi.org/10.2989/00306525.2014.901433)

### Chimpanzees threatened by forest clearance in Uganda

Uganda's Kafu River basin is part of a vast area of prime chimpanzee habitat and sustains c. 600 Endangered eastern chimpanzees. However, there has been significant pressure on forested land in the region, with migrants moving in and clearing land for agriculture, and >17,000 ha of forest cover in the 90,000-ha area have been lost since 2001. As forests are fragmented and chimpanzee habitat is destroyed, populations are becoming isolated from one another. The Jane Goodall Institute and the Chimpanzee Sanctuary and Wildlife Conservation Trust have been working to re-establish connectivity between forest patches to facilitate movement and genetic mixing. Local people were offered incentives to plant trees in buffer zones on either side of the Rwamatonga and Waki rivers but resource constraints prevented expansion of such projects to other areas. As the land in the Kafu River basin is not gazetted and much of it is privately owned, people consider it free land and there are not sufficient regulatory mechanisms in place to keep deforestation under control.

Source: *Mongabay.com* (2014) [news.mongabay.com/2014/0709-oluka-gfrn-kafu.html](http://news.mongabay.com/2014/0709-oluka-gfrn-kafu.html)

### Victory for Serengeti

The East African Court of Justice has ruled against a controversial proposal to construct a tarmac highway through Serengeti National Park, taking into account the serious ecological impacts of such a road,

the concerns of the World Heritage Committee, and regional laws and international conventions. The Serengeti is a World Heritage Site and Important Bird Area, with a unique ecosystem driven by annual migrations of large mammals such as wildebeest and zebra. About 1.5 million animals join the north–south migration, fertilizing the land and keeping bush growth under control through trampling. Scientists opposing the road had estimated that it could result in a drastic decline in the wildebeest and zebra populations, with a knock-on effect on predators such as lions and cheetahs, and could also leave the Park vulnerable to invasive species and disease transmission.

Source: *BirdLife News* (2014) [www.birdlife.org/africa/news/regional-court-stops-construction-serengeti-road](http://www.birdlife.org/africa/news/regional-court-stops-construction-serengeti-road), and *BBC News* (2014) [www.bbc.co.uk/news/science-environment-13904464](http://www.bbc.co.uk/news/science-environment-13904464)

### Living walls: a solution to human–lion conflict

The Masai tribe in Tanzania has developed an innovative and low-tech solution to protect their homes and livestock from attacks by lions. They plant dried-out tree limbs of African myrrh, which come into leaf when the rains come and are then joined together by a chain-link fence to form a barrier. Although the Masai are known for hunting lions they also respect them and have a desire to protect the species. Lions have suffered a huge decline in West Africa and there are estimated to be no more than 35,000 remaining, the main threats to their survival being conflict with humans and declines in their prey species. Before the Masai began using the living walls they were killing 40–60 lions each year in retaliatory attacks. There have been no such attacks in areas protected by living walls since the first wall was created in 2008, and there are signs of recovery in the lion population, with greater numbers of cubs and young adults in prides.

Source: *New Scientist* (2014) [www.newscientist.com/article/mg22329780.200-were-growing-living-walls-to-save-lions](http://www.newscientist.com/article/mg22329780.200-were-growing-living-walls-to-save-lions)

### Virunga wins reprieve as Soco pledges to halt operations

Following a high-profile global campaign against its operations in Virunga National Park in the Democratic Republic of Congo, Soco International PLC announced that it would cease its operations in the Park and would remain out of all other UNESCO World Heritage Sites. Subsequently, at the annual meeting of the UNESCO World Heritage Committee in Doha, Qatar, the

government of DRC was officially called upon to cancel all oil exploration permits granted within the Park. Virunga has a rich biodiversity and sustains rare and threatened species, including the Critically Endangered mountain gorilla, but 85% of its land area was allocated as oil concessions in 2006, placing the welfare of the Park and the 50,000 families that depend on it at risk. Virunga was recognized as a place of outstanding universal value and declared a World Heritage Site in 1979.

Source: *WWF News* (2014) [wwf.panda.org/wwf\\_news/?223211/Oil-company-Soco-not-to-drill-in-Virunga-World-Heritage-Site](http://wwf.panda.org/wwf_news/?223211/Oil-company-Soco-not-to-drill-in-Virunga-World-Heritage-Site), and [wwf.panda.org/wwf\\_news/?223716/Virunga-oil-permits-should-be-cancelled-UNESCO-rules](http://wwf.panda.org/wwf_news/?223716/Virunga-oil-permits-should-be-cancelled-UNESCO-rules)

### Conservation action needed for resilient okapi

A study has revealed a high genetic diversity among okapi, despite population decline and fragmentation, providing hope that the species may be sufficiently resilient to withstand future environmental and climatic changes. Prior to the genetic study, carried out by scientists from Cardiff University and the Zoological Society of London, little was known about the enigmatic okapi, which is endemic to the rainforests of central and north-eastern Democratic Republic of Congo. However, it is estimated that the population has declined by 50% during the past 20 years. The species faces a number of threats, including habitat fragmentation, human encroachment, poaching, and armed conflict, and was categorized as Endangered on the IUCN Red List following a 2013 assessment. It is hoped that the new findings will inform conservation efforts for the okapi and other species in the Congo Basin.

Source: *ZSL News* (2014) [www.zsl.org/conservation/news/okapi-show-unusual-resilience-in-a-war-zone](http://www.zsl.org/conservation/news/okapi-show-unusual-resilience-in-a-war-zone)

### Restoring Angola's Kissama National Park

Angola has one of the highest levels of biological diversity in Africa, with habitats including equatorial forests, mangroves, desert, savannah, and a long coastline. Kissama National Park was once home to an abundance of animals, including elephants and giant sables, but most of its wildlife was destroyed during the civil war, which began in 1975, the same year Kissama was declared a National Park, and ended in 2002. Kissama was the only one of the country's six National Parks to be reopened after the war and it faces significant threats

from illegal development and deforestation driven by anthropogenic pressure on natural resources. Efforts are underway to restore Kissama by improving its infrastructure and reintroducing wildlife from other parts of Africa through the Noah's Ark project, which began in 2000 with the introduction of 16 elephants from South Africa. It is hoped that with careful management and local community engagement a prospering wildlife community can be rebuilt in Kissama.

Source: *Mongabay.com* (2014) [news.mongabay.com/2014/0723-zvomuya-gfrn-kissama.html](http://news.mongabay.com/2014/0723-zvomuya-gfrn-kissama.html)

### Okavango Delta declared a World Heritage Site

Botswana's Okavango Delta has been declared a World Heritage Site in recognition of its ecological and biological importance. The delta has been the focus of conservation efforts for more than 30 years and sustains populations of some of the most threatened large mammals, including cheetahs, lions, wild dogs, and both black and white rhinoceros, as well as 24 threatened species of birds. Botswana's 130,000 elephants depend on the delta for their survival. The delta is also important for thousands of people who depend on it for their livelihoods, as it provides them with freshwater, food, medicinal plants and employment opportunities in the tourism industry. It is hoped that the listing of Okavango Delta as a World Heritage Site will help to protect the area from the threats it faces, including pressure from extractive industries.

Source: *IUCN News* (2014) [www.iucn.org/news\\_homepage/?16018/Iconic-Okavango-Delta-becomes-1000th-World-Heritage-site](http://www.iucn.org/news_homepage/?16018/Iconic-Okavango-Delta-becomes-1000th-World-Heritage-site)

### Asian relative of cane toad threatens Madagascar

A relative of the cane toad, which has devastated wildlife in Australia, has invaded Madagascar. The Asian common toad *Duttaphrynus melanostictus* was first seen on the island in March, and there have been several sightings since. The fear is that these poisonous amphibians could kill local wildlife and carry diseases, such as the deadly chytrid fungus that has killed amphibians around the world. The toads were first seen in Toamasina, the main port of Madagascar. It is thought that they arrived in shipping containers from their home in South-east Asia. The fear is that the toads could repeat the damage that their relative, the cane toad, caused in Australia. Asian common toads are smaller than cane toads but they are also poisonous, and the many animal species endemic to Madagascar

could be especially vulnerable. Researchers from Australia, the US and Madagascar have called on the Madagascan government to act quickly to eradicate the toads.

Source: *Nature* (2014) [dx.doi.org/10.1038/509563a](https://doi.org/10.1038/509563a), and *BBC News* (2014) [www.bbc.co.uk/news/science-environment-27607978](http://www.bbc.co.uk/news/science-environment-27607978)

## SOUTH AND SOUTH-EAST ASIA

### New species of wolf snake discovered in the Cardamom Mountains...

A distinctive new species of wolf snake discovered in the forests of the Cardamom Mountains of south-east Cambodia has been named in honour of Zoos Victoria in Australia, recognizing their support of research carried out by Fauna & Flora International (FFI) in the Cardamom Mountains. The snake, *Lycodon zoosvictoriae*, discovered by researchers from FFI and the Zoological Research Museum Alexander Koenig in Germany, is the eighth new snake species to be discovered in the Cardamom Mountains, and the second snake discovered there by FFI in the past 2 years (the Cambodian kukri *Oligodon kampucheaensis* was found by researchers in 2012). Scientists believe the snake's unique coloration has helped it remain overlooked, despite concerted survey efforts in the area. Wolf snakes get their name from the large teeth in both jaws.

Source: *Zootaxa* (2014) [dx.doi.org/10.11646/zootaxa.3814.1.3](https://doi.org/10.11646/zootaxa.3814.1.3)

### ... species discoveries continue in the Greater Mekong region...

A recent report by WWF, *Mysterious Mekong*, reveals that 367 new species were discovered by scientists in the Greater Mekong region during 2012–2013, confirming the region as an important hotspot for biodiversity. The new discoveries include the Cambodian tailorbird *Orthotomus chaktomuk* in Cambodia, Griffin's leaf-nosed bat *Hipposideros griffini*, a tiny fish that mates head-to-head (*Phallostethus cuulong*) and Helen's flying frog *Rhacophorus helenae* in Vietnam, a parachute gecko, *Ptychozoon kaengkrachanense*, in Thailand's Kaeng Krachan National Park, and a blind huntsman spider, *Sinopoda scurion*, in a cave in Laos. The ongoing discoveries of new species in the region (there have been 2,077 since 1997) highlight the need for conservation and sustainable growth strategies to protect these species, and others not yet discovered, from extinction.

Source: *WWF News* (2014) [www.panda.org/wwf\\_news/?222513/New-species-discoveries-in-the-Greater-Mekong](http://www.panda.org/wwf_news/?222513/New-species-discoveries-in-the-Greater-Mekong)

### ... and Endangered wild cattle discovered in north-west Cambodia

Photographs from Siem Reap Province, north-west Cambodia, signal hope for the country's wild cattle amidst threats from hunting and habitat loss. Hidden camera-traps positioned to gather local biodiversity data have captured photos of banteng, a wild cattle species of South-east Asia, in an area of Cambodia's Siem Reap Province where the species was previously believed to be extinct. The camera-traps, which were set as part of Fauna & Flora International's Asia-Pacific Community Carbon Pools and REDD+ Programme, recorded six individual banteng (including three young). Hoof prints and dung were also found in the area. The discovery of banteng in a region where few individuals remain and hunting risk is high signifies renewed hope for the species and emphasizes the critical and urgent need for effective conservation in this region of Cambodia.

FFI News (2014) [www.fauna-flora.org/news/endorsed-wild-cattle-discovered-in-north-west-cambodia/](http://www.fauna-flora.org/news/endorsed-wild-cattle-discovered-in-north-west-cambodia/)

### Report highlights illegal trade in live elephants

An assessment of the live elephant trade in Thailand has found that wild elephants are being captured illegally to supply the tourism industry. The report provides details of 79–81 elephants captured illegally for sale during April 2011–March 2013. At least 60% of the trafficked elephants originated in Myanmar, where their capture is considered a serious threat to the future survival of the country's population of c. 4,000–5,000 wild elephants. Young elephants are transported to the Thai–Myanmar border areas before being sold into the tourism industry in Thailand, where they are put to work at tourist camps or hotels. Animals are being seized as part of the government clamp-down although it is unclear how many prosecutions have subsequently taken place. The report finds that urgent changes to the country's legislation and elephant registration procedures are required to stop the trafficking.

Source: *Traffic* (2014) [www.traffic.org/home/2014/7/6/thailand-must-act-to-prevent-resurgence-of-illegal-wild-elep.html](http://www.traffic.org/home/2014/7/6/thailand-must-act-to-prevent-resurgence-of-illegal-wild-elep.html)

### Sharks may not be dish of the day

An estimated 100 million sharks are killed annually, with up to 73 million sharks

used for their fins. But according to the findings of a recent report, prices and sales of shark fin are falling by 50–70% in China. The report compiles trade statistics, media reports and public-opinion surveys. The findings show an 82% decline in sales reported by shark-fin vendors in Guangzhou, China, and a decrease in prices (47% retail and 57% wholesale) over the past 2 years. Furthermore, 85% of Chinese consumers surveyed online said they had given up shark fin soup within the past 3 years. Two-thirds of these respondents cited awareness campaigns as a reason for ending their consumption and 28.2% cited the Chinese Government's ban on shark fin at state banquets. Twenty-four airlines, three shipping lines, and five hotel groups have banned shark fin from their operations.

Source: *WildAid* (2014) [wildaid.org/news/shark-fin-demand-china-down-report-finds](http://wildaid.org/news/shark-fin-demand-china-down-report-finds)

### Hope for sustainable oil palm development in Myanmar

The development of oil palm plantations is a key component of Myanmar's strategy to meet the country's demands for cooking oil and reduce the cost of importing palm oil. However, it is hoped that Myanmar can learn from the experience of other South-east Asian countries to develop the industry in a sustainable way and avoid the detrimental social and environmental impacts experienced by countries such as Malaysia and Indonesia. Appropriate land-use planning could ensure that agricultural conversion for plantations occurs on land that is already degraded, leaving Myanmar's biodiversity-rich forests intact. The Tanintharyi region is one of the country's most biodiverse areas, with 2.5 million ha of intact lowland rainforest and many species that are globally threatened. These include tigers, leopards, elephants, tapirs, Malayan sun bears and the ground-dwelling bird Gurney's pitta. Fauna & Flora International are working with the government of Myanmar and other stakeholders to inform future development and establish initiatives to ensure the protection of Tanintharyi.

Source: *FFI News* (2014) [www.fauna-flora.org/news/myanmars-palm-oil-industry-heads-for-a-sustainable-path/](http://www.fauna-flora.org/news/myanmars-palm-oil-industry-heads-for-a-sustainable-path/)

### Camera traps reveal the importance of conservation areas in oil palm plantations

Camera-trap footage gathered over more than 4 years in an oil palm plantation in

Indonesian Borneo suggests that conserving key areas of habitat within human-modified landscapes can sustain significant levels of biodiversity. In the 30,000-ha plantation more than 5,000 ha of forest and peatlands have been designated as conservation reserves, which are home to 36 mammal species, including the Endangered orang-utan, the Vulnerable sun bear, and the threatened flat-headed cat. The Indonesian palm oil industry has been criticized for its many social and environmental impacts, including abuses of indigenous land rights, conversion of carbon-rich peat land, and loss of biodiversity. As global food companies commit to more sustainable practices and supply chains, palm oil companies are under increasing pressure to cooperate with environmental NGOs and incorporate biodiversity conservation as an essential component in their development.

Source: *Mongabay* (2014) [news.mongabay.com/2014/0721-moll-rocek-camtrap-kalimantan.html](http://news.mongabay.com/2014/0721-moll-rocek-camtrap-kalimantan.html)

### Biodiversity threatened by forest loss in the Philippines

The Philippines is considered one of the world's most biodiverse countries, with an estimated 10,000 species of plants and animals, many of which are endemic. However, the country has also experienced extensive deforestation in the past few decades and is amongst the most threatened forest hotspots. Little intact forest remains, and > 0.5 million ha of forest have been lost since 2001, primarily as a result of logging. In 2011 a ban on logging was declared but there is still a high level of illegal logging activity, particularly in the south. The consequences of deforestation are being suffered by both wildlife and humans. The endemic Philippine eagle has experienced a dramatic decline, and landslides and floods have been occurring with greater frequency. The Philippine government has introduced a number of initiatives to address the situation, including the National Greening Program, which aims to reforest 1.5 million ha of land in 5 years, with an investment of USD 25 million to date.

Source: *Mongabay.com* (2014) [news.mongabay.com/2014/0731-gfrn-panela-philippines.html](http://news.mongabay.com/2014/0731-gfrn-panela-philippines.html)

## EAST ASIA

### Fences keep bears at bay in the Tibetan Autonomous Region

An investigation of the efficacy of bear-proof fences in mitigating human–bear

conflict in the Tibetan Plateau has yielded promising results. Local herders in the area suffer significant economic losses as a result of attacks by Tibetan brown bears, which prey on livestock and ransack homes in search of food, and the government compensation fund does not always cover the true cost of livestock loss. In 2009 14 bear-proof fences constructed from wire mesh and steel posts were erected around households that had sustained considerable losses as a result of bear attacks the previous year, with a total loss of 162 animals to bears. In the year following construction of the fences only three animals were lost. Almost 5 years later the fences are still standing, and households have been able to repair any minor damage.

Source: *Conservation Evidence* (2014) [www.conservationevidence.com/individual-study/5478](http://www.conservationevidence.com/individual-study/5478)

## NORTH AMERICA

### New grey wolf populations found in Canada

Two distinct populations of grey wolves have been found living side-by-side in British Columbia, Canada. The research built on the knowledge of the indigenous Heiltsuk First Nation, who distinguish between the mainland timber wolf (which prefers mountainous habitat and deer and other terrestrial foods) and the island coastal wolf (which are smaller and eat seafood). DNA from wolf faeces demonstrated that the two groups are different, showing how different environments can influence genetic changes. The study focused on an area of the central coast of British Columbia known as Bella Bella that includes a mainland landmass separated from five islands by water. The extreme differences between the mainland and island habitats may be responsible for the genetic differences.

Source: *BMC Ecology* (2014) [dx.doi.org/10.1186/1472-6785-14-11](http://dx.doi.org/10.1186/1472-6785-14-11), and *BBC News* (2014) [www.bbc.co.uk/nature/27763772](http://www.bbc.co.uk/nature/27763772)

### Jellyfish diet keeps turtles warm in chilly waters

Researchers have found that leatherback turtles in cold Atlantic waters off Cape Breton, Canada, keep warm by digesting vast quantities of jellyfish. It was previously supposed that the turtles relied on physical activity to generate body heat, but the new findings indicate that jellyfish account for up to about half of the heat the turtles need to survive. Each of the turtles studied was fed a small pill containing a

temperature monitor, providing the first real-time data on the turtles' stomach temperatures while they foraged. Body temperature tended to be lower when turtles were ingesting jellyfish during the daytime, and increased at night when digestion was taking place. On average, leatherback turtles consume c. 73% of their body mass in jellyfish daily. The species faces a number of threats, including harvesting of their eggs, coastal development, and entanglement in fishing gear.

Source: *The Journal of Experimental Biology* (2014) [dx.doi.org/10.1242/jeb.100347](http://dx.doi.org/10.1242/jeb.100347), and *HerpDigest* (2014) [www.herpdigest.org](http://www.herpdigest.org)

### Honey bee task force

The White House has set up a task force to tackle the decline of honey bees. The Environmental Protection Agency and the agriculture department will lead the effort, which includes USD 8 million for new honey-bee habitats. There was a 23% decline in bee populations in the last winter, a trend blamed on loss of genetic diversity, exposure to certain pesticides, and other factors. A quarter of the food eaten in the USA relies on pollination, and honey bees add > USD 15 billion in value to the country's agricultural crops. The decline in bee populations is also blamed on the loss of natural forage, and inadequate diets, mite infestations and diseases. Some environmental groups have criticized the president for not acting more directly, including taking action against neonicotinoids, a class of pesticides linked to bee deaths.

Source: *BBC News* (2014) [www.bbc.co.uk/news/world-us-canada-27951040](http://www.bbc.co.uk/news/world-us-canada-27951040)

### Florida's turtles fall prey to invasive lizards

Video cameras have revealed predation of alligator and turtle eggs in nesting areas in the Florida Everglades by tegus. The four-foot long lizards, native to Argentina and other parts of South America, are an invasive species in Florida and are thought to have been introduced to the USA in the early 2000s via the exotic pet trade. They have thrived as a result of their ability to tolerate cold temperatures, and their large clutches of up to 30 eggs. In Florida there are two groups of tegus, one near Tampa on the west coast and one in the Everglades in the south. Invasive species pose a considerable challenge to wildlife officials in the state, with dozens of species having escaped into the wild or been released by pet owners. More than 400 tegus have been captured in Florida in the past year.

Source: Reuters (2014) [www.reuters.com/article/2014/07/06/us-usa-florida-lizards-idUSKBN0FB0U220140706](http://www.reuters.com/article/2014/07/06/us-usa-florida-lizards-idUSKBN0FB0U220140706)

### Magnolia discoveries in Mexico...

Three new species of magnolia have been discovered in the Sierra Gorda Biosphere Reserve, Mexico. The discoveries were made by Roberto Pedraza Ruiz, Technical Officer of Mexican NGO Grupo Ecológico Sierra Gorda. Although initially photographed in 2009 they were not recognized as new species until José Antonio Vázquez, a magnolia specialist, viewed photographs of the species on ARKive in 2013. Both scientists then worked together to confirm identification of the new species. The new species are named *Magnolia pedrazae* (after Roberto Pedraza Ruiz), *M. rzedowskii* (after Jerry Rzedowsky, the leading botanist in Mexico) and *M. sierragordae*. Source: *World Land Trust News* (2014) [www.worldlandtrust.org/news/2014/06/magnolia-species-science-ound-sierra-gorda](http://www.worldlandtrust.org/news/2014/06/magnolia-species-science-ound-sierra-gorda)

### ...and lost snake rediscovered

A species of snake lost for nearly 80 years has been rediscovered in Mexico. The clarion nightsnake was first discovered in 1936 by naturalist William Beebe. Although never declared extinct, it was struck from the record after scientists were unable to rediscover it. A researcher from the Smithsonian Institution in Washington, DC, working with a colleague from a Mexican institute, visited the Pacific island of Clarion, where the team identified 11 snakes matching Beebe's original description. DNA tests confirmed that the clarion nightsnake is genetically distinct from others found in mainland Mexico. This snake species is endemic to the island and is now recognized as a full species. Monitoring of the clarion nightsnake will continue, to learn more about the role it plays in the Clarion Island ecosystem. Source: *BBC News* (2014) [www.bbc.co.uk/news/world-latin-america-27481016](http://www.bbc.co.uk/news/world-latin-america-27481016)

## CENTRAL AMERICA AND CARIBBEAN

### Caribbean coral reefs face an uncertain future...

According to a comprehensive analysis of data from > 35,000 surveys conducted at 90 locations in the Caribbean during 1970–2012, coral reefs there have declined by > 50%. The main driver of the decline

has been the loss of two important grazers: sea urchins and parrot-fish. The sea urchin population was decimated by an unidentified disease in 1983, and overfishing has driven the parrot-fish to near extinction in some areas. Without these grazers, algal species take over and smother the reef. Although the decline of Caribbean corals has been dramatic it is not irreversible, and well-managed reefs have shown signs of recovery. Recommendations include restoration of parrot-fish populations through appropriate fisheries management strategies, and engagement with local communities and stakeholders to communicate the importance of healthy coral reef ecosystems for fisheries stocks and the local economy. Source: *IUCN* (2014) [www.iucn.org/?16050](http://www.iucn.org/?16050)

### ...but the future of Dog Island looks brighter

Dog Island, in the UK Overseas Territory of Anguilla, has been officially declared rat-free following a successful eradication programme carried out as a joint initiative by the Anguilla National Trust, the Department of Environment of the Government of Anguilla, Fauna & Flora International, the RSPB and the Anguilla Development Company. The eradication was carried out by a team of > 30 staff and volunteers, who cut 42 km of trails through thick thorn scrub and applied > 2 tonnes of rodenticide, which was not harmful to native wildlife. The island has been monitored closely since the last rat was removed in March 2012 and its native wildlife is already showing signs of recovery. Prior to the eradication there were thousands of invasive, non-native black rats on the island and they caused considerable damage to native flora and preyed on eggs, chicks and other wildlife. The 207-ha island is designated an Important Bird and Biodiversity Area and hosts > 100,000 pairs of nesting sea birds as well as threatened marine turtles and endemic lizards. Source: *BirdLife News* (2014) [www.birdlife.org/americas/news/dog-island-anguilla-declared-rat-free](http://www.birdlife.org/americas/news/dog-island-anguilla-declared-rat-free)

### Lianas outcompete trees in tropical forests

A study of liana–tree competition in tree-fall gaps in Panamanian forests has revealed that trees are increasingly being displaced by the long-stemmed vines. Tree-fall gaps are important for forest regeneration and carbon accumulation but lianas are slowly taking over, possibly as a result of climate change and severe seasonal droughts, which create the hot, dry conditions that favour liana growth. Lianas accumulate

less biomass than trees, and their proliferation reduces the carbon-sequestration capacity of tropical forests. They compete with trees for sunlight, soil, water and nutrients and negatively affect tree reproduction, growth and survival. More information is needed on how the rate of liana growth differs between forests and regions, and on the long-term effects of liana cutting, to determine the most appropriate conservation action. Cutting lianas could result in fewer pollinators and seed-dispersers, which are essential for tree reproduction.

Source: *Ecology* (2014) [dx.doi.org/10.1890/13-1718.1](http://dx.doi.org/10.1890/13-1718.1), and *Mongabay.com* (2014) [news.mongabay.com/2014/0714-hong-liana-biomass.html](http://news.mongabay.com/2014/0714-hong-liana-biomass.html)

## SOUTH AMERICA

### New protected area for Colombia's rare birds...

Colombia has established a protected area in the Serranía de Perijá mountain range, in an ecosystem that has been ravaged by decades of deforestation and violent conflict between the government and militia groups. The mountain range is shared by Colombia and Venezuela, with the Venezuelan side covered by two large protected areas. Until now the Colombian side was mostly unprotected, and it is estimated that only 5% of the rainforest remains intact. The new 750-ha cloud forest reserve, known as the Chamicero de Perijá Nature Reserve, is home to many threatened and endemic species of birds, including the Endangered Perijá thistletail and Perijá metaltail, and the Perijá brush-finch, which was declared a distinct species in 2010. Cities and towns in the region will also benefit from the protection of ecosystem services provided by the new reserve, particularly the provision of water. Source: *Mongabay* (2014) [news.mongabay.com/2014/0722-hance-chamicero-de-perija.html](http://news.mongabay.com/2014/0722-hance-chamicero-de-perija.html)

### ...a successful reforestation project restores a mining wasteland...

Colombia has achieved success in regenerating lands destroyed by open-pit gold mining, through a series of forest-restoration projects that provide social and economic benefits to local communities. The first project began in 2002 in the conflict-ridden region of Cáceres, on 1,290 ha of land. The soil was bulldozed and enriched with composted sewage sludge and other nutrients prior to planting of *Acacia mangium* trees and 10–20 native tree species. The A.



*mangium* trees were planted to improve the soil through nitrogen fixation and leaf litter, and these trees were logged after 10 years, with native species planted to replace them. Local people were involved throughout the restoration and benefited from timber sales and carbon credits as well as increased employment. There are now > 120 native tree species in the restored area, which also hosts a diverse range of wildlife, including jaguars, sloths and primates.

Source: *Nature* (2014) [dx.doi.org/10.1038/511155d](https://doi.org/10.1038/511155d)

### ... and a globally important wetland is protected from mining

One of the world's most biologically diverse areas, the Inirida Fluvial Star wetland in eastern Colombia, has been designated a wetland of international importance under the RAMSAR convention. The area, which covers > 250,000 ha, will now be protected from the threat of extractive industries moving in to prospect for gold and cobalt. Located in the Orinoco river basin, the new RAMSAR site includes diverse habitats, including jungle, savannah, rivers and wetlands, and a wealth of species diversity. As well as threatened species such as river dolphins, jaguars and tapirs, the site hosts > 900 species of plants, 400 bird species, 470 fish species, 200 mammal species and 40 species of amphibians. It is also a vital source for fisheries in Colombia and neighbouring Venezuela. In a positive sign for the direction of future development in Colombia, President Juan Manuel Santos highlighted the importance of environmental protection and stated that mining should not be allowed in certain areas of biological and cultural importance.

Source: *WWF News* (2014) [wwf.panda.org/wwf\\_news/?226711/Star-of-Colombia-receives-international-protection](http://wwf.panda.org/wwf_news/?226711/Star-of-Colombia-receives-international-protection)

### Brazil could increase agricultural production without further deforestation...

It is projected that Brazil will experience its largest expansion in agricultural production over the coming decades, and this could place further pressure on natural ecosystems as competition for land intensifies. However, a study of Brazil's cultivated pastures has estimated that their productivity could be increased sufficiently to meet the country's demand for food, wood and biofuel until at least 2040 without any further deforestation. Current productivity is only 32–34% of its potential and could be increased through better management techniques and the cultivation of more productive crops, without further conversion of

biodiverse, carbon-rich ecosystems, such as the Amazon rainforest, cerrado and Atlantic forest.

Source: *Global Environmental Change* (2014) [dx.doi.org/10.1016/j.gloenvcha.2014.06.001](https://doi.org/10.1016/j.gloenvcha.2014.06.001), and *Mongabay.com* (2014) [news.mongabay.com/2014/0724-brazil-agricultural-potential.html](http://news.mongabay.com/2014/0724-brazil-agricultural-potential.html)

### ... and carbon loss from tropical forests is underestimated

A study has shown that the amount of carbon lost from tropical forests is being significantly underestimated. In addition to loss of trees, the degradation of tropical forests by selective logging and fires causes large amounts of hidden emissions. This process has remained almost invisible to satellite observations of the Amazon. Degradation in Brazil is causing additional emissions equivalent to 40% of those from deforestation. The rapid removal of trees in the Amazon rainforest accounts for c. 12% of human-induced greenhouse gases but the estimates of these losses have relied mainly on satellite observations. To accurately assess the scale of emissions the researchers compared undisturbed sites, selectively logged sites, forests that had been logged and burned, and sites that had once been turned into pasture and were now returning to forest. Degradation is slow moving and the researchers acknowledge it is hard to measure. They believe that this is one of the reasons that it has been underestimated.

Source: *Global Change Biology* (2014) [dx.doi.org/10.1111/gcb.12627](https://doi.org/10.1111/gcb.12627), and *BBC News* (2014) [www.bbc.co.uk/news/science-environment-27506349](http://www.bbc.co.uk/news/science-environment-27506349)

### Peru scraps environmental protection in favour of economic development

Over 100 local and international environmental organizations have written a joint letter to Peruvian President Ollanta Humala to protest against a new law that diminishes environmental protection for the sake of promoting investment in mining and fossil fuel industries. Under the new law fines for environmental damage are reduced, environmental impact assessments must be completed within 45 days, mining and fossil fuel exploitation will be allowed in any new protected areas, and tax breaks are available to foreign mining companies operating in Peru. The law also disempowers the Ministry of Environment, which is no longer allowed to set quality standards for air, soil and water. Sixty per cent of Peru's land area lies within the Amazon rainforest, and there are ongoing conflicts between local and indigenous communities and oil and

mining companies. Peru is set to host the UN Climate Summit in December and there are concerns that its passing of this new law will undermine progress towards the agreement of strong global environmental policies to mitigate climate change.

Source: *Mongabay.com* (2014) [news.mongabay.com/2014/0723-hance-peru-environment-law.html](http://news.mongabay.com/2014/0723-hance-peru-environment-law.html)

### Bolivia's golden bat is a new species

Scientists have declared that a golden-yellow mouse-eared bat thought to be found only in Bolivia is a distinct species, following detailed morphological and morphometric statistical analysis of 27 specimens from museums in the USA and Brazil. *Myotis midastactus*, named after King Midas of Greek mythology for the bright golden colour of its short woolly fur, was previously classified as *Myotis simus*. However, it is now believed that *M. simus* does not occur in Bolivia, although it is found in other South American countries. *M. midastactus* inhabits Bolivian savannah and feeds on small insects. Its conservation status is not yet known but there is ongoing research into mouse-eared bats of the Neotropics.

Source: *Journal of Mammalogy* (2014) [dx.doi.org/10.1644/14-MAMM-149](https://doi.org/10.1644/14-MAMM-149), and *BBC News* (2014) [www.bbc.co.uk/nature/28583377](http://www.bbc.co.uk/nature/28583377)

### UNESCO declares new Biosphere Reserve in Argentina

Peninsula Valdés, in Argentina, has been designated a Biosphere Reserve under UNESCO's Man and Biosphere Program, becoming part of a global network of sites where innovative approaches to sustainable management are implemented to maintain a balance between environmental protection, economic development and cultural values. The peninsula hosts a high diversity of terrestrial and marine wildlife, including Magellanic penguins, South American sea lions, orcas, southern elephant seals, about one third of the total breeding population of southern right whales, and abundant populations of guanaco, Patagonian mara and Darwin's rhea. The Reserve includes the previously unprotected area of Punto Ninfas, where southern elephant seals, South American sea lions, imperial cormorants and Magellanic penguins have been threatened by urban development and increasing use of off-road vehicles.

Source: *Mongabay.com* (2014) [news.mongabay.com/2014/0715-hance-peninsula-valdes.html](http://news.mongabay.com/2014/0715-hance-peninsula-valdes.html)

## PACIFIC

### The real Bounty

An assessment of the marine environment of the Pitcairn Islands, a British overseas territory, has shown that the waters around these remote Pacific islands have unique, irreplaceable global value. The research team carried out the first underwater surveys of the deep and shallow waters around the islands, best known for their connection to the mutiny on the Royal Navy ship *Bounty*, in the 18th century. The scientists found healthy coral reefs and an abundance of fish, with high levels of regional endemism in the fish assemblages. The remoteness of the islands has been critical in preserving their waters but there is some evidence of the encroachment of illegal shark fishing by foreign fleets. The islanders have voted in favour of a marine reserve and a plan has been submitted to the UK government to create an 836,000-km<sup>2</sup> protected zone around the islands.

Source: *PLoS One* (2014) [dx.doi.org/10.1371/journal.pone.0100142](https://doi.org/10.1371/journal.pone.0100142), and *BBC News* (2014) [www.bbc.co.uk/news/science-environment-28022031](http://www.bbc.co.uk/news/science-environment-28022031)

## AUSTRALIA/ANTARCTICA/ NEW ZEALAND

### Tree-hugging proves cool for koalas

Koalas spend most of their time asleep, curled around the branches of eucalyptus trees. But the time they spend tree-hugging is an efficient way for them to keep cool. Recent research has revealed that koalas lose half as much water through evaporation as they otherwise would. Using a biophysical model of heat exchange,

researchers have shown that this behaviour greatly reduces the amount of heat that must be lost via evaporative cooling, potentially increasing koala survival during extreme heat events. The results of the study highlight the important role of tree trunks to provide cool local microenvironments, not only for koalas but also for other tree-dwelling species.

Source: *Biology Letters* (2014) [dx.doi.org/10.1098/rsbl.2014.0235](https://doi.org/10.1098/rsbl.2014.0235), and *New Scientist* (2014) [http://www.newscientist.com/article/dn25668-overheated-koalas-show-treehugging-is-cool-man.html#\\_U\\_Nvd7lwZhE](http://www.newscientist.com/article/dn25668-overheated-koalas-show-treehugging-is-cool-man.html#_U_Nvd7lwZhE)

### Nest-boxes improve breeding success in an endemic New Zealand bird

Recent research has described how the provision of nest boxes increased breeding success in an endemic New Zealand bird species, the rifleman. The status of the species was recently changed to at risk and declining, and predation of nests by introduced mammals is likely to be at least partly responsible for recent declines in numbers. Researchers monitored the fate of rifleman nesting in natural nests compared to those in nest boxes, and found that c. 80% of birds nesting in nest boxes fledged at least one chick compared to only 16% in natural nests. All nests that were lost showed signs of attack by mammalian predators. It is likely that the high success rate in nest boxes was as result of the small entrance hole, which deterred these predators. The use of nest boxes is therefore suggested as a cheap and non-lethal approach for controlling predation and improving population trends in this species.

Source: *Conservation Evidence* (2014) <http://conservationevidence.com/individual-study/5479>

### Climate threat to emperor penguins

Changes of sea-ice cover in Antarctica in response to climate change could result in a 19–33% decline in the global population of emperor penguins by the end of the century. The penguins depend on an optimum amount of sea ice to enable them to breed, feed and take refuge from predators, and it is not known whether they will be able to adapt to changes in ice cover. Their primary food source is krill, and the penguins travel long distances across the ice to feed in open water. Krill are an important species in the Antarctic food web, and changes in the extent of sea ice may significantly affect their abundance. Sea ice conditions in the Ross Sea remain suitable for the penguins for now, and therefore colonies there may not decline as quickly as elsewhere, but climate modelling indicates a future warming trend in the Antarctic. Researchers studying the penguins have suggested that a marine protected area be established in the Ross Sea as a first step towards developing conservation and climate change mitigation strategies for the region.

Source: *BBC News* (2014) [www.bbc.co.uk/news/science-environment-28089988](http://www.bbc.co.uk/news/science-environment-28089988)

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