

INTERNATIONAL

2014 Goldman Environmental Prize winners announced

The 25th annual Goldman Prize has been awarded to six grassroots environmental activists. This year's winners, who will each receive USD 175,000 to support their work, are South African Desmond D'Sa, who engaged communities in Durban to shut down a toxic waste dump; Ramesh Agrawal from India, for his leadership in organizing local people to demand their right to information about proposed industrial projects; Russian zoologist and bat expert Suren Gazaryan, who exposed government corruption and campaigned successfully against illegal development in protected forest along the Black Sea coast; Rudi Putra from Indonesia, who campaigns against illegal palm oil plantations and works to restore Sumatra's Leuser Ecosystem; American lawyer Helen Slottje, who provides pro bono legal assistance to communities in New York State to defend themselves against oil and gas companies; and Ruth Beundia of Peru, who helped unite the Asháninka community in a campaign against a proposed large-scale dam.

Source: *Goldman Prize* (2014) www.goldmanprize.org/home

Online tool tracks forest loss in near real time

A new global monitoring system has been launched that promises near real time information on deforestation. Global Forest Watch uses information from hundreds of millions of satellite images and from people on the ground. Despite greater awareness of the impacts of deforestation, 230 million ha of trees were lost between 2000 and 2012. One of the problems in dealing with forest loss has been a lack of accurate information. Over the same time period as these trees were lost, c. 800,000 km² of new forest was planted. Global Forest Watch uses half a billion high-resolution images from NASA's Landsat programme and the cloud computing power of the Google Earth Engine, the Google Maps Engine and new algorithms developed by the University of Maryland. Data on tropical forests, at a resolution of 500 m, are updated monthly. The technology will allow campaigners and local communities to upload information, pictures and videos.

Source: *BBC News* (2014) www.bbc.co.uk/news/science-environment-26287137

Citizen science study to map the oceans' plankton

A study is calling on sailors to help map the oceans' phytoplankton, which form the base of marine food chains. Researchers have developed an app for people to submit readings from Secchi disks, a method used since 1865. The origin of the project is a controversial 2010 article that suggested the phytoplankton in the oceans had declined by 40% since the 1950s. A 30-cm diameter white Secchi disk is lowered into the water on a tape measure. When it is no longer visible from the surface, the reading—known as the Secchi depth—is recorded. It is a robust method and it is a good measure of phytoplankton abundance. The Secchi Disk App stores a reading while at sea and uploads it to a database once the smart phone is back within range of a mobile phone network. The database is accessible, free-of-charge, from the project's website.

Source: *BBC News* (2014) www.bbc.co.uk/news/science-environment-26483166

Partnership gives threatened trees a boost

The Global Trees Campaign and Kew's Millennium Seed Bank Partnership will support local partners worldwide in a 4-year project to establish seed collections for threatened tree species. Partners will receive training in seed collection, and ex situ seed collections for threatened trees will be established in the country of origin of each species. Back-up collections will also be established at the UK's Millennium Seed Bank, a secure underground vault that already holds seeds of more than 30,000 plant species. Seed banks are an important strategy for conserving threatened trees as they facilitate the preservation of genetic diversity without the need for the large amounts of space required for living tree collections. They are also a valuable resource for reintroduction and restoration programmes. In addition to ex situ approaches the Global Trees Campaign supports in situ protection of wild tree populations.

Source: *Fauna & Flora International News* (2014) www.fauna-flora.org/news/worlds-threatened-trees-to-benefit-from-new-conservation-partnership/

Newly discovered bird family in Asia

A DNA-based investigation of families within the Passerida group of perching

birds has identified 10 separate branches in their tree of life, within which a unique family containing only one species has been discovered. The spotted wren-babbler is on its own branch in the tree, unrelated to either wrens or wren-babblers. The already used name *Elachura formosa* will remain and the distinctive new family name Elachuridae has been proposed. The species is the only living representative of one of the earliest offshoots within the largest group of perching birds. *E. formosa* occurs from the eastern Himalayas to south-east China. It is secretive and difficult to observe in the subtropical mountain forests but during the breeding season, when the males sing their characteristic high-pitched song, which doesn't resemble that of any other continental Asian bird, it can sometimes be seen sitting on a branch inside a bush.

Source: *Biology Letters* (2014) dx.doi.org/10.1098/rsbl.2013.1067, and *BBC News* (2014) www.bbc.co.uk/nature/26433081

Plight of the pangolins

Annual seizures of pangolins, sought for their scales for use in traditional Chinese medicine, have been estimated at c. 10,000 individuals. However, the illegal trade in the species could be far greater because rapid economic growth in Asia has resulted in soaring demand for the scales. Chinese enforcement officials working with researchers from the UK used official records of pangolins seized from smugglers to assess the extent of the problem. Their findings revealed that 2.59 tonnes of scales, representing c. 4,870 pangolins, along with 259 intact pangolins (220 living, 39 dead) have been seized since 2010. In addition to smuggling whole animals, traffickers use the postal system to transport parcels of pangolin scales. Chinese and Sunda pangolins are categorized as Endangered on the IUCN Red List, and Indian and Philippine pangolins are categorized as Near Threatened, as are Africa's giant and white-bellied species.

Source: *Frontiers in Ecology and the Environment* (2014) dx.doi.org/10.1890/14.WB.001, and *BBC Nature* (2014) www.bbc.co.uk/nature/26549963

Birds learn to choose the best materials for nest-building

New research shows that birds' choice of nest materials is not entirely genetically predetermined but is based on experience

and learning. In an experiment a group of male zebra finches were given a flexible string to build their nests, and another group was given a stiffer string. The stiffer string proved to be the more effective building material, with fewer pieces needed to build a roofed nest. When presented subsequently with a choice between the two types of string, all birds opted for the stiffer string, based on their previous experience. The findings show that birds choose their nest materials on the basis of structural properties rather than the preferences of their parents or siblings, and learning plays an important part in this decision-making. Source: *Proceedings of the Royal Society B* (2014) [dx.doi.org/10.1098/rspb.2013.3225](https://doi.org/10.1098/rspb.2013.3225), and *BBC News* (2014) www.bbc.co.uk/news/science-environment-27040636

Fisheries bycatch hotspots mapped

Thousands of animals of non-target species such as sharks, turtles and albatross are killed annually as bycatch in commercial fisheries. A team of researchers has used almost 2 decades of data to map hotspots for bycatch, identifying the most dangerous areas for at-risk species. They found that marine turtles are most at risk in the south-west Atlantic, eastern Pacific and Mediterranean, whereas sea birds are most at risk in the southern Indian Ocean. The species of most concern for conservation are long-lived species that do not reach reproductive maturity until late in life and whose persistence therefore depends on high adult survival rates. One of the consequences of removing large-bodied marine species is trophic downgrading, whereby populations of prey species can proliferate. There is potential to mitigate the impacts of bycatch by using new fishing technologies such as devices to prevent turtles and other air-breathing marine fauna from being caught in nets, and albatross-friendly fishing hooks.

Source: *PNAS* (2014) www.pnas.org/content/early/2014/03/13/1318960111, and *Mongabay.com* (2014) news.mongabay.com/2014/0409-barrett-bycatch.html

Origin and history of modern lions revealed

A genetic analysis of living lions and museum specimens has confirmed that, commencing c. 124,000 years ago, modern lions evolved into two groups: in Eastern and Southern Africa, and in Central and West Africa and in India. The researchers sequenced mitochondrial DNA from museum specimens, including the extinct Barbary lion of North Africa, extinct Iranian lion and lions from Central and

West Africa, and from living lions in Asia and elsewhere in Africa. The single species that persists today first appeared in Eastern–Southern Africa. As the continent changed, lions in the south and east became separated from those in the west and north. Circa 51,000 years ago lions in the west became isolated from those in the north, and they expanded into Central Africa. Circa 21,000 years ago lions left North Africa, reaching India (but see p. 466), and 5,000 years ago another group reached what is today Iran.

Source: *BMC Evolutionary Biology* (2014) [dx.doi.org/10.1186/1471-2148-14-70](https://doi.org/10.1186/1471-2148-14-70), and *BBC News* (2014) www.bbc.co.uk/nature/26736688

Transatlantic great white shark may be pregnant

The first great white shark seen to cross from one side of the Atlantic to the other may be pregnant. The satellite-tagged shark, called Lydia, has crossed the Mid-Atlantic Ridge, which marks a rough boundary line between east and west. She may be pregnant and heading for birthing grounds in the Mediterranean. The young female shark has travelled > 30,500 km since last year. The Oearch project was initiated to gather data on the movements, biology and health of sharks, for conservation purposes and for public safety and education. Millions of sharks die each year as bycatch or through targeted hunting to remove their fins, which are highly prized in parts of Asia for use in shark fin soup and as traditional cures. The Oearch project has now tagged nearly 150 sharks, including not just great whites but mako, hammerhead, tiger sharks and other species.

Source: *BBC News* (2014) www.bbc.co.uk/news/science-environment-26514827

EUROPE

Working towards a safe passage for migratory birds...

BirdLife partner organizations in Europe have identified three blackspots for migratory birds in the Mediterranean region that will be the focus of a joint project called Safe Haven for Wild Birds. The blackspots targeted by the project are Sulcis in Sardinia, the Ionian Islands in western Greece, and Catalonia, Valencia and south-east Aragon in Spain. Millions of birds migrate across Europe twice each year, between their wintering and breeding grounds, and although they are protected under the EU Birds Directive illegal killing is widespread and significant population

declines have been recorded over the past 40 years. The project aims to change local attitudes towards the birds and inform and engage people through workshops and exhibitions. Law enforcement agencies will also be engaged through national and international workshops to share knowledge and experience and highlight the damage caused by environmental crimes.

Source: *BirdLife News* (2014) www.birdlife.org.uk/europe-and-central-asia/news/birdlife-partners-join-forces-against-illegal-bird-killing

...but migratory birds still threatened by spring hunting in Malta

Malta is the only EU country with a recreational spring hunting season, with an exemption from the EU Birds Directive that allows hunters to shoot turtle doves and quail during the spring migration. However, a lack of adequate controls and monitoring results in widespread illegal shooting of birds, and this is particularly harmful in spring, when migratory birds return to Europe to breed. Under the country's National Framework Legislation spring hunting is only considered legal if it has no impact on the European populations of the targeted species but the legislation does not take into account the conservation status of turtle doves and quail in Europe. Rather, it uses their global status as justification for spring hunting. In Brussels 39 Members of the European Parliament from 11 countries have called for the European Commission to take immediate action against Malta's exemptions from the EU law.

Source: *BBC News* (2014) www.bbc.co.uk/news/world-europe-27108910, and *BirdLife International* (2014) www.birdlife.org.uk/europe-and-central-asia/news/legality-spring-hunting-under-fire-malta-and-brussels

Vulture-killing drug now widely available in the EU

The anti-inflammatory drug Diclofenac, which caused an ecological disaster by decimating vulture populations in India, Pakistan and Nepal, is now widely available on the EU market and threatens the survival of Europe's four rare vulture species. Vultures are ecological recyclers as they consume the flesh of dead animals, and their catastrophic decline in Asia caused by consuming cattle that had been treated with the drug had serious repercussions for human health. The availability of carrion resulted in an explosion in the population of wild dogs and the spread of rabies. Millions of euros have been invested in

conserving Europe's vulture populations, which have shown signs of recovery, but the introduction of Diclofenac threatens to undo decades of conservation work. Under the EU Birds Directive the EU and its Member States have a legal obligation to conserve vultures. However, Diclofenac is authorized for use on domestic animals in Spain, which is home to 80% of European vultures.

Source: *BirdLife News* (2014) www.birdlife.org.uk/europe-and-central-asia/news/vulture-killing-drug-now-available-eu-market

Animals can see bursts of light from power cables

Animals could be scared away from power cables by flashes of ultra-violet light invisible to humans. The flashes, or corona, occur when charge builds up in a cable and is released into the air. The spectrum of light emitted contains wavelengths that are visible to other mammals. Avoidance by reindeer of the power lines running across the Arctic tundra was part of the inspiration for research into the effects of corona on animal behaviour. The reindeer were found to keep as much as 5 km from either side of the cables, disturbed by the flashing lights. Coronas occur on all power cables and could therefore be affecting wildlife globally by disturbing habitats and disrupting migration.

Source: *Conservation Biology* (2014) [dx.doi.org/10.1111/cobi.12262](https://doi.org/10.1111/cobi.12262), and *BBC News* (2014) www.bbc.co.uk/news/26548483

EU moves to halt alien invaders

The European Parliament has approved legislation to stop the spreading of invasive species by banning the possession, transport, growing or selling of species that are deemed to represent a threat to native species and biodiversity. Non-native species such as killer and demon shrimp from the Black Sea, Japanese knotweed and the Asian harlequin ladybird are a major cause of biodiversity loss and species extinctions. They can outcompete native species for food and resources and can also have implications for human health by spreading diseases and causing problems such as asthma and allergies. Under the new legislation EU countries will be required to improve surveillance systems at borders and develop action plans for the management of invasive species that are already established. The estimated 12,000 invasive species in Europe cost the economy c. EUR 12 billion each year.

Source: *BBC News* (2014) www.bbc.co.uk/news/science-environment-27039714

Bad news for European bumblebees...

The findings of a recent assessment of all 68 bumblebee species that occur in Europe suggest that 24% are threatened with extinction. According to the study 46% of bumblebee species in Europe have a declining population, 29% are stable and 13% are increasing. Bumblebees play a critical role in securing food production and, together with other pollinators, contribute > 22 billion euros per year to European agriculture. Climate change, the intensification of agriculture and changes in agricultural land are the main threats to the species. The population of the Critically Endangered *Bombus cullumanus* has declined by > 80% over the last decade as a result of habitat fragmentation and changes in farming practices. Europe's largest bumblebee, *Bombus fragrans*, categorized as Endangered on the IUCN Red List, is also threatened by the intensification of agriculture, which is destroying the species' native habitat in the steppes of Ukraine and Russia.

Source: *IUCN News* (2014) www.iucn.org/news_homepage/?14612/Bad-news-for-Europes-bumblebees

...and bumblebees infected with honeybee diseases...

Researchers have found that two diseases harboured by honeybees are now also affecting wild bumblebees. Insects infected with deformed wing virus and the fungal parasite *Nosema ceranae* were found across England, Scotland and Wales. Bee-keepers need to keep their honeybees as free from disease as possible to stop the spread. In the last few decades many bumblebee species have suffered steep declines. Habitat destruction—particularly of wild-flower meadows—has driven much of this loss, but this research suggests that disease also plays a role. Bumblebees infected with deformed wing virus have a shortened lifespan, which affects their ability to collect food. Looking at 26 sites across Great Britain and the Isle of Man, the researchers found that c. 11% of bumblebees were infected with deformed wing virus and 7% were infected with the fungus.

Source: *Nature* (2014) [dx.doi.org/10.1038/nature12977](https://doi.org/10.1038/nature12977), and *BBC News* (2014) www.bbc.co.uk/news/science-environment-26242960

...but farmland butterflies bounce back

Farmland butterflies have flourished in the UK as a result of last year's hot summer. The annual Wider Countryside Butterfly Survey recorded almost double the number of insects in 2013 compared with the previous year. Long sunny periods provided perfect breeding conditions for some species. The survey has been run by Butterfly Conservation, the British Trust for Ornithology and The Centre for Ecology and Hydrology since 2009. In 2013 volunteers monitored 850 randomly selected 1 km squares across UK farmland. With more than 70% of the UK's land area devoted to agriculture, the survey provides a broad picture of the health of butterfly populations across the country. The small tortoiseshell, which had been a cause for concern in previous years, had a dramatic turnaround. Mirroring their resurgence in garden surveys, small tortoiseshells were seen in 80% of the wider countryside sites, compared with just 40% in 2012.

Source: *BBC News* (2014) www.bbc.co.uk/nature/26242496

Fracking could harm wildlife

Fracking has the potential to devastate wildlife habitats across the UK, according to research commissioned by wildlife and countryside groups. The report *Are We Fit to Frack?* was launched by six organizations, including the National Trust and the RSPB. It was reviewed by the Centre for Ecology and Hydrology and is supported by a cross-party group of MPs. It contains proposals to limit the potential impact of fracking, including setting up no-frack zones around the most sensitive conservation areas. There are risks associated with using lots of water, from accidental contamination and from the infrastructure that is required. However, according to the trade body that represents the onshore oil and gas industry, many of the recommendations are already being adopted, and current regulations are strict enough to protect the environment. Large swathes of the UK have already been opened up for energy exploration, so far concentrated in Lancashire, Cheshire, Yorkshire and Sussex.

Source: *BBC News* (2014) www.bbc.co.uk/news/science-environment-26553117

Successful fight against invasive weed in Yorkshire

The invasive pennywort weed, which is native to the USA, was introduced to the UK in the 1990s and spread aggressively

through waterways after it was dumped from garden ponds. The weed forms dense mats of floating vegetation in slow-moving rivers, where it threatens water quality and ecology, starving native species of light and oxygen. It also impedes boat traffic and prevents fishing. The rivers Don, Calder and Colne in Yorkshire are particularly badly affected and are a focus of the Environment Agency's campaign to tackle the weed, which it aims to eradicate completely from Yorkshire by 2015 using a weed-killer that does not harm other aquatic organisms.

Source: *BBC News* (2014) www.bbc.co.uk/news/uk-england-27180820

Roe deer not adapting to climate change

Roe deer *Capreolus capreolus* are widespread in Europe and are categorized as Least Concern on the IUCN Red List. However, a long-term dataset for the roe deer population in the Champagne region of eastern France suggests they may not be adapting to climate change. Hotter temperatures in the region have resulted in earlier springs but the timing of roe deer births has not changed accordingly, leaving new-born fawns at risk of starvation. It is thought that the roe deer's reproductive cycle is tied to length of day rather than changes in temperature or availability of high-quality food and therefore it does not respond to these environmental cues. Conversely, female red deer in Scotland have been found to respond to increases in local temperature by giving birth earlier. Although roe deer are not adapting their phenology in response to climate change it is possible that they will move into new areas that become suitable as the climate warms.

Source: *PLoS Biology* (2014) dx.doi.org/10.1371/journal.pbio.1001828, and *Mongabay.com* (2014) news.mongabay.com/2014/0501-dasgupta-roe-deer-climate.html

SUB-SAHARAN AFRICA

Ecosystem service assessments pioneered by African conservationists

Eleven African conservationists have been using the Toolkit for Ecosystem Service Site-based Assessment to conduct assessments at important sites for biodiversity in Burundi, Cameroon, Ghana, Kenya, Madagascar, Malawi, Uganda and Zimbabwe. The participants came together at a workshop in Kenya in February to share their findings from a range of habitats, and to discuss the potential effects of land-use change on the provision of ecosystem

services and on local livelihoods. Data generated from the assessments are already being used to inform policy and management decision-making, providing a better understanding of the social, economic and political factors that need to be taken into account to improve biodiversity conservation and livelihoods. For example, community forest users in Cameroon are considering conserving areas of native forest rather than converting them for cocoa plantations because the assessment has shown that native forest provides greater ecological benefit.

Source: *BirdLife News* (2014) www.birdlife.org.uk/worldwide/news/african-conservationists-pioneer-ecosystem-services-assessments-important-sites

Conservation action plan for the king of the marshes

A conservation action plan has been developed for the shoebill, a large waterbird that inhabits freshwater swamps of grasses, reeds and papyrus in eastern central tropical Africa. The current population of the species is estimated to be 5,000–8,000 birds and its distribution is fragmented. The shoebill is categorized as Vulnerable on the IUCN Red List and it faces a number of threats, including anthropogenic disturbance, loss of habitat to fire and agricultural development, and the illegal wildlife trade. In addition to proposing to fill key knowledge gaps about the species, the conservation action plan sets out a number of key actions, including maintaining bans on live bird trade, strengthening monitoring and surveillance, raising awareness, restricting the presence of livestock in important breeding areas, conducting rigorous environmental impact assessments for proposed development, and promoting sustainable community enterprises, including ecotourism, in wetland areas.

Source: *BirdLife News* (2014) www.birdlife.org.uk/africa/news/released-conservation-plan-shoebill-king-marshes

Emergency action plan for lemurs

Researchers from Bristol Zoological Society, Conservation International, and the IUCN Primate Specialist Group have developed an emergency 3-year action plan for lemurs, Madagascar's endemic group of primates. The action plan contains strategies for 30 priority sites for lemur conservation and aims to help fundraise for individual projects. Draft assessments for the IUCN Red List indicate that >90% of lemur species are threatened with extinction. The major objectives of the action plan include stabilizing the immediate crisis in priority

areas as well as laying the groundwork for longer-term actions in all habitats that are crucial for preventing lemur extinctions. Lemurs are a central focus for tourism in Madagascar and the action plan also includes strategies for the promotion and expansion of ecotourism, providing livelihoods for the rural poor in environmentally-sensitive regions and fostering local valuation of lemurs and their habitats.

Source: *Science* (2014) dx.doi.org/10.1126/science.1245783, and *IUCN News* (2014) www.iucn.org/news_homepage/?14472/Emergency-three-year-action-plan-for-lemurs

Local community joins forces with conservationists to save Mali's elephants

Elephants in Mali were increasingly threatened as a result of degradation and overexploitation of the country's natural resources. Large herds of cattle were depleting water resources, forests were cleared for agriculture and a large proportion of the elephants' range was burned each year. When conservationists appealed to the local community for help in saving the elephants they found that the people had a positive attitude towards the elephants and regarded their presence as a sign that the environment was healthy. A local management committee was established to regulate resource use and protect the elephants' habitat and migration route, and volunteers engaged in monitoring and enforcement. Following the coup and the outbreak of war in 2012 many people fled the conflict and communities became fragmented. However, community elders and volunteers remained committed and only eight elephants have been killed in the country since 2012.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0402-hance-cannee-elephants.html

Cameroon's Bakossi National Park threatened by road construction

One of Cameroon's most important forests is threatened by the ongoing construction of a 15-m wide road through Bakossi National Park. The Park is designated an Important Bird Area and is a biodiversity hotspot, with over 200 endemic species of plants, birds and amphibians. Proponents of the road maintain that it will facilitate cocoa cultivation in the west of the Park and improve local people's ability to access services. However, there is no evidence that an environmental and social impact assessment has been carried out and there are concerns that the road is unnecessarily

wide and will facilitate the bushmeat trade and illegal logging. The construction has already resulted in forest destruction and is cutting through important bird habitat.

Source: *BirdLife News* (2014) www.birdlife.org.uk/africa/news/birdlife-concerns-over-road-construction-through-bakossi-national-park-cameroon

Kenya to deploy more anti-poaching drones

Following a successful pilot project that resulted in a significant decrease in poaching in a protected area, drones are to be deployed in all 52 national parks and reserves in Kenya. The remote-controlled unmanned aircraft use radio frequencies to monitor the landscape and the movement of wildlife and poachers, and poachers can be identified and intercepted before they kill. Once the USD 103 million project is fully operational drones will provide round-the-clock surveillance and will be complemented by investment in the training of community rangers and recruitment of more park rangers by Kenya Wildlife Service. Poaching continues to be driven by the demand for illegal wildlife products; more than 435 elephants and c. 400 rhinoceros have been killed by poachers in Kenya since 2012.

Source: *The Guardian* (2014) www.theguardian.com/environment/2014/apr/25/kenya-drones-national-parks-poaching

Congo rainforest responds to long-term drought

NASA satellite data reveal that the Congo rainforest, the world's second largest, is turning brown in response to the drought that has affected the region since 2000. The forest is under stress as a result of a severe shortage of water and increased surface temperatures. Although African tropical forests are known to have become resilient to dry conditions over the past few hundred years, researchers are still trying to understand how recent climate change and related severe drought events will affect the forests in the long term. Some predict that higher temperatures and drier conditions will result in ecological transitions such as deciduous trees or savannah grassland becoming more dominant, and a decline in evergreen trees.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0424-nasa-congo-drying.html

Renewed commitment to protect mountain gorillas...

Mountain gorilla habitat spans Rwanda, Uganda and the Democratic Republic of the Congo (DRC) and these countries have

jointly agreed new measures to protect the species and its habitat and to ensure that local communities receive a fair share of the revenue generated from gorilla tourism. The tourism industry in Rwanda and Uganda is focused on mountain gorillas and accounts for 8–9% of gross domestic product. It is estimated that the value of gorilla tourism in DRC's Virunga National Park has the potential to reach USD 235 million annually but the industry has been damaged by instability in the region. Now Virunga is threatened by oil exploration, with 85% of the land allocated for oil concessions, and although gorilla habitat has been spared, the entire ecosystem could be at risk if drilling goes ahead. Mountain gorillas are the only species of great ape whose numbers are increasing but nevertheless the last census indicated that there are only c. 880 individuals.

Source: *WWF News* (2014) www.panda.org/wwf_news/?219222/Countries-renew-plan-to-protect-mountain-gorillas

...but meanwhile oil exploration begins in Virunga despite opposition

The oil company Soco International has begun seismic testing as part of its controversial oil exploration project in Virunga National Park in the Democratic Republic of the Congo. The project is widely opposed by civil society groups and international conservation NGOs and by a number of high-profile individuals, including Nobel Peace Prize winner Desmond Tutu, Virgin Group founder Richard Branson and the philanthropist Howard G. Buffett. In proceeding with the project the company is disregarding national and international laws protecting the UNESCO World Heritage Site, as well as the findings of its own environmental impact assessment, which indicated that exploratory drilling could have serious implications for the health of the local communities that depend on Virunga's natural resources for their livelihoods. It is understood that Soco intends to drill wells in Lake Edward if oil deposits are found. This will jeopardize the freshwater supply for > 50,000 households, and the livelihoods of those who depend on the lake's fishery.

Source: *WWF News* (2014) www.wwf.org.uk/news_feed.cfm?7134/WWF-condemns-Soco-seismic-testing-in-Virunga and www.wwf.org.uk/news_feed.cfm?7142

Madagascar's frogs test positive for chytrid fungus

The pandemic chytrid fungus, which has decimated frog populations worldwide and caused an estimated 200 species extinctions,

has been detected for the first time in frogs from Madagascar, which is a hotspot for amphibian diversity. The fungus was confirmed when DNA tests were carried out on 565 frogs representing nine species that were exported to the USA from Madagascar. The chytrid fungus is transmitted by contaminated water supplies or contact with other infected animals. It causes the skin to thicken and makes it difficult for frogs to breathe or regulate the level of fluid in their bodies. However, not all animals carrying the fungus show ill effects but they facilitate its persistence and can spread it to new areas. The findings highlight the conservation potential of increased surveillance of the exotic pet trade and the need for urgent action to prevent a catastrophic decline in Madagascar's amphibian diversity.

Source: *PLoS ONE* (2014) dx.doi.org/10.1371/journal.pone.0089660, and *Mongabay.com* (2014) news.mongabay.com/2014/0411-devitt-chytrid-madagascar.html

SOUTH AND SOUTH-EAST ASIA

Himalayan brown bear shows signs of recovery in protected habitat

The Himalayan brown bear *Ursus arctos isabellinus* exists in small, isolated populations in remote mountainous regions of Pakistan, India, Tibet and Nepal. It is rare throughout much of its range and populations are divided by political boundaries and human presence. For the past 10 years researchers have been investigating the bear's status in India, Pakistan and Nepal through field surveys and interviews with local people. In Pakistan the bear occupies a range of habitats and a study of its habitat preferences was carried out in Deosai National Park. The bears showed a preference for grassy and marshy vegetation at lower elevations, avoiding rocky areas and areas with livestock grazing. In contrast, in Nepal bears showed a preference for forested areas at lower altitudes. The largest population of brown bears in the region is in Deosai National Park, where careful management of their habitat saw the population increase from c. 20 in 1993 to c. 56 in 2012.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0501-sekar-himalayan-bear.html

Myanmar bans timber exports in response to rapid deforestation

Myanmar's diverse habitats are home to many endemic species, including the Myanmar snub-nosed monkey and the

Burmese star tortoise, and it is a global biodiversity hotspot. However, rapid deforestation in recent years, much of it illegal, has driven declines in many species, including the Irrawaddy dolphin. Water quality in rivers has been reduced as riverbanks have eroded, and there have been significant declines in fish populations. A ban on the export of timber has been under discussion since the 1990s but finally, in response to severe ecological impacts and the loss of millions of hectares of forest, it came into effect on 31 March 2014. Prior to the ban Myanmar exported an estimated third of the global supply of teak. The total export of timber in March 2012, as exporters rushed to ship as much as they could before the ban came into force. Source: *Mongabay.com* (2014) news.mongabay.com/2014/0424-morgan-myanmar-ban.html

New species of stone oak discovered in Thailand...

A new species of stone oak has been discovered in the Ton Pariwat Wildlife Sanctuary in Thailand. An individual tree was located on a gentle section of closed dense forest during fieldwork to research tropical Asian oaks and their close relatives. The new species *Lithocarpus orbicarpus* can be distinguished by its spherical acorns covered with a dense pattern of irregularly placed scales that completely conceal the nut, except for a tiny opening at the top, and that are arranged in dense clusters on upright spikes. Additional survey work will be undertaken to determine the population size of this species within the wildlife sanctuary.

Source: *PhytoKeys* (2014) dx.doi.org/10.3897/phytokeys.34.6429, and *Science Daily* (2014) www.sciencedaily.com/releases/2014/02/140212112603.htm

...new frog species discovered in Viet Nam...

Scientists have discovered a previously undescribed species of frog in isolated cloud forest on the steep mountains of Ngoc Linh Nature Reserve in central Viet Nam. The thorny tree frog *Gracixalus lumarius* adds to the growing list of recent discoveries of amphibian species in the region, which include the misty moss frog *Thelederma nebulosum* and the orange-bellied leaf-litter toad *Leptotalax croceus*. The thorny tree frog is 4 cm long, with a bright pink underside and gold-flecked eyes, and it lays eggs in water-filled hollows in trees. Males are distinguishable by the thorns on their backs, which are thought to

be a sign of sexual fitness, as they become more pronounced during the mating season. Amphibians can have important ecosystem functions, including regulating insect populations and, consequently, mitigating the effects of carbon emissions by certain groups of insects that break down leaf litter, but many species are threatened by habitat loss, pollution, and fungal infection.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0425-moll-rocek-thorny-frog.html

...three new gecko species found in Malaysia...

A biologist from La Sierra University in California has discovered three new species of geckos in karst regions of Malaysia, including *Cyrtodactylus metropolis*, which was found at the National Heritage Site of Batu Caves near Kuala Lumpur. This is the first time that a new species has been discovered at Batu Caves despite many surveys having been conducted there during the past century. The other two species, *Cyrtodactylus guakanthanensis* and *Cnemaspis selamatkanmerapoh*, were found in Perak, north of Kuala Lumpur, and Merapoh, respectively. These discoveries highlight the conservation value of karst formations and open-canopy limestone forests, which support a significant proportion of the biodiversity in Malaysia but because of their high calcium content are threatened by quarrying for the cement industry.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0502-sutherland-geckos.html

...and new species of sawshark discovered

Scientists have discovered a new species of sawshark near the Philippines, in the western North Pacific. There were previously only seven known species in the family Pristiophoridae, most of which are found in the Indo-West Pacific. Little is known about the biology of these sharks, which tend to be found in deeper water than other sharks. The new species, *Pristiophorus lanuae*, was found at 229–593 m and has several distinct morphological characteristics, including the length and width of its snout, which make it distinct from other species of sawshark. It is thought that the sharks use their long, toothed, sawlike snouts for self-defence and to cut up prey but they are not generally regarded as a threat to humans. They are at risk of being caught and discarded as bycatch by deep-water fisheries operations.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0416-samoray-sawshark.html

EAST ASIA

Rare black-throated blue robins spotted in China

The Vulnerable black-throat, or black-throated blue robin *Calliope obscura*, is one of the rarest robins, being known from only a handful of records since it was first described in the 1890s. In 2011 experts resighted a small number of male black-throats in China. But now they have sighted a female and a breeding pair. The species was first observed in 1886 in Gansu province, north-west China. Since then there have been only a few records of the species, in China and Thailand, with a few specimens appearing in markets that trade birds. To relocate the bird, scientists based at the Institute of Zoology at the Chinese Academy of Sciences, Beijing, visited national parks in central China. In 2011 they documented 14 males, recording the bird's distinctive song. Since then, they have managed to spot black-throats, including a breeding female, on numerous occasions at three locations, as well as a nest with two chicks.

Source: *Journal of Ornithology* (2014) dx.doi.org/10.1007/s10336-013-1009-5, and *BBC News* (2014) www.bbc.co.uk/nature/26851727

Commercial logging banned in northern China

Chinese authorities have banned commercial logging in the country's largest forest area, in the far north-east of the country, in the Hinggan mountain range. Commercial logging began in the area in the 1950s and there has been a dramatic loss of forest cover since then, with significant environmental consequences, including droughts, flooding and a decline in water and soil quality. The region's wetlands have shrunk by c. 50%, there are no longer any big trees, and forest fires occur more frequently. A complete ban on logging is essential to save the Hinggan forests but many timber workers depend entirely on the logging industry and will need to find alternative livelihoods. Some communities are considering the possibilities of tourism development and in the meantime the government has established an aid fund to provide financial support for the workers until 2020.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0422-morgan-gfw-hinggan.html

Drop in shark fin imports into Hong Kong

An analysis of government data by WWF has revealed that there was a 35% drop in the volume of shark fin products imported into Hong Kong in 2013, and the number of shark fins re-exported from Hong Kong to other places also decreased significantly. Mainland China is no longer the biggest importer of shark fins from Hong Kong, having being overtaken by Viet Nam in this regard. Many species of sharks are threatened by the unsustainable level of shark-fishing. However, there are indications that the consumption of shark fin is not as socially acceptable as it once was, although it is legal in most places. Shark fin is now banned at official state functions in China and some hotel chains and airlines have also responded to pressure to remove shark fins from their menus.

Source: *WWF News* (2014) wwf.panda.org/wwf_news/?219432/Shark-fin-imports-to-worlds-biggest-market-drop-by-third

Chinese consumers of threatened species could face jail

According to a new interpretation of Chinese law by the Standing Committee of the National People's Congress, consumers who eat rare or threatened species can now be sentenced to up to 10 years in jail. As part of efforts by the Chinese Government to crack down on the illegal wildlife trade and address environmental problems, this re-interpretation of the law makes consumers of products such as pangolin foetuses, tiger blood and bear bile directly liable for their actions. Although it is not yet clear how well the law will be enforced, particularly given the loophole that allows the consumption of captive-bred animals, it may act as a deterrent to consumers and reduce consumer demand, which is a significant driver of illegal hunting.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0429-hance-china-endangered-law.html

NORTH AMERICA

Polar bears change their diet to adapt to climate change...

Polar bears typically feed on ringed seals, and sometimes other seals and marine mammals, which they hunt during winter by waiting at breathing holes in thick sea ice. During summer the melting ice forces the bears onto land. As sea temperatures rise as a result of climate change, the amount of time polar bears must spend

on land is increasing, which could have serious implications for their survival because they typically fast during this time. However, scat analysis and camera traps have revealed that polar bears are adapting to their changing circumstances by consuming a range of different foods and taking advantage of other readily available prey species such as snow geese and caribou. This evidence of flexibility in the polar bear's foraging behaviour is promising, although the future prospects of the species remain uncertain as their environment continues to change.

Source: *Ecology and Evolution* (2013) dx.doi.org/10.1002/ece3.740, and *Mongabay.com* (2014) news.mongabay.com/2014/0407-mann-polarbear-diet.html

...and salamanders shrink

A study of wild salamanders from 78 sites in the Appalachian Mountains has revealed that the animals have decreased in size by 8%, on average, since 1980, based on comparison with museum specimens. The greatest decrease in size was recorded at sites where the most warming and drying had occurred. Computer simulations have shown that increased temperatures place higher energy demands on salamanders, which are now burning more energy to maintain their metabolism. It is not yet known whether the change in size is genetic or the animals are adapting to changing environmental conditions but it could be a positive sign that at least some species will be able to adapt sufficiently quickly to climate change. However, being smaller has disadvantages in terms of fitness, reproductive success and ability to defend territory and avoid predators. Amphibian species are particularly vulnerable to the effects of climate change.

Source: *Global Change Biology* (2014) dx.doi.org/10.1111/gcb.12550, and *Mongabay.com* (2014) news.mongabay.com/2014/0404-morgan-shrinking-salamanders.html

U.S. government faces litigation over diminished protection for eagles

The American Bird Conservancy has declared its intention to sue the U.S. government over new rules that allow the accidental killing of eagles by wind farm turbines to persist for 30 years before a company must apply for a new permit. The relaxation of the permitting rules is intended to encourage the development of renewable energy sources but conservationists argue that the move will undermine the protection of golden eagles and the country's national emblem, the bald eagle. According to the American Bird

Conservancy the change violates the Endangered Species Act and the Bald and Golden Eagle Protection Act, and was made without any scientific justification or assessment of the conservation status of America's eagle populations.

Source: *Reuters* (2014) uk.reuters.com/article/2014/05/01/us-usa-windfarms-eagles-idUKKBN0DH27N20140501

American citizens support conservation of monarch butterflies

In a survey carried out across the USA 70% of respondents believed that conservation of monarch butterflies was important, although only 39% were aware of the declines in monarch populations. The monarch is the official insect of seven states and it is known for its spectacular annual mass migration from North America to the forests of Mexico. The population declines seen in the last 15 years are primarily attributed to the decline in milkweed, the native plants that provide a food source for monarch caterpillars, which in turn has been caused by the increased production of genetically modified crops. The survey results indicated that consumers would be willing to purchase and plant monarch-friendly milkweeds or nectar-producing plants, and contribute financially to monarch habitat conservation.

Source: *Conservation Letters* (2013) dx.doi.org/10.1111/conl.12065, and *Mongabay.com* (2014) news.mongabay.com/2014/0403-sutherland-monarchs.html

Two threatened species show signs of recovery in California

The U.S. Fish and Wildlife Service has removed the island night lizard from its endangered species list and it is also proposing to downlist arroyo toads from endangered to threatened. The slow-growing, long-lived island night lizard is found only on three of the Channel Islands off the southern coast of California, where it was threatened by loss of habitat as a result of ranching and grazing, and predation by feral cats. After the islands were cleared of non-native herbivores and feral cats were removed from San Clemente Island the lizard population recovered. The arroyo toad is also found in southern California, in streams and rivers, but much of its habitat has been destroyed by agriculture, mining and the construction of dams and reservoirs. Populations of the toad have been recovering since non-native plants and invasive predators such as bullfrogs and crayfish were removed and rivers and creeks protected.

Source: *HerpDigest* (2014) herpdigest.org

Galveston Bay oil spill disaster for birds

The spillage of 170,000 gallons of oil into the Gulf of Mexico in March following the collision of a ship and a barge is a disaster for the birds and wildlife of Galveston Bay. Although the amount of oil spilled is far less than the 210 million gallons spilled during the Deepwater Horizon incident, its proximity to natural habitat and areas of important wildlife sanctuaries make it a serious environmental crisis, particularly given the timing, which coincides with spring migration and the breeding season for colonial species. Bolivar Flats is a Globally Important Bird and Biodiversity Area comprising salt marsh, mudflats and beach habitat, which hosts 50,000–70,000 shore and waterbirds during the migration season. Ten of the bird species that winter in the area are particularly vulnerable to the oil slick; these include pelicans, plovers, oystercatchers and egrets.

Source: *BirdLife News* (2014) www.birdlife.org.uk/americas/news/galveston-bay-oil-spill-imperils-thousands-birds

Florida's orchid revival

Botanists from Fairchild Botanical Garden in Miami and a team of volunteers plan to germinate and plant 1 million orchids in South Florida during the next 5 years in an effort to restore the region's orchid populations. There are c. 50 orchid species native to South Florida but they have been almost wiped out by decades of urban development and have been hunted almost to extinction in the wild. Numbers are now so low that natural restoration of the population would be highly unlikely to occur. As part of the restoration project seeds are germinated in a laboratory and it can take 2 years before plants are mature enough to be attached to trees. It is hoped that restoring the orchids will also see the return of insects and microorganisms that were once part of the ecosystem.

Source: *Reuters* (2014) uk.reuters.com/video/2014/04/23/one-million-endangered-orchids-to-be-pla?videoId=312714848&videoChannel=82

CENTRAL AMERICA AND CARIBBEAN

International alliance formed to protect unique haven for marine life

Governments of Bermuda, the Azores, Monaco, the UK and USA have signed a declaration committing to the conservation of the Sargasso Sea, a vast patch of mid-Atlantic Ocean known for its unique

floating seaweeds and rich biodiversity. The area faces numerous threats, including wastewater discharge from ships, pollution, fishing, and harvesting of Sargassum algae for fertilizer and biofuel production. The Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea is part of the Sargasso Sea Alliance, an initiative led by the Government of Bermuda. A non-binding political statement, the Hamilton Declaration seeks protection for the Sargasso Sea, using international bodies that regulate areas beyond national jurisdiction, such as the International Maritime Organization, regional fisheries authorities and the Convention on Migratory Species. Furthermore, the Declaration will provide a platform for the creation of a Sargasso Sea Commission, whose aim will be to minimize the adverse effects of shipping and fishing in the area.

Source: *IUCN News* (2014) www.iucn.org/news_homepage/news_by_date/?14546/Governments-unite-to-serve-icnic-Sargasso-Sea

Honduran palm oil cooperative achieves Rainforest Alliance certification

Hondupalma, a 600-member cooperative established in Honduras 30 years ago, is the world's first palm oil cooperative to achieve Rainforest Alliance certification for sustainable practices. The cooperative has recently invested USD 2.5 million in social and environmental improvements across its plantations. Child labour is no longer used and the children of plantation workers now attend a local school that is largely funded by the cooperative. Plantation owners have also taken action to reduce the number of deaths from snakebites by training workers to clear the area around trees before harvesting, and by providing more protective clothing. Insecticide has been replaced with a mixture of alcohol and sugar cane molasses, providing significant financial as well as environmental benefits. The cooperative has also built a wastewater treatment plant based on simple technology that generates methane from waste, which is used to fuel a small power generator. The cooperative has also committed to zero deforestation and restoration of some previously planted areas.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0410-dimitrova-hondupalma.html

Green turtles decline in Nicaragua

A 20-year study of Nicaragua's green turtle fishery has revealed a significant decline in catch rates, indicating that the legal

artisanal fishery may have become unsustainable. Green turtles are an important source of protein and income for the country's indigenous coastal communities but high take rates during the 1990s may have been unsustainable and the catch declined by 21–90% at the 14 sites studied. Green turtles are the only herbivorous marine turtle species and they feed primarily on seagrass, which grows extensively in the Caribbean coastal waters of Nicaragua. They are the second-largest marine turtle species and are categorized as Endangered on the IUCN Red List. They face a number of threats to their survival in addition to overfishing, including bycatch, poaching of eggs at nesting beaches, pollution, and loss of habitat as a result of coastal development and the effects of climate change.

Source: *PLoS ONE* (2014) dx.doi.org/10.1371/journal.pone.0094667, and *WCS* (2014) www.wcs.org/press/press-releases/nicaragua-green-turtles.aspx

Breathing upside down is easy for world's slowest mammal

A study carried out in Costa Rica has shown how sloths are able to spend up to 90% of their lives hanging upside down yet continue breathing normally. Three-fingered sloths *Bradypus variegatus* possess multiple internal adhesions that anchor their abdominal organs, particularly the liver and glandular stomach, to the lower ribs. The adhesions prevent the stomach, liver, kidneys and even the bowels and bladder from pressing on the diaphragm and acting on the lungs when the sloth is inverted. Using an energetics-based model, researchers used ventilation rate and body orientation data collected from captive and wild sloths to estimate that the adhesions could reduce the energy expenditure of a sloth by almost 13% at any time it is fully inverted. Sloths generate just enough energy from their diet to move when and where required and the adhesions could be vital to the species' energy budget and survival.

Source: *Biology Letters* (2014) dx.doi.org/10.1098/rsbl.2014.0172, and *BBC News* (2014) www.bbc.co.uk/news/uk-wales-south-west-wales-27171105

Frugivorous bats deterred by light pollution

Many insect-eating bat species are known to avoid artificially lit areas and a study has shown that Sowell's short-tailed bat, a fruit-eating species found throughout Central America and Mexico, is also deterred by artificial light. This is a significant finding because fruit bats are vital for seed dispersal in tropical ecosystems,

playing an important role in forest regeneration. Sowell's short-tailed bats are particularly important seed dispersers in the rainforests of Central America because they are known to spread seeds in open areas that are avoided by other seed-dispersing animals. The increasing rate of human encroachment into tropical forests and the associated introduction of artificial light into these habitats is a cause for concern and efforts must be made to limit the level of light pollution in these areas for the sake of light-sensitive nocturnal seed dispersers and ecosystem functioning.

Source: *Journal of Applied Ecology* (2014) [dx.doi.org/10.1111/1365-2664.12206](https://doi.org/10.1111/1365-2664.12206), and *Mongabay.com* (2014) news.mongabay.com/2014/409-sutherland-bats-light.html

Coffee and conservation

A project has been launched in Puerto Rico to promote sustainable agriculture and biodiversity conservation through the production of shade-grown coffee in the forests of the Maricao and Susúa Important Bird and Biodiversity Area. The forests provide habitat for the threatened Puerto Rican nightjar and 18 restricted-range species and are also used by many Neotropical migratory birds. They are also recognized as a Key Biodiversity Area, with many species of plants, bats, reptiles and amphibians. The CAFEiCANTO project recognizes the need to educate local farming communities, training them in sustainable agriculture and shade-grown coffee production and raising awareness of the importance of monitoring and protecting bird populations. Shade-grown coffee is compatible with bird conservation because canopy trees are maintained. The project also seeks to improve the livelihoods of farmers through ecotourism opportunities.

Source: *BirdLife News* (2014) www.birdlife.org.uk/americas/news/coffee-and-conservation-project-launches-puerto-rico

SOUTH AMERICA

Live fast, die young

New research suggests that a live fast, die young life history strategy could have been a key factor behind the high tree diversity in the Amazon. An estimated 16,000 tree species—about 30% of the recorded total worldwide—occur in the Amazon but it has been unclear why some clades of trees are hyperdiverse and others are not. Using dated phylogenies, estimates of current species richness and demographic data from a large network of forest plots, the research showed that short turnover times

are associated with high diversification rates; i.e. highly diversified groups share a live fast, die young life history strategy. This would promote speciation.

Source: *Ecology Letters* (2014) [dx.doi.org/10.1111/ele.12252](https://doi.org/10.1111/ele.12252), and *BBC News* (2014) www.bbc.co.uk/news/science-environment-26434264

Forest regeneration of pasture-land offers economic and biodiversity benefits

A study in the biodiversity-rich region of western Colombia has revealed that allowing forests to regenerate naturally on cattle pasture offers low-cost climate and biodiversity benefits. An international team of researchers conducted a carbon and biodiversity analysis of primary and secondary forests and pasture-land and found that carbon payments from REDD+ (Reduced Emissions from Deforestation and forest Degradation) schemes could be worth more than the financial returns from cattle ranching. The researchers found that secondary forests accumulated significant carbon stocks in 30 years of regeneration. They also studied communities of birds and dung beetles and found that after 15–30 years of regeneration the communities in secondary forest were similar to those in primary forest. These findings suggest that REDD+ carbon credit schemes could provide multiple benefits in the cloud forest of the tropical Andes.

Source: *Nature Climate Change* (2014) [dx.doi.org/10.1038/nclimate2200](https://doi.org/10.1038/nclimate2200), and *Mongabay.com* (2014) news.mongabay.com/2014/0428-forest-regeneration-benefits.html

Brazil downgrades protected areas...

An assessment of Brazil's protected areas has revealed that since 1981 c. 5.2 million ha of land that was formerly protected by law has been stripped of its protected status. Researchers from Universidade Federal de Pernambuco and Imazon identified 93 cases where protected areas were downgraded, downsized or degazetted, the majority of which have occurred since 2008. These changes coincide with a period of intense dam-building across the Amazon Basin, and the power industry is responsible for a reduction in the size of 19 protected areas between 2010 and 2012 alone.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0421-brazil-strips-protected-status.html

... and tests drones for rainforest monitoring

Municipalities in Brazil are planning to use drones to monitor forest cover in the

Amazon Basin as part of a move to increase enforcement of the revised Forest Code, which was passed into law in 2012 following years of discord and debate between environmentalists, indigenous peoples and agribusinesses. Although the Forest Code increases the transparency of land ownership it also reduces Brazil's commitment to rainforest restoration and paves the way for the conversion of c. 29 million ha for agriculture and cattle ranching. The municipality of Admiralty is using drones to map properties and contribute to the development of a government-managed database of details of all properties in the Amazon region. By establishing land ownership the database will indicate who has liability for complying with environmental laws. Other municipalities are also planning to buy drones, which are used increasingly in a wide range of conservation applications, including monitoring wildlife, deforestation and forest fires, and collecting land-use data.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0424-amazon-drones.html, and news.mongabay.com/2014/0424-brazil-forests-code.html

Amazon trees vulnerable to fire and climate combination

A field experiment has shown that a combination of fire and severe droughts could accelerate Amazon tree mortality. In 2004 three plots were established in the south-east Amazon: one was burned annually, one every 3 years, and one left untouched as a control. In 2007 both plots were burned (fourth burn for the annual plot and second burn for 3-year plot) and both plots responded strongly to the fires. The major effects were in the plot burned every 3 years because there was more fuel accumulation, and also because the productivity of the plot was still high. As well as observing the loss of a number of tree species, there were wider ecological consequences as a result of losing tree cover. Burned plots were four degrees warmer because they had fewer leaves and less capacity to cool the system through photosynthesis.

Source: *Proceedings of the National Academy of Sciences of the United States of America* (2014) [dx.doi.org/10.1073/pnas.1305499111](https://doi.org/10.1073/pnas.1305499111), and *BBC News* (2014) www.bbc.co.uk/news/science-environment-27024002

Ants play important role in rainforest regeneration

The Amazon rainforest is undergoing rapid deforestation to make way for agriculture, cattle-ranching and logging industries,

and Bolivia has lost > 50% of its trees. Researchers studied secondary seed dispersal by ants for the primarily bird-dispersed tree *Clusia trochiformis* in forest fragments in degraded forest ecosystems in Bolivia and found that ants played an important role in increasing natural forest regeneration in degraded areas. Ants are attracted to the fat-rich coating on the seeds (the aril) and they deposit seeds in their nests or in leaf litter on the forest floor. Conditions in hot, dry, fire-degraded areas are generally unsuitable for germination, with lack of seed dispersal from forests, but the ants plant the seeds in moist microhabitats that are much more suitable, enhancing germination and allowing the cycle of regeneration to continue.

Source: *Journal of Ecology* (2014) [dx.doi.org/10.1111/1365-2745.12226](https://doi.org/10.1111/1365-2745.12226), and *Mongabay.com* (2014) news.mongabay.com/2014/0414-dulaney-ants-rainforests.html

Pacific

World's largest protected area declared in New Caledonia

The world's largest protected area has been declared around the French-governed archipelago of New Caledonia, in the southwest Pacific. Le Parc Naturel de la Mer de Corail (The Natural Park of the Coral Sea) is a 1.3 million km² multi-use zone that includes 4,500 km² of coral reefs and is home to 48 species of sharks, 25 species of marine mammals, 19 species of nesting birds and five species of marine turtles. The new protected area will be integrated into the Pacific Oceanscape, which is a collaborative management initiative involving 16 Pacific island nations and six territories.

Source: *Mongabay.com* (2014) news.mongabay.com/2014/0502-new-caledonia-marine-protected-area.html

AUSTRALIA/ANTARCTICA/ NEW ZEALAND

UNESCO concern over dumping on Great Barrier Reef

A UNESCO report on the state of conservation of World Heritage Properties expresses concern and regret over the declining health of the Great Barrier Reef and the controversial decision by the Federal Government to allow dumping of 3 million m³ of dredge spoil on the reef. The report opposes a business-as-usual approach to managing the reef, which shows evidence of widespread decline in coral recruitment and reef building. The Federal Government has been called on to provide a detailed management plan to ensure protection of the reef and there is a possibility that the site will be declared a World Heritage in Danger at the 2015 meeting of the World Heritage Committee. Thousands of Australians as well as leading scientists have also expressed concern over the government's sanctioning of dumping in the waters of the reef.

Source: *WWF News* (2014) wwf.panda.org/wwf_news/?220670/UNESCO-dumps-on-Great-Barrier-Reef-dredging-decision

Good intentions can spell disaster for Critically Endangered species

In 1976 there were only seven surviving Chatham Island black robins, five males and two females, as a result of alien predators and habitat deterioration. These

birds were captured from the island of Little Mangere and moved to the nearby island of Mangere, which was free from predators. The only pair to breed successfully were an 8-year-old female, Old Blue, and a younger male, Old Yellow. To speed the production of chicks, eggs were removed from the nest after laying and placed in the nests of female tomtits for incubation, prompting the female robin to lay again. The robin population was monitored until 1990, when the population totalled 100. New research has found that Old Yellow carried one deviant copy of a gene involved in egg-laying, which caused females to lay eggs on the rim of the nest, where they would not be incubated. During the period of conservation intervention all such eggs were nudged back into the nest to be incubated, preventing natural selection from weeding out the destructive behaviour.

Source: *New Scientist* (12 April 2014) newscientist.com/article/mg2229640.700-killing-with-kindness-conservations-cautionary-tale.html

All internet addresses were up to date at time of writing. Note that in the online version of this document (at journals.cambridge.org/orx) all links are live and can thus be used to navigate directly to the cited web sites. The Briefly section in this issue was written and compiled by Nikki Burton, Cella Carr and Martin Fisher, with an additional contribution from David Gill. Contributions from authoritative published sources (including web sites) are always welcome. Please send contributions by e-mail to oryx@fauna-flora.org