Briefly

INTERNATIONAL

Warming set to breach 1°C threshold

Records up to November 2015 indicated that global temperatures were set to rise more than 1°C above pre-industrial levels. Figures for January–September 2015 were 1.02°C above the 1850–1900 mean. If temperatures remain as predicted 2015 will be the first year to breach 1°C, half way towards 2°C, the threshold to dangerous warming. The temperature information comes from a dataset jointly run by the UK Met Office and the Climatic Research Unit at the University of East Anglia, UK. The 1°C rise will be breached in 2015 as result of a combination of carbon emissions and the impact of El Niño. Scientists believe that 2016 may also be a very warm year and expect that the 1°C margin will become more firmly established in the future.
Source: BBC News (2015) bbc.co.uk/news/science-environment-34763036

Cod populations recovering...

North Sea cod stocks are increasing and the biomass of spawning adults has exceeded the danger threshold of 120,000 t, according to the International Council for the Exploration of the Sea. Consequently, it has recommended the first major increase in fishing quotas for North Sea cod since 2000, when catches were slashed by EU ministers The recovery has been slow, however, and was not evident until 2013, when biomass increased above the danger threshold for the first time since 1983. Meanwhile, data from Canada's fisheries ministry show that cod stocks on the Grand Banks have increased for the third year in a row. Years of overfishing caused the population to crash, and a moratorium on cod fishing on the Grand Banks was introduced in 1992 and is still in place.
Source: New Scientist (2015) newscientist.com/article/dn27867-cod-make-a-comeback-thanks-to-strict-cuts-in-fishing

...but plastic consumption is rife among seabirds...

A study of 186 species of seabirds, including albatrosses, gulls, petrels and penguins, has found that by 2050 c. 99.8% of these species will have eaten plastic, as concentrations of plastic debris in the oceans continue to rise. At current rates of global production c. 300,000 t of plastic end up in the ocean each year. In the five large patches of accumulated plastic waste there are almost 600,000 pieces of debris in each square kilometre of surface water. The physical effects of plastic consumption on seabirds are not yet fully known; pollutants may be released into their digestive tracts and a build-up of plastic in the stomach may prevent birds from consuming sufficient food for survival. A previous study, published by the UN Convention on Biological Diversity, found that plastic waste in the oceans affects many other species as well as birds, from micro-organisms to whales.
Source: Science (2015) news.sciencemag.org/environment/2015/08/nearly-every-seabird-may-be-eating-plastic-2050

...and overall, marine populations halved since 1970

According to a report by WWF and the Zoological Society of London, populations of marine mammals, birds, fish and reptiles have declined by 49% since 1970. More than 1,200 marine species were studied, and it was found that species relied upon as sources of human nutrition fared particularly badly, with populations of tuna and mackerel declining by 74%. Sea cucumbers, which are considered a delicacy throughout Asia, have declined by 98% in the Galapagos and 94% in the Red Sea in recent years. Overfishing has been blamed for the collapse of fish stocks but there are also other contributing factors influencing the overall decline of marine populations. There has been a decline in habitats such as seagrass beds and mangroves, which are used as nurseries by many species. Some species are also being affected by ocean acidification caused by climate change.
Source: BBC News (2015) bbc.com/news/science-environment-34265672

Three trillion trees...

A team of scientists from Yale University has estimated there are c. 3.04 trillion trees globally, mostly occurring in tropical and subtropical forests (c. 1.39 trillion), boreal forests (0.74 trillion) and temperate regions (0.61 trillion). The number is eight times higher than the previous best estimate, and is based on a global map of forest trees generated using ground-sourced measurements of tree density from every continent except Antarctica, with data from >400,000 forest plots. A significant proportion of global biodiversity is harboured in forest ecosystems, but according to the findings of the study an estimated >15 billion trees are cut down annually. Knowledge of the number of trees in a given area will facilitate modelling of broad-scale biological and geochemical processes in forest ecosystems, and provides a useful metric to inform forest management practices and afforestation efforts.
Source: Nature (2015) dx.doi.org/10.1038/nature14967, & *BBC News* (2015) bbc.co.uk/news/science-environment-34134366

...and successful germination of Critically Endangered tree...

Scientists based in the UK have successfully germinated seeds from the Critically Endangered Japanese birch *Betula chichibuensis*, of which there are only 21 known trees remaining. The wild population is unlikely to be able to sustain itself unaided, and is threatened by habitat degradation and deforestation. Such a small population is also vulnerable to natural disasters and disease. In 2014 the research team collected c. 1,000 seeds from the threatened trees, at a remote, mountainous location near Tokyo, from which they produced c. 100 seedlings. Their long-term aim is to plant Japanese birch saplings at arboretums in various locations throughout the UK to increase the species' chance of survival, while working with Japanese colleagues to protect the species in the wild. They also plan to plant a seed orchard to provide an ongoing supply of seeds.
Source: BBC News (2015) bbc.com/news/science-environment-34378953

...but tropical rainforests are disappearing...

On the Edge: The State and Fate of the World's Tropical Rainforests, a report commissioned by the Club of Rome, warns that tropical rainforests could be largely wiped out by the end of the century as a result of fatal interactions between deforestation, forest fragmentation and climate change, with dire consequences for biodiversity, indigenous communities and our ability to adapt to climate change. In addition to protecting intact forests, preventing deforestation and forest fragmentation, carrying out reforestation, and ensuring the sustainability of legal logging and the prevention of illegal logging, there are other less obvious measures that are also essential to save the rainforests. These

include protecting the rights of indigenous peoples, reducing urban food waste, improving agricultural methods and productivity, and addressing the problems of corruption and poor governance. The report cautions that no single measure alone will solve global environmental problems.
Source: WWF (2015) wwf.panda.org/wwf_news/?251790/Tropical-forests-on-the-edge

. . .and cacti are under threat

A comprehensive global assessment of the plant family Cactaceae has found that 31% of the 1,480 cactus species evaluated are at risk of extinction. Cacti are predominantly distributed in arid lands of North and South America, with only one species occurring in Africa and Asia. The charismatic plants have a long history of human use and are under significant anthropogenic pressure from overharvesting and illegal trade. Collectors value the plants for their attractive flowers, and c. 50% of species are used as a source of food or medicine. Land conversion for agriculture and residential and commercial development are also major threats to the cacti, which are particularly vulnerable to disturbance because they are slow-growing. The whole family of cacti is listed on CITES, which means the plants can only be traded legally with a permit, but national-level enforcement of such international agreements is essential to curb the illegal trade.
Source: Nature Plants (2015) dx.doi.org/10.1038/nplants.2015.142, & *BBC News* (2015) bbc.com/news/science-environment-34447534

Lack of progress on emissions targets

An analysis by the Climate Action Tracker, a consortium of research institutions, has revealed that global plans to curb carbon dioxide emissions fall far short of what is needed to prevent a temperature rise of more than 2°C. The analysis examined the carbon plans of 15 countries that together account for almost 65% of global emissions. Among these, seven countries, including Australia, Canada and Japan, were deemed to have inadequate targets, the USA, EU and China were rated as medium, and Morocco and Ethiopia were deemed to have sufficient targets. Brazil, the world's seventh highest emitter of carbon, was not included in the analysis as it had not yet declared its intended nationally determined contributions. Environmentalists there are calling for an end to deforestation, and replanting of at least 14 million ha of native forests, claiming the country could cut its carbon emissions by 35% of 2010 levels by 2030.
Source: BBC News (2015) bbc.co.uk/news/science-environment-34135202

UN adopts resolution on illegal wildlife trade. . .

Following 3 years of diplomatic efforts, on 30 July 2015 the UN General Assembly adopted a resolution to tackle wildlife crime and end the global poaching crisis. Co-sponsored by more than 80 nations, the resolution urges Member States to treat wildlife trafficking by organized criminal syndicates as a serious crime, strengthen law enforcement and anti-corruption measures, implement measures against money laundering, and target consumers to reduce the demand for wildlife products. Furthermore, the resolution urges countries to engage communities in and adjacent to wildlife habitats in conservation activities, and develop sustainable, alternative livelihoods for these communities. Poaching of elephants and rhinoceroses for ivory and horn continues to be a huge problem in Africa, and in Asia demand for tiger parts remains high. From 2016 the UN secretary general will present an annual report on progress in tackling global wildlife crime, with recommendations for future action.
Source: TRAFFIC (2015) traffic.org/home/2015/7/30/un-adopts-resolution-on-tackling-wildlife-trafficking.html

. . .CITES and IUCN strengthen collaboration. . .

CITES and IUCN have signed an agreement to strengthen their cooperation in minimizing illegal killing of elephants and other threatened flagship species, such as rhinoceroses, great apes and marine turtles, in Sub-Saharan Africa, the Caribbean and the Pacific region. There has been a surge in illegal wildlife trade, and elephants, rhinoceroses, pangolins and valuable timber species are among the worst affected species. It is estimated that > 100,000 elephants were poached in Africa during 2011–2013, and rhinoceros poaching has escalated, with 1,215 individuals killed in 2014 in South Africa alone. Wildlife crime ranks amongst some of the most serious transnational crimes and is perpetrated by organized criminal gangs and rebel militia through the same illegal infrastructure used for trafficking in drugs, weapons and humans. Increased international collaboration is needed to combat the problem, which according to some estimates is worth up to USD 20 billion annually.
Source: IUCN (2015) iucn.org/news_homepage/?21814/CITES-and-IUCN-bolster-collaboration-in-tackling-poaching--and-illegal-wildlife-trade

. . .and the transport and logistics sector engages to stop wildlife smuggling

Key employees of DHL, a major logistics company, participated in a workshop to raise awareness of the risks posed to their operations by illegal wildlife traffickers and to identify measures that can be taken to prevent the smuggling of wildlife. The workshop in Singapore was organized by the wildlife trade monitoring network TRAFFIC and funded by the United States Agency for International Development. Participants learned about the wild animals and plants commonly trafficked in South-east Asia, and the methods used to conceal illegal wildlife products for transportation. In March 2015 DHL along with 16 other courier companies signed a zero-tolerance pledge against the illegal wildlife trade, and the company prohibits transportation of all live animals, as well as ivory and other wildlife products that cannot legally be traded internationally.
Source: TRAFFIC (2015) traffic.org/home/2015/10/3/logistics-giant-trains-to-help-prevent-wildlife-smuggling.html

IUCN Red List of Ecosystems wins Australian award

The IUCN Red List of Ecosystems has been awarded one of Australia's top honours for science: the Australian Museum Eureka Prize in the field of Scientific Research and Innovation: Environmental Research. The team behind the Red List of Ecosystems developed the first comprehensive and quantitative method for assessing risks to ecosystems, providing an international benchmark for assessing the health and decline of natural systems worldwide, which can be used to support evidence-based environmental management. The Red List of Ecosystems identifies terrestrial, freshwater and marine ecosystems that are at risk of collapse under pressure from threats such as environmental degradation and climate change. It provides an early warning system that may be used to inform decision making, planning and management by governments, industries and communities to conserve biodiversity and avoid ecosystem collapse.
Source: IUCN (2015) iucn.org/news_homepage/?21843/IUCN-science-wins-Red-List-of-Ecosystems-awarded-Eureka-Prize

Reintroduction of northern bald ibis

The once widespread northern bald ibis *Geronticus eremita* is almost extinct in the wild and has been absent from Europe for 300 years. The decline of the species is a result of habitat loss, hunting of chicks and

collection of eggs. There are now only c. 500 individuals in the wild and most of these are in Morocco. There is a small population in Syria that is threatened by ongoing militant activity. The UK's Chester Zoo has maintained a safety-net population of northern bald ibis since 1986 and currently houses 28 of the birds. As part of an international conservation effort for the species, four chicks from the zoo were shipped to Jerez, in Spain, where they will bond with chicks from other European zoos before being released into the wild. It is hoped that the reintroduced birds will breed and the wild population will increase naturally over time.
Source: BBC News (2015) bbc.com/news/science-environment-34289174

Corals threatened by mass bleaching episode

Scientists have confirmed that a mass coral bleaching episode predicted by the National Oceanic and Atmospheric Administration in the USA is taking place and may affect $>38\%$ of coral reefs globally and result in the death of $>12{,}000\,km^2$ of reefs. Bleaching occurs when corals under stress drive out the symbiotic algae known as zooxanthellae, and is caused by rising water temperatures. The current bleaching episode is predicted to be the worst on record, with the warming Pacific current, El Niño, increasing in strength, and climate change continuing to drive ocean warming. Coral reefs support c. 25% of all marine species and are breeding grounds for tropical fisheries. The loss of reefs through bleaching has implications for those who rely on them for sustenance, and the livelihoods of 500 million people may be affected. Although reefs may recover if new coral colonies are established, this is a slow process and can take many years.
Source: BBC News (2015) bbc.com/news/science-environment-34473371

Extractive industries threaten almost one-third of natural World Heritage Sites

According to a recent report almost a third of natural World Heritage Sites are under threat from oil, gas and mining exploration. The situation is most serious in Africa, where 61% of sites are under threat. Natural World Heritage Sites are designated as such on the basis of their outstanding natural value, such as iconic landscapes and some of the rarest species, including snow leopards, mountain gorillas, African elephants, whales and marine turtles. The threat posed by extractive industries has serious implications for the many communities that depend on these natural areas for their livelihoods. Investors have been called upon to engage with extractive companies to encourage them to adopt no-go and no impact commitments in relation to natural World Heritage Sites, and to divest from companies that persist with operations at these sites. Alternative and sustainable development is proposed to secure the future of natural resources and the communities that depend on them.
Source: WWF (2015) panda.org/wwf_news/?253794/Almost-a-third-of-all-natural-World-Heritage-Sites-under-threat-of-oil-gas-and-mining-exploration

EUROPE

Mediterranean cypress resists wildfire

A fire at an experimental forest plot in Valencia, Spain, in 2012 prompted a 3-year study into the resilience of the Mediterranean cypress *Cupressus sempervirens*. The cypresses remained largely intact at the 20,000 ha plot, whereas all the common oaks, holm oaks, pines and junipers were destroyed. The leaf structure of the Mediterranean cypress is such that it maintains a high water content even under conditions of extreme heat and drought, and the leaf litter on the forest floor also forms a compact layer that retains water and limits the space for air circulation. Human-caused fires are one of the most common causes of forest degradation in the Mediterranean region, where $>269{,}000$ forest fires were reported during 2006–2010, affecting >2 million ha of forest. The resilience of the cypress may make it a valuable land management tool, with potential to create buffer zones to prevent the spread of fire.
Source: Journal of Environmental Management (2015) dx.doi.org/10.1016/j.jenvman.2015.05.020, & *BBC News* (2015) bbc.co.uk/news/science-environment-34116491

Bycatch threat to Europe's seabirds...

The accidental killing of seabirds during fishing operations is one of the biggest threats to many seabird species, particularly petrels, albatrosses and shearwaters. Much of the research and conservation action to tackle the problem has focused on longline fishing fleets in the southern oceans but there is a growing awareness of the problem in other regions, including Europe. The Atlantic Ocean is the latest focus of the Seabird Task Force established by BirdLife International, and in particular the Grand Sol fishing ground west of the UK. The Grand Sol is fished by a fleet of c. 50 demersal longline vessels, the majority of which are Spanish and target hake. In observations during 2006–2007, 48–141 birds were recorded as caught during fishing trips, most of which were dead. However, many questions remain about the extent of the bycatch problem and whether it varies between areas and vessels.
Source: BirdLife International (2015) birdlife.org/europe-and-central-asia/news/gran-sol-may-have-plenty-fish-sea-its-seabirds-are-declining

...and migratory species dependent on the Wadden Sea are in decline

A census report on migratory birds along the East Atlantic Flyway states that population trends in the Wadden Sea are of concern, and birds that are largely dependent on the site, such as the Eurasian oystercatcher *Haematopus ostralegus*, are in decline. The Wadden Sea is a vast coastal wetland covering almost $10{,}000\,km^2$ and extending along the North Sea coasts of the Netherlands, Germany and Denmark. Its tidal flats, islands, salt marshes and other habitats are used by 12 million birds annually and it is vital to more than 60 species during breeding, migrating and non-breeding periods. It is also an important feeding and resting site along the East Atlantic Flyway, the path from the Arctic region to western Europe and the west coast of Africa used by c. 6 million migrating birds each year. A programme is underway to restore the Wadden Sea through a range of anti-predation and conservation measures.
Source: BirdLife International (2015) birdlife.org/europe-and-central-asia/news/wadden-sea-danger-says-first-ever-migration-report-whole-east-atlantic-flyway

European strategy to protect African wildlife

The European Commission has begun to develop a strategy to maintain the unique wildlife heritage of sub-Saharan Africa, aiming to identify major threats to wildlife and how they should be addressed over the coming decade. It recognizes the challenges to species of all sizes, from elephants to birds, noting in particular the threats to Afro-Palearctic migrants such as the European turtle dove *Streptopelia turtur* and European roller *Coracias garrulus*, which are in severe decline. Many African species have been affected by habitat loss, land degradation, agricultural expansion, hunting and the illegal trade in wildlife. Rural livelihoods are dependent on natural resources and ecosystem services, and are highly vulnerable to the destruction of

such services, for example the contamination of water sources and loss of grazing grounds and biodiversity. The holistic aim of the new strategy is to support livelihoods and human development through engaging rural communities in finding solutions to conservation problems.
Source: BirdLife International (2015) birdlife.org/europe-and-central-asia/news/eu-developing-all-round-strategy-protect-african-wildlife

Marine mammals thriving in Thames

Ten years of sightings recorded by the public show that large marine mammals are regularly found in the River Thames. The Zoological Society of London has received records of 2,732 animals over that period. Seals were the most common animal seen, with many spotted around London's Canary Wharf. In addition, the public reported 444 porpoises and dolphins on the river, and 49 whales. Seals were seen as far upstream as Teddington and Hampton Court Palace, in south-west London, and dolphins and porpoises were seen at Teddington Lock, with large pods spotted close to Kew Gardens and Deptford. In addition, the Society has also been conducting seal surveys along the greater Thames Estuary, and has estimated there are c. 670 harbour seals along the estuary.
Source: BBC News (2015) bbc.co.uk/news/science-environment-33996020

UK commits funding to tackle global wildlife crime

The British government will provide funding of up to GBP 5 million to projects in various countries to tackle the illegal global trade in rhinoceros horn, elephant ivory, tiger parts and other wildlife products. The funding will support practical action to strengthen law enforcement, reduce the demand for illegal wildlife products, and develop sustainable conservation initiatives in communities living in and adjacent to wildlife habitat. The Illegal Wildlife Trade Challenge Fund, administered by the Department for Environment, Food & Rural Affairs, was launched in 2014 and has so far supported 19 projects to protect threatened species and tackle criminal activity and conflict associated with the international wildlife trade. Among these is a project run in partnership between Save the Rhino International and TRAFFIC to reduce the demand for rhinoceros horn in Vietnam by changing consumer behaviour.
Source: TRAFFIC (2015) traffic.org/home/2015/8/5/uk-boosts-global-efforts-against-wildlife-crime.html

Climate models predict bleak future for the UK's butterflies

Scientists predict there may be widespread regional extinctions of drought-sensitive butterflies in the UK as early as 2050, as climate change is expected to cause more frequent severe droughts, particularly in the south of the country. Some butterfly populations plummeted in 1995 during one of the UK's worst droughts in more than 200 years, and such droughts are expected to become an annual occurrence if carbon dioxide emissions continue unchecked. Habitat restoration is a key factor in improving the outlook for butterflies, as reducing habitat fragmentation has been found to facilitate faster recovery of populations following drought. However, it is predicted that some butterfly species will persist in the south of England only if warming does not exceed the 2°C threshold, regardless of habitat restoration efforts. The study focused on six vulnerable species: large and small white, ringlet, green-veined white, speckled wood and large skipper.
Source: Nature Climate Change (2015) dx.doi.org/10.1038/NCLIMATE2746, & *Science* (2015) news.sciencemag.org/climate/2015/08/widespread-butterfly-extinctions-could-hit-u-k-early-2050

Dogs sniff out harvest mice for survey

A flat-coated retriever named Tui is being trained to detect the scent of harvest mice to assist in a survey of Britain's smallest rodent in the wild. Harvest mice are typically found in hedgerows, cereal fields and reed beds but it is not known how many of the elusive animals remain in the wild. The species is thought to have declined during the past 4 decades as a result of habitat loss and more intensive agricultural practices. Conservationists have begun to explore the potential of sniffer dogs in surveying and protecting wildlife. Tui's training has been funded by the People's Trust for Endangered Species following promising results in New Zealand, where trained dogs successfully detected little spotted kiwis. Before Tui begins her work she will undergo special training to ensure she can discriminate between the droppings of harvest mice and pygmy shrews.
Source: The Guardian (2015) theguardian.com/environment/2015/sep/22/dogs-help-to-count-tiny-harvest-mice-for-uk-survey

Garden feeders lure blackcaps to Britain

Data from a 12-year survey of garden birds in Britain indicate that the blackcap *Sylvia atricapilla*, also known as the northern nightingale because of its fluting song, is shifting its winter migration to take advantage of the reliable supply of food provided in garden feeders throughout the country. Prior to the 1950s there were few records of blackcaps in Britain during the winter months but the number has increased dramatically since then, and there is evidence that this shift in migration, from the Mediterranean to Britain, is driven by climate change and garden feeding. The survey was carried out by 14,000 volunteers, who submitted weekly records of the birds they observed in their gardens, and the results showed blackcaps were strongly associated with garden food supply, with an apparent preference for fats and sunflower hearts. The survey also revealed massive declines in numbers of house sparrows and starlings.
Source: Global Change Biology (2015) dx.doi.org/10.1111/gcb.13070, & *BBC News* (2015) bbc.com/news/science-environment-34274209

UK suspends ban on pesticides linked to serious harm in bees. . .

Farmers will be able to use blacklisted pesticides linked to serious harm in bees after the UK government temporarily lifted an EU ban. Bees and other pollinators are essential for many crops but are in decline as a result of pesticides, loss of habitat and disease. Two neonicotinoid pesticides can now be used for 120 days on about 5% of England's oil seed rape crop, to ward off the cabbage stem flea beetle. An earlier emergency application by the National Farmers' Union for a nationwide lifting of the ban was rejected. The EU neonicotinoid ban began in December 2013 after the European Food Safety Authority judged them to pose an unacceptable risk to bees. Research has linked the pesticides to huge losses in the number of queen bees and big rises in the number of bees that fail to return from feeding trips. The ban will be reviewed at the end of 2015.
Source: The Guardian (2015) theguardian.com/environment/2015/jul/23/eu-suspends-ban-pesticides-linked-serious-harm-bees

. . .and wolf hunters deployed to French Alps

Hunters, supplied by the state after pressure from shepherds and farmers, are operating in the French Alps to kill wolves, which are seen as a threat to livestock. In defiance of EU law the French government has also relaxed hunting rules to help farmers defend stocks. However, conservationists argue that wolves are vital to ensure a proper

balance in nature. There were 4 days of protests in the region after increasing numbers of wolf attacks on sheep, and farmers also briefly kidnapped the head of a national park. In 2014 an estimated 8,500 animals were killed by wolves and the number may rise significantly in 2015. Since reappearing in France in the early 1990s there are an estimated 300 wolves in the country. The wolf is a protected species under the Berne Convention and European law. Hunting is banned but limited, targeted culls are allowed. Farmers are compensated for each sheep killed.
Source: BBC News (2015) bbc.co.uk/news/science-environment-34510869

Good news for Portugal's seabirds

Portugal has approved the designation of two new Special Protection Areas, at Cabo Raso and Aveiro/Nazaré, under the EU Birds Directive, as well as the expansion of the marine protected areas at Cabo Espichel and Costa Sudoeste. The decision was made on the basis of seabird monitoring data collected along the coast of Portugal during the past 10 years, and will enhance the conservation of migrating seabirds, protecting feeding and resting sites used by c. 30 species, including the Critically Endangered Balearic shearwater *Puffinus mauretanicus*, Europe's most threatened seabird. Some birds, such as Cory's shearwater *Caronectris borealis* and Audouin's gull *Larus audouinii*, have breeding grounds along the Portuguese coast; others feed and rest there during migration or have wintering grounds there. The new protected areas will strengthen the Natura 2000 network, which safeguards the protection of wildlife and habitats throughout the European Union.
Source: BirdLife International (2015) birdlife.org/europe-and-central-asia/news/new-protected-areas-announced-seabirds-portugal

NORTH EURASIA

Chernobyl haven for wildlife in the absence of human interference

A long-term study of wildlife in Chernobyl, the site of the world's worst nuclear accident, has shown that wildlife are thriving in the area, with no evidence of a negative impact of radiation on mammal abundance. In the aftermath of the nuclear accident in 1986, 116,000 people were permanently evacuated from an exclusion zone covering 4,200 km^2, and these latest findings suggest that the presence of people is more damaging to wildlife than radiation, with ecosystems damaged by activities such as farming, forestry and hunting. The Chernobyl site has similar relative abundances of elk, roe deer and wild boar compared with four uncontaminated nature reserves in the region, and the abundance of wolves is more than seven times higher. A camera-trap study has revealed that the brown bear and European bison have also returned to the area. The findings highlight the importance of people-free areas for nature and wildlife.
Source: Current Biology (2015) dx.doi.org/10.1016/j.cub.2015.08.017, & *New Scientist* (2015) newscientist.com/article/dn28281-wildlife-is-thriving-around-chernobyl-since-the-people-left/

SUB-SAHARAN AFRICA

Lion populations in Africa could halve in 20 years

A study has found that the number of lions in Africa is falling rapidly, except in highly managed southern areas, and suggests that populations in unprotected areas could fall by 50% over the next 2 decades. The researchers recommend that lions be categorized as Endangered in Central and West Africa (globally the lion is currently categorized as Vulnerable). Loss of habitat, hunting and a demand for traditional medicine have all contributed to the species' decline. Lion populations are declining across Africa, with the exception of Botswana, Namibia, South Africa, and Zimbabwe, which are having success with small, fenced, intensively managed and funded reserves. A reduction in lion numbers could change local ecosystems, with the lion no longer playing a pivotal role as apex predator. The researchers warn that the African lion could come to rely on small, managed reserves and may no longer be a flagship species of the once vast ecosystems of the continent.
Source: Proceedings of the National Academy of Sciences of the United States of America (2015) dx.doi.org/10.1073/pnas.1500664112, & *BBC News* (2015) bbc.co.uk/news/world-africa-34657027

Collective action on illegal timber trade

Following a collaborative workshop on forest management and timber trade, Namibia, Angola and Zambia have agreed to develop a time-bound Action Plan to address key challenges amid increasing concern about illegal and unregulated trade, and overharvesting of timber species, including the high-value species kiaat *Pterocarpus angolensis*, Zambezi teak *Baikiaea plurijuga* and rosewood *Guibourtia coleosperma*. The main challenges identified during the workshop include inadequate communication between countries, lack of awareness of forestry regulations, limited sharing of information, lack of resources, and loopholes in legislation and policy. Collaboration to address these challenges is essential given the cross-border nature of the trade. In addition to the development of a Memorandum of Understanding for collective forest management and timber trade, the Action Plan will address harmonization of documentation, cross-border collaboration and information sharing, and capacity building. An annual workshop to monitor implementation of the Action Plan has been proposed.
Source: TRAFFIC (2015) traffic.org/home/2015/8/7/angola-namibia-and-zambia-vow-to-take-action-on-illegal-timb.html

Tanzania blocks burning of ivory in Malawi. . .

Tanzanian authorities successfully sought a High Court order preventing Malawi from burning a stockpile of 2.6 t of ivory, on the grounds that the tusks could be used as valuable evidence to prosecute suspected poachers. Customs officials intercepted nearly 800 tusks that were being smuggled into Malawi from Tanzania. There has been a surge in poaching of elephants and rhinoceroses by criminal gangs in sub-Saharan Africa, to meet the increasing demand for ivory and rhinoceros horn in Asia. Malawi's elephant population has declined by 50% since 1980, mostly as a result of poaching, and in Tanzania elephant numbers have dropped by 60% in the past 5 years. In 2014 the authorities in Botswana, Gabon, Chad and Tanzania pledged to honour a 10-year moratorium on the sale of ivory.
Source: BBC News (2015) bbc.com/news/world-africa-34296178

. . .and officials receive training to tackle ivory poaching on the Nigeria–Cameroon border

Enforcement officers working in key Nigeria–Cameroon border regions received training in methods to counter ivory trafficking, during events organized by the wildlife trade monitoring network TRAFFIC in September. Sixty-four regional delegates participated in the training events, representing customs, police, gendarmerie, justice, transport, finance and tourism. Among other things the participants learned how to contribute intelligence on ivory trafficking to the Elephant Trade Information System

(ETIS), which is the world's largest database of elephant product seizures. They also learned about the importance of this system in helping identify countries of highest concern regarding the illegal ivory trade. Fewer than 10% of the delegates had heard of ETIS previously and none had completed an ETIS record form, despite more than 50% having been involved in at least one seizure of ivory or other elephant products, which emphasizes the need for greater awareness of legislation and enforcement policies.
Source: TRAFFIC (2015) traffic.org/home/2015/10/6/ivory-trafficking-on-nigeria-cameroon-border-targeted.html

Counting gorillas in the Virunga Massif

A census of Critically Endangered mountain gorillas *Gorilla beringei beringei* has begun in the Virunga Massif, which spans Rwanda, Uganda and the Democratic Republic of the Congo and is one of only two sites where the gorillas are still found. It is hoped the census will confirm that gorilla numbers are continuing to increase thanks to the efforts of rangers, conservationists, local communities and government authorities over the past 2 decades. The census will provide the most accurate and detailed dataset to date on Virunga's mountain gorilla population, which will be used to inform conservation of the species and its habitat. It will involve fieldwork and laboratory work, using the latest science and technology to provide information on population demographics and the location of groups in relation to each other, and a final population estimate is expected to be released in 2017.
Source: Fauna & Flora International (2015) fauna-flora.org/news/mountain-gorilla-census-set-to-begin-in-the-virunga-massif/

Rwanda's vision for the future

Building on the social and economic transformation that has taken place there in recent years, Rwanda has prioritized environmental protection as part of its development strategy. The government has under taken many initiatives to protect and restore ecosystems, including efforts to conserve one of the rarest species of gorilla, the Critically Endangered eastern lowland gorilla *Gorilla beringei graueri.* Rwanda's iconic gorillas are an important focus of tourism, and the majority of the tourist revenue from the Virunga National Park is reinvested in wildlife conservation and in pr ojects that provide benefits for local people. Another significant milestone in rebuilding Rwanda's natural capital is the restoration of wetlands in the Nyabarongo -Akagera and Rugezi regions. Wetlands cover 165,000 ha, 7% of the country's total area, and are rich in biodiversity, and particularly bird species. Rwanda's success shows that environmental protection and safeguarding of natural resources need not be incompatible with economic growth.
Source: UNEP (2015) unep.org/newscentre/default.aspx?DocumentID=2788&ArticleID=10861&l=en

Elephants poisoned in Zimbabwe's national parks

Poachers used cyanide to poison 14 elephants in Zimbabwe in late September and early October 2015. Three of the elephants died in Matusadona national park in the north of the country after eating oranges laced with the poison, and 11 were killed at two locations in Hwange national park in the west, where the cyanide was put on salt licks. The tusks had been removed from six of the elephants in Hwange but the other five still had their tusks, which suggests the poachers were disturbed in action. Two years ago similar methods were used to kill > 200 elephants in the country, and many vultures also died after eating contaminated elephant carcasses. Zimbabwe is particularly vulnerable to poaching because it has a large elephant population, and cyanide is relatively easy to obtain as it is widely used in the country's mining industry.
Source: The Guardian (2015) theguar dian.com/world/2015/oct/06/poachers-poi son-14-elephants-zimbabwe-national-parks

Customs officials seize hundreds of protected tortoises in Madagascar

Customs and border police at Madagascar's Ivato International Airport have discovered 771 wild native tortoises concealed in luggage destined for Kuala Lumpur, highlighting the important role played by the transport sector in helping to combat smuggling of wildlife. The consignment included 763 radiated tortoises, 20 of which died following the seizure, and eight ploughshare tortoises, considered to be the rarest species of tortoise. The seized tortoises will be rehabilitated before being released back into the wild. Both species are categorized as Critically Endangered on the IUCN Red List, the primary threats being habitat loss and collection for the illegal pet trade. Tortoises from Madagascar are highly sought after by collectors in Asia, where Bangkok is a hub for the illegal trade. A 2011 survey of 32 vendors in Thailand found 591 specimens of reptiles and amphibians from Madagascar available for sale.
Source: TRAFFIC (2015) traffic.org/home/2015/10/5/hundreds-of-protected-tortoises-seized-in-madagascar.html

SOUTH AND SOUTH-EAST ASIA

Call to shut down Asia's illegal bird markets

More than 35 experts on birds have called on Asian governments, and Indonesia in particular, to bring to an end the illegal and unsustainable trade that poses a significant threat to the survival of many of the region's wild bird species. The call came at the inaugural Asian Songbird Crisis Summit, which took place in Singapore in September. During the 3-day summit delegates agreed on a priority list of 30 songbird species in the Greater Sunda Region that may face extinction if the illegal trade is not tackled. They also identified 12 species for which immediate action is necessary, including the Critically Endangered Javan green magpie, black-winged myna and Bali myna. Indonesia is at the heart of the songbird trade, with more endemic bird species than any other country, and the highest number of bird species in Asia. Globally, it is second only to Brazil in numbers of threatened birds.
Source: TRAFFIC (2015) traffic.org/home/2015/10/2/asian-songbird-trade-crisis-summit-calls-on-regional-governm.html

Photographs confirm Indonesia being burned for palm oil

Photographs released by Greenpeace have shown that palm oil developers are planting burned peatlands with oil palm seedlings in Indonesian Borneo. There is no way to know who burned the land because the Indonesian government hasn't released concession maps for the area. The contention is that Indonesia's palm oil industry played a role in the severe haze crisis that affected the region in 2015. Over the past 3 decades millions of forests and peatlands in Sumatra, Kalimantan, Sulawesi and New Guinea have been cleared for oil palm plantations. Clearance, combined with drainage of peat soils, has greatly exacerbated fire risk, especially during dry years. Areas that were burned during past El Niño-driven droughts have been extensively planted with oil palm, which is one of the most profitable forms of land use across much of rural Indonesia. Palm oil is used as a cooking oil and as an ingredient in processed foods, soaps, cosmetics and other household products.

Source: Mongabay.com (2015) news.mongabay.com/2015/11/photos-confirm-indonesia-being-burned-for-palm-oil/

Government takes further action to save India's vultures...

The Government of India has banned the sale of large, multi-dose vials of the drug diclofenac for human use, almost a decade after it banned the formulation, manufacture and import of veterinary diclofenac. The drug has been linked to the catastrophic decline of India's white-backed, long-billed, and slender-billed vultures, whose numbers dropped by > 95%. All three species are categorized as Critically Endangered on the IUCN Red List. Diclofenac was widely used to treat livestock but was fatal to vultures feeding on carcasses. After the ban was introduced diclofenac was replaced with meloxicam, which is more expensive and, according to veterinarians, less effective. It was subsequently found that large vials of the drug intended for humans were being diverted for veterinary use. Conservationists are calling for testing of all veterinary painkillers to ascertain their toxicity to vultures.
Source: The Guardian (2015) theguardian.com/environment/india-untamed/2015/sep/05/indian-government-takes-major-step-to-save-vultures

...and officials in Kerala receive training to tackle wildlife crime

Enforcement officials in the southern Indian state of Kerala, including those from forest divisions, the Police Department and the Customs and Central Excise Department, attended a 2-day event at Parambikulam Tiger Reserve, where they received intensive training in wildlife law enforcement. The diverse wildlife in the Anaimalai–Parambikulam landscape of the Western Ghats is threatened by poaching and the illegal wildlife trade, with children as young as 9 and 10 being taught wildlife poaching techniques. The workshop participants received hands-on training in surveillance and seizure, wildlife crime scene investigation, identifying and disabling traps, interrogation of suspects, and the use of deep search metal detectors, and attended sessions on a range of topics, including wildlife laws and enforcement, species and specimen identification, and wildlife forensics and DNA fingerprinting. The need for collaboration between police and forest officials to tackle wildlife crime was highlighted.
Source: TRAFFIC (2015) traffic.org/home/2015/8/25/kerala-enforcement-agencies-ready-to-tackle-wildlife-crime.html

Illegal trade in Indian star tortoises

Despite being a protected species under India's Wildlife (Protection) Act 1972, and included in Appendix II of CITES since 1975, the Indian star tortoise *Geochelone elegans* is threatened by illegal trade via pet markets in Asia, Europe and the USA. It was the most frequent illegally traded tortoise seized during 2008–2013 in Thailand, where, as a non-indigenous species, it is not protected under the country's Wild Animal Reservation and Protection Act, and there are concerns that legal loopholes are being exploited to sell illegally sourced animals there. A recent report details the illegal removal of 55,000 individuals from just one trade hub in India over the course of 1 year. The tortoises, which are primarily found in scrub forests, grasslands and some coastal scrublands of arid and semi-arid regions, are desired for their distinctive shells. Preliminary assessments indicate a recategorization of the species as Vulnerable on the IUCN Red List may be appropriate.
Source: Nature Conservation (2015) dx.doi.org/10.3897/natureconservation.13.5625

Nepal's forests threatened by fuel crisis

Conservationists are concerned that Nepal's forest resources may become a casualty of a fuel crisis, as imports of fuel from India have been halted by a blockade at the border by ethnic communities protesting against Nepal's new constitution. Nepal is a world-leader in community forestry and has > 15,000 community-managed forests, as well as 20 national parks and protected areas. As supplies of cooking gas and kerosene dwindle people are being left with little choice but to cut down trees and collect firewood in the forests. Because of the fuel crisis authorities have been unable to patrol forests and there has been an increase in illegal logging. The forestry department has assessed its stocks of firewood but will also consider felling trees if necessary to supply fuel to Kathmandu, home to 3 million people, if the crisis is not resolved.
Source: BBC News (2015) bbc.com/news/science-environment-34468821

Sustainable wild plant harvesting project launched in Vietnam

The *Enhancing Management and Benefit Flows in Vietnam's Wild Medicinal Plant Products* project was launched in October in Bac Kan province to improve the livelihoods of local plant collectors in the buffer zones of Ba Be National Park, Nam Xuan Lac Species and Habitat Conservation Area, Kim Hy Nature Reserve and Ngan Son district. The project, which will benefit > 1,000 low-income families, will improve the market opportunities available to collectors, as well as their skills in sustainable harvesting practices. The poverty rate in Bac Kan in 2013 was double the national average, and trade in wild medicinal and aromatic plants accounts for up to 20% of household income. However, this vital source of livelihood is threatened by overharvesting and poor access to markets. As part of the project, resource inventories will be conducted and population monitoring will be carried out to ensure harvesting remains within sustainable limits.
Source: TRAFFIC (2015) traffic.org/home/2015/10/2/wild-plant-project-sows-the-seeds-of-sustainable-harvesting.html

Alarm over timber grab from Cambodia's protected forests

Forests are being lost at an unprecedented rate from protected areas in Cambodia, according to a report from Forest Trends. Although timber concessions for selective lo gging are effectively suspended, Cambodia's exports of value timber continues. By the end of 2013 2.6 million ha, 14% of the co untry, had been allocated to economic land concessions for agro-industrial plantations and other land concessions, and c. 80% of this land is in production forest or protected areas. Under the guise of creating a rubber plantation, for example, trees are cleared and exported, but the plantations often never materialize. Researchers used fire reports based on satellite images of forest fires during the 2012–2013 dry season to identify forests that are being cut. Analysis revealed that carbon emissions from evergreen forests cut in concession areas are almost 10 times higher than those outside the agricultural concessions, confirming that corporations are targeting the oldest and most valuable forests.
Source: Forest Trends (2015) forest-trends.org/releases/p/conversion-timber-forest-monitoring-and-land-use-gover nance-in-cambodia, & *BBC News* (2015) bbc.co.uk/news/science-environment-33702814

What does the future hold for the Malayan tiger?

The IUCN Red List status of the Malayan tiger *Panthera tigris jacksoni* was changed from Endangered to Critically Endangered on 23 June 2015. There are thought to be < 250 mature individuals remaining, and numbers may have declined by > 25% in a single generation. According to estimates there are no forested areas in Malaysia that host a population of 50 or more mature

tigers. The illegal trade in tiger parts is a major threat, and authorities in Malaysia have seized parts of almost 100 tigers during the past decade. On a broader scale, parts of more than 1,400 tigers were seized across 12 tiger range states during 2000–2012. The Malaysian Conservation Alliance for Tigers is calling on governmental bodies, NGOs and the Malaysian public to heighten efforts to address the problem, stressing the urgent need for new tiger patrol units to tackle poaching.
Source: TRAFFIC (2015) traffic.org/home/2015/7/29/global-tiger-day-malayan-tiger-faces-bleak-future.html

Black-winged myna on the brink...

The Critically Endangered black-winged myna *Acridotheres melanopterus*, native to the Indonesian islands of Java and Bali, is highly sought after in the cage bird trade and is openly traded in Indonesia's bird markets despite being protected under Indonesian law. The species, which is prized for its striking plumage, lively behaviour and singing, is now so rare in the wild that a captive-breeding centre has been robbed to supply the trade. The birds were being reared for conservation purposes but more than 150 were stolen, comprising almost the entire breeding stock. Surveys conducted during 2010–2014 found there were significantly fewer black-winged mynas available for sale in Jakarta's three largest bird markets compared with the 1990s, and asking prices had soared. Researchers involved in the surveys have recommended that Indonesia lists the species in Appendix III of CITES, as a precursor to developing an action plan to save the species from extinction.
Source: TRAFFIC (2015) traffic.org/home/2015/8/13/indonesias-illegal-cage-bird-trade-pushing-black-winged-myna.html

...as is the Sumatran rhinoceros

IUCN has warned that the Critically Endangered Sumatran rhinoceros *Dicerorhinus sumatrensis* is likely to go extinct unless the Indonesian government implements the Sumatran rhino recovery plan as a matter of urgency (see also *Oryx*, 2015, dx.doi.org/10.1017/S0030605315000472, and *Oryx*, 2013, dx.doi.org/10.1017/S0030605313000045). There are <100 Sumatran rhinoceros remaining in the wild, which represents a decline of $>50\%$ since the last Red List assessment of the species, in 2008. The species is now presumed extinct in the wild in Malaysia, which was once regarded as one of its last strongholds. It is also extinct in most of its range countries and is found only at a few sites in Sumatra, with a few individuals believed to survive in Borneo. The recovery plan for the species is based on measures agreed in 2013 at the Asian Rhino Range States Meeting in Indonesia, including developing intensive protection zones, consolidating isolated individuals into large populations, and managed breeding.
Source: IUCN (2015) iucn.org/?uNewsID=21904

New species of rat discovered in Indonesia

An international team of researchers discovered a previously undocumented species of rat during an expedition to survey remote mountains on the island of Sulawesi, in Indonesia. The rat has been named the hog-nosed rat *Hyorhinomys stuempkei* because of its distinct nostrils but it also has other unique features that are uncommon in rats. It has a long face and large ears for a rat of its size, and its lower teeth have more in common with those of shrew rats. Nothing is known of the ecology of the new species, or how widely it is distributed in the forests of Sulawesi. In 2014 amphibious and toothless rats were discovered on the island, and researchers are hoping these recent discoveries will shed new light on evolution in Asia and Australia.
Source: BBC News (2015) bbc.com/news/world-asia-34451265

EAST ASIA

China's endemic vertebrates benefit from protected panda habitat

The disproportionate conservation resources invested in protecting the giant panda and other charismatic megafauna has received some criticism but there is evidence that protecting pandas can benefit other animal species that share the same habitat. An analysis of the distribution of 132 mammals, 117 birds and 249 amphibians found only in China's forests revealed that 96% of the panda's range overlaps with hotspots for these endemic species. All of the studied species except one type of bird were found within the country's network of giant panda national nature reserves, which increased in number from 34 to 67 between 2007 and 2014 and cover c. 33,600 km^2. However, there is also a high concentration of threatened species in the east Daxiang and Xiaoxiang Mountains in Sichuan, where there are no pandas and no national nature reserves. This was one of four areas identified as a priority for future conservation efforts.
Source: Conservation Biology (2015) dx.doi.org/10.1111/cobi.12618, & *Science* (2015) news.sciencemag.org/plants-animals/2015/09/save-panda-save-forest

New species of micro-snails discovered

So far seven new species of micro-snails have been discovered in soil samples collected at the foot of a limestone hill in China's Guangxi province in 2013. The smallest of these, *Angustopila dominikae*, is just 0.86 mm in height and may be the smallest land snail ever recorded. Researchers are speculating about the potential benefits of being tiny: the snail can live in minute crevices and thus avoid predators, not having evolved defence mechanisms such as tooth-encrusted apertures in the shell, seen in some other snail species. Although there may be even smaller micro-snails that have not yet been discovered, being smaller leaves snails vulnerable to desiccation, which is thought to be the most common cause of death in snails. With only a single shell for analysis, without any traces of DNA, there are many unanswered questions about *A. dominikae*.
Source: ZooKeys (2015) dx.doi.org/10.3897/zookeys.523.6114, & *New Scientist* (2015) newscientist.com/article/dn28248-worlds-tiniest-snail-is-so-small-that-10-fit-in-a-needles-eye/

NORTH AMERICA

Bumblebees evolve in response to climate change

The numbers of flowers near the peaks of the Rocky Mountains have decreased dramatically as warmer temperatures have led to less prolific blossoming, with decreases of 60% in some places. Two alpine bumblebee species, *Bombus balteatus* and *Bombus sylvicola*, which were formerly selective in their feeding, have had to become less choosy as a result of the change and now feed from a wider variety of flowers. To facilitate this they have evolved shorter tongues, making it easier to sip nectar from shorter flowers. Bumblebees collected during 2012–2014 were compared with museum specimens collected during 1966–1980 and it was found that their tongues have become 25% shorter in 4 decades. Bumblebees are important pollinators and, unlike honeybees, they can live at higher elevations. They also carry more pollen than honeybees and are more efficient pollinators.
Source: Science (2015) dx.doi.org/10.1126/science.aabo868, & *New Scientist* (2015)

newscientist.com/article/dn28233-bumblebees-cope-with-climate-change-by-evolving-shorter-tongues/

Mixed feelings about sage grouse protection plan

Following a prolonged debate about how best to protect the greater sage grouse *Centrocercus urophasianus*, North America's largest grouse, federal officials announced that the bird would not be listed as an endangered species. Instead, state governments and private landowners are to be offered incentives to preserve and restore sage grouse habitat, and thus avoid restrictive legislation. Government agencies, environmentalists and industry representatives have collaborated to produce 98 state and federal land-use plans, in what has been described as the most complex land-conservation effort in America's history. Although many welcomed the plan, believing it will be good for sage grouse and the many other species that rely on the sagebrush ecosystem, it has been criticized by others. The director of the Center for Biological Diversity in Arizona has claimed the decision was based on political rather than biological science, and industry representatives and some politicians claim it places too many restrictions on industry.
Source: Science (2015) news.sciencemag.org/plants-animals/2015/09/u-s-sage-grouse-plan-draws-divided-reaction

Wolf pack sighting in California

A pack of wolves has been spotted in Northern California for the first time in nearly 100 years. The appearance of the five grey wolf pups and two adults could signal a return of the species, which has not been found in the state since 1924. California Department of Fish and Wildlife first discovered the pack in Siskiyou County near the Oregon border, using a remote camera. The wolves have been named the Shasta Pack after a nearby mountain. Wolves were almost hunted to extinction in the late 19th and early 20th centuries in western U.S. states. In 1995 federal officials reintroduced wolves into Yellowstone National Park and since then the species has spread to neighbouring states. California has considered the grey wolf an endangered species since 1973, making it illegal to kill or trap them. Officials are soon to release a Wolf Management Plan and are encouraging the public to report information about wolf sightings in the state.
Source: BBC News (2015) bbc.co.uk/news/world-us-canada-34020774

SOUTH AMERICA

Success of Amazon conservation programme...

The Amazon Regional Protected Areas programme has reached 99% of its target to protect 60 million ha of the Brazilian Amazon rainforest in a network of sustainable-use and strictly protected areas. In August 2015 six protected areas were added to the programme, bringing the total to 111 protected areas covering 59.3 million ha. The programme, which was launched in 2002 by the Brazilian government in collaboration with a diverse range of national and international partners, involves an innovative conservation finance approach whereby a transition fund provides financing over a period of time to cover the costs of maintaining the protected areas, and the German government recently announced that it will contribute BRL 116 million (almost USD 33 million) to the fund. A Presidential Decree has formalized a plan to achieve full financial sustainability for all protected areas in the programme over the next 25 years.
Source: WWF (2015) wwf.org.uk/news_feed.cfm?7666/The-worlds-largest-tropical-forest-conservation-programme--ARPA--reaches-99-of-its-goal

...and Brazil pledges absolute reduction in carbon emissions...

Brazil, the world's seventh biggest emitter of greenhouse gases, is the first major developing country to pledge an absolute reduction in emissions. It has vowed to cut emissions by 37% of 2005 levels by 2025, with an intended reduction of 43% by 2030. It plans to meet these targets by reducing deforestation and increasing its use of renewable energy sources. By 2030 Brazil aims to generate 66% of its electricity from hydropower and 23% from other renewable sources, including biomass, solar power and wind energy. Efforts to reduce deforestation in the Amazon have already resulted in significant emissions cuts, and Brazil aims to end illegal deforestation by 2030. Other major developing countries, such as China and South Africa, have said they will curb emission but have not pledged an absolute reduction.
Source: The Guardian (2015) theguardian.com/environment/2015/sep/28/brazil-pledges-to-cut-carbon-emissions-37-by-2025

...but vast Amazon wildfire destroys forest

Rangers, fire-fighters and indigenous communities have battled against a wildfire that blazed for 2 months and devastated some of the last Amazonian forest in the northern Brazilian state of Maranhão, including part of the territory of an uncontacted tribe. The fire is thought to be the biggest in indigenous territory for decades and prompted the local government to declare a state of emergency. It comes amid rising tension between indigenous forest guardians and illegal loggers, prompting speculation that the blaze may have been started deliberately. According to Greenpeace, the fire has consumed 45% of the 413,000-ha Indigenous Territory of Arariboia. There are fears for the c. 80 members of the Awá-Guajá, an uncontacted tribe. Almost all of Maranhão's forests have been cleared. Those that remain are on indigenous lands or in nature reserves. Degradation of the forest through illegal logging increases vulnerability to fire.
Source: The Guardian (2015) theguardian.com/world/2015/oct/30/vast-amazon-wildfire-destroys-forest-in-brazil-and-threatens-uncontacted-tribe

Advantages of being small, mobile and vegetarian

Recent research into how functional traits enable bats in the Amazon to survive in a human-modified landscape has found that bats that are small, mobile and vegetarian adapt better to fragmentation. Over 2 years researchers used mist nets to capture almost 5,000 bats of 59 species in eight forest fragments. Focusing on the 26 most common species, the researchers correlated the species' functional traits with their vulnerability to fragmentation. They analysed each species' prevalence among all forest fragments and its abundance in each of the fragments, and in control sites in continuous primary forest. The results confirmed that vegetarian bats, which tend to be able to live in a variety of habitats and to be smaller, lighter and more mobile than other kinds of bats, are less vulnerable to habitat fragmentation. The results also showed that carnivorous bats, which tend to be more habitat-specialized, larger, heavier and less mobile, are at a greater risk of local extinction.
Source: Journal of Applied Ecology (2015) dx.doi.org/10.1111/1365-2664.12490, & *Mongabay.com* (2015) news.mongabay.com/2015/11/ow-can-a-bat-survive-deforestation-be-small-mobile-and-vegetarian

Chile announces two new marine parks

Chile will create two new marine conservation parks in the Pacific, which together will cover > 1 million km^2. The announcement was made at the second annual Our Ocean international conference, which was hosted by Chile. One of the new parks will include

Easter Island, 3,800 km off the coast of Chile, and the other will be established in the area around the Juan Fernandez archipelago, where it is hoped that depleted fish stocks will recover. The news was warmly welcomed by the Rapa Nui, Easter Island's indigenous inhabitants. U.S. Secretary of State John Kerry was also present at the conference, and it was announced that new marine sanctuaries will also be created in the tidal waters of Maryland and in Lake Michigan.
Source: BBC News (2015) bbc.com/news/world-latin-america-34448028

PACIFIC

Saving the iconic petrels of the Pacific

BirdLife International is developing a Pacific-wide strategy to save the region's iconic petrels, which are among the most threatened bird species. They have lost more populations in Oceania than any other bird species, and their status has deteriorated in recent decades. They include the petrels, shearwaters and storm-petrels of the families Procellariidae, Oceanitidae and Hydrobatidae. There are more than 18 species in need of conservation attention, including the Vanuatu petrel, collared petrel, Polynesian storm-petrel, Tahiti petrel, phoenix petrel and tropical shearwater, and locating the breeding sites of the Fiji petrel, Beck's petrel and Heinroth's shearwater will be priority actions for the project, which has been titled Pacific Petrels in Peril. Although the birds face some threats at sea, the primary threats are on land and include predation and degradation of nesting and roosting colonies. To date there have been no systematic surveys of breeding seabirds on most of Oceania's islands.
Source: BirdLife International (2015) birdlife.org/pacific/news/pacifics-petrels-peril-new-initiative-save-these-iconic-birds

AUSTRALIA/ANTARCTICA/NEW ZEALAND

Starfish-killing robot close to trials on Great Barrier Reef

Crown-of-thorns starfish are a significant threat to coral, and as a result of movement of nutrients from the land into the sea starfish numbers are growing and destroying large areas of reef. But now an autonomous starfish-killing robot is close to being ready for trials on the Great Barrier Reef. The Cotsbot robot is designed to seek out starfish and give them a lethal injection. After it eradicates most of the crown-of-thorns starfish in an area, human divers can move in and remove any remaining. Field trials of the robot have begun, to refine its navigation system. The robot will later be released on the Great Barrier Reef to evaluate its detection system. The technology has two key components: an image recognition system and the robot submersible. The computer vision and machine learning system has been trained to recognize crown-of-thorns starfish from among other corals using thousands of still images of the reef and videos taken by divers.
Source: BBC News (2015) bbc.co.uk/news/technology-34129490

New Zealand announces plans for vast marine reserve

At the UN General Assembly in New York, New Zealand's president John Key revealed plans to create a marine reserve approximately the size of France in the South Pacific. The government plans to pass legislation to create the reserve in 2016. The 620,000 km² of ocean to be protected lies c. 1,000 km north-east of North Island and includes a chain of islands and underwater volcanoes, as well as the Kermadec trench. It is rich in biodiversity, including whales, dolphins, turtles and seabirds. The creation of the reserve represents an expansion of the protection of New Zealand's marine environment from 0.5 to 15.5% of its marine area.
Source: BBC News (2015) bbc.com/news/world-asia-34387945

New Zealand hunters apologize over accidental shooting of takahē

The head of New Zealand's national deerstalkers' association has apologized after four Endangered takahē were mistakenly shot by hunters carrying out a cull of a similar-looking bird. Deerstalkers were contracted by the Department of Conservation to carry out a cull of pukeko, a non-threatened, common relative of the takahē, on an island sanctuary in Auckland's Hauraki Gulf. Conservation staff discovered four dead takahē, killed by shotgun pellets, on Motutapu Island on 17 August. The endemic takahē was thought to be extinct until a bird was rediscovered in 1948. As a result of the recovery programme there are now c. 300 birds, of which 70–80 are in the wild. Before the shootings there were 22 birds on Motutapu Island. The conservation department has put an immediate halt to the cull as it investigates both its internal processes and the programme with the deerstalkers' association.
Source: The Guardian (2015) theguardian.com/environment/2015/aug/21/new-zealand-conservationists-apologise-over-accidental-shooting-of-endangered-takahe

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