Briefly

INTERNATIONAL

One fifth of plants threatened with extinction...

The results of a research project in which a representative sample of plant species were investigated have shown that just over one fifth of the estimated 380,000 plant species are categorized as Threatened. The research, carried out by the Royal Botanic Gardens, Kew, in collaboration with the Natural History Museum, London, and IUCN, confirmed human-induced habitat loss as the main cause of extinction threat. Almost 4,000 plant species were assessed, and the resulting Sampled Red List Index for Plants provides conservationists with a tool with which to monitor loss of biodiversity and to evaluate plant extinction risk. The research was conducted as a contribution to the UN International Year of Biodiversity and the findings were released ahead of the Biodiversity Summit held in Nagoya, Japan, in October 2010.

Source: Kew news (2010), http://www.kew.org/news/one-fifth-of-plants-under-threat-of-extinction.htm

...and global plant inventory removes species duplications

A global inventory of plants compiled by researchers from the UK and USA has cut at least 600,000 species' names from previously existing scientific records. The ongoing study, a joint project between the Missouri Botanical Gardens and Royal Botanic Gardens, Kew, aims to remove cases where plants have been named twice, and other errors, to establish a single working list of all known plant species. While the inventory does not include ferns or algae, the number of known plant species is now thought to be closer to 400,000. It is hoped the list, the most comprehensive to date, will soon be available as an online resource to support plant conservation worldwide.

Source: BBC News (2010), http://www.bbc.co.uk/news/science-environment-11373757

Amphibian species rediscovered...

More than a third of all the world's amphibians are threatened with extinction but three species not seen for several decades have recently been rediscovered. Mexican cave splayfoot salamanders from Hidalgo Province, Mexico, a Mount Nimba reed frog from the Ivory Coast, and an Omaniundu reed frog from the Democratic Republic of Congo have all been rediscovered as part of a project to locate amphibian species thought to be extinct. In total researchers are searching for 100 amphibian species that they believe may still exist in small populations.

Source: Conservation International (2010), http://www.conservation.org/newsroom/pressreleases/Pages/Extinct_Amphibians_Rediscovered_After_Decades_Lost_to_Science.aspx

... while research results in guidelines for rediscovering extinct species

It is not uncommon for a species that has been declared extinct to be rediscovered. In Australia, for example, 89 vascular plants were rediscovered between 1981 and 2001. Now researchers have attempted to find the traits that affect probability of rediscovery and whether extinction from various causes is equally detectable. Using a dataset of 187 mammals thought to be extinct, 67 of which have subsequently been rediscovered, it was found that those mammals threatened by habitat loss were much more likely to be suspected to be extinct compared to mammals declining as a result of overharvesting or introduced species. The researchers suggest that the highest rates of rediscovery will result from searches for species with large ranges threatened by habitat loss that have gone extinct in the 20th century.

Source: Proceedings of the Royal Society B (2010), http://dx.doi.org/10.1098/rspb.2010.1579

Census of Marine Life draws to an end

Over 2,700 researchers have spent 10 years researching life beneath ocean waves, and have found it to be richer than expected. Overall the Census of Marine Life found over 6,000 species that may be new to science. Some species were also rediscovered, including the Jurassic shrimp, thought to have become extinct 50 million years ago. Estimates of total diversity within the oceans are c. 1 million species, meaning that three-quarters of marine species remain undiscovered. The Census also mapped the areas of high and low diversity of marine life, with the western Pacific harbouring the highest diversity of coastal species. The Census leaves behind a rich legacy of knowledge about the oceans, which will act as valuable baseline data for future studies, as well as information for those involved in the conservation of marine life.

Source: First Census of Marine Life 2010 (2010), http://www.coml.org/pressreleases/census2010/PDF/Highlights-2010-Report-Low-Res.pdf

New report on state of the world's waterbirds

The *State of the World's Waterbirds* 2010, published by Wetlands International, has found the rate of decline of waterbird populations has decreased slightly over the last 3 decades. However, the report also shows that while the population status of waterbirds in North America and Europe is improving, in all other areas there have been population declines. These declines are most significant in Asia where 62% of waterbird populations are either decreasing or extinct. The report highlights the importance of effective conservation legislation and the need for coordinated conservation measures, particularly for the protection of long distance migrants en route between breeding and non-breeding grounds. Waterbirds are vulnerable to a wide range of threats, including agricultural intensification leading to degradation of marshes and lakes, unsustainable hunting and the impacts of climate change.

Source: BirdLife International (2010), http://www.birdlife.org/community/2010/11/state-of-the-world's-waterbirds-in-trouble-in-asia-recovering-in-'the-west'/

Freshwater turtles face barrage of threats

More than one third of the world's 280 species of freshwater turtles are at risk of extinction, with threats to their survival including unsustainable collection for food and the pet trade, and habitat loss and degradation, often as the result of river-damming. Freshwater turtles are generally long-lived, with some only reaching maturity at 15–20 years of age, and the collection of young individuals before they have had the opportunity to breed therefore has a disproportionately negative effect on wild populations. Freshwater turtles are prized across Asia, particularly in China where consumption of their flesh is associated with medicinal benefits. Such is the demand for turtle meat that turtle farms have become established, and there is some hope

that this may alleviate the pressure on wild turtle populations.
Source: BBC News (2010), http://www.bbc.co.uk/news/science-environment-11254358

Conservation successes

An analysis of 25,780 species of vertebrate included on the IUCN Red List has indicated that the number of species categorized as Threatened, currently one fifth, is increasing. The analysis revealed that an average of 52 species of mammals, birds and amphibians move one category closer to extinction every year, with the major drivers of extinction in these groups consisting of agricultural expansion, logging, overexploitation and invasive alien species. However, in the midst of these negative findings there lurks some good news: the researchers found that without the implementation of conservation actions the rate of deterioration would have been at least one fifth as much again. There is no room for complacency, however, as conservation efforts are currently insufficient to offset the drivers of biodiversity loss.
Source: Science (2010), http://dx.doi.org/10.1126/science.1194442, and *Nature* (2010), 467(7319), 1010

Tropical forest clearance benefits few

Increasing food demand from a growing population, as well as changes in diets and biofuel production, are all factors in the growth of croplands across the world, often at the expense of other types of ecosystems. The creation of new croplands is associated with a reduction in carbon stocks, with the amount of carbon released dependent on the type of ecosystem being converted and its location. An analysis of trade-offs between carbon stocks and crop yields has revealed that clearance of land in the tropics releases almost two times as much carbon compared to temperate regions. However, cropland in the tropics also produces less than one-half of the annual crop yield compared to areas in temperate regions. The study's authors therefore urge the investigation of methods to increase yields from existing croplands, rather than clearing new lands, particularly in the tropics.
Source: Proceedings of the National Academy of Sciences of the USA (2010), 107, 19645–19648

Humpback whale full of surprises

A female humpback whale, first photographed off the Brazilian coast, subsequently travelled at least 9,800 km to the waters around Madagascar, where she was again photographed. The distance travelled by this individual is c. 4,000 km longer than the normal seasonal migratory distance covered by humpbacks, and is the longest documented movement by a mammal. The researchers involved in the study suspect that the whale may have travelled to the Antarctic from Brazil, and from there travelled on to Madagascar through the Indian Ocean. The fact that the individual is a female makes this observation more remarkable still, as male mammals are normally expected to make movements over longer distances than females, in search of mating opportunities. This observation indicates the behavioural flexibility of humpbacks, although it is hard to extrapolate from an isolated observation.
Source: Biology Letters (2010), http://dx.doi.org/10.1098/rsbl.2010.0717, and *BBC News* (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9084000/9084490.stm

Protected areas at your fingertips

The United Nations Environment Programme has launched an interactive website that aims to make it easier for people to visit protected areas, in the hope that this will boost revenue for these areas. UNEP maintains a database of the c. 150,000 protected areas but in many cases there is a paucity of information about these sites, and hence the organization is turning to the public for assistance. Http://protectedplanet.net brings together existing web-based resources such as Google maps and Wikipedia, as well as the Global Biodiversity Information Facility, which provides information on species in protected areas. Terrestrial protected areas cover c. 13% of the Earth's surface and are important for many reasons, including the protection of species and the supply of environmental services such as watershed protection and carbon storage.
Source: BBC News (2010), http://www.bbc.co.uk/news/science-environment-11574873

Birds are blind to power lines

An investigation into the visual fields of three bird species known to suffer mortality from flying into power lines, kori bustards, blue cranes and white storks, has found that these birds have blind spots when looking down in flight. Birds in flight frequently scan the ground, for example while foraging or looking for roost sites, and in the case of bustards and cranes in particular even a slight downward angle to the head renders them blind in the direction of travel. These findings are significant for conservationists seeking to mitigate the number of birds colliding with power lines, as they indicate that methods currently employed, mainly involving making the power lines more conspicuous, will not have the desired effect. The researchers suggest their findings may also apply to other birds with similarly small binocular fields and large blind areas, such as raptors.
Source: Biological Conservation (2010), 143, 2695–2702, and *BBC News* (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9140000/9140040.stm

Large protected areas are good for wilderness protection

An investigation of the world's 63 largest protected areas, those that extend over 25,000 km^2 or more, have found that many of these very large protected areas are likely to include particular land cover types. In the case of snow and ice, and bare areas (including desert), very large protected areas harbour more of these land cover types than expected by chance. There is also generally a low overlap between very large protected areas and three global prioritization schemes for conservation (the global 200 priority ecoregions, biodiversity hotspots, and high-biodiversity wilderness areas). However, these areas do provide substantial protection of wilderness that, combined with their size, means they are likely to contain functioning ecosystems.
Source: BioScience (2010), 60, 808–818

EUROPE

Europe's smallest fish found in Shetland

Europe's smallest marine fish, Guillet's goby, has been recorded in Scottish waters for the first time, after marine biologists photographed a male and female gobi fish at Launa Ness Peninsula, Shetland, during the summer of 2010. The sighting extends the known range of the goby by 225 km; previously the most northerly sighting of the fish was in the Kattegat, the area of sea between Sweden and Denmark. Guillet's goby was first identified in 1971 and reaches a maximum length of just 24 mm. The goby's main habitat has been identified as coarse gravel sea beds, and its small size and ability to hide means it has only been recorded in British waters three times previously.
Source: BBC News (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9064000/9064010.stm

Cairngorms National Park grows in size by a fifth

The area of the UK's largest National Park has been increased by one fifth, with c. 6% of Scotland's area now within its

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boundaries. Originally founded in 2003, the Cairngorms National Park has been extended to encompass northern Perthshire, including Blair Atholl, Killicrankie and Glenshee. The Park now covers an area of 4,528 km^2 and is home to > 17,000 people. The Park attracted 1,000 new residents between 2003–2007, many of whom are aged between 18 and 25. A report commissioned by the Cairngorms National Park Authority, Highlands and Islands Enterprise, and Scottish Enterprise indicates the Park has tremendous natural, cultural and recreational value, with a growing economy worth GBP 398 million a year, of which tourism accounts for a third of the total income.

Source: Cairngorms National Park Authority news (2010), http://www.cairngorms.co.uk/news/

Attempt to smuggle rhino horn foiled

An antiques dealer who attempted to smuggle rhino horns out of Manchester Airport in a fake sculpture has been apprehended by staff from the UK Border Agency. Investigators used DNA samples to identify the horns as belonging to a Southern African white rhinoceros that died from natural causes in 2009 at a zoo in Essex. This species is protected under CITES, and it is thought that the horns were destined for the Chinese medicine market, where their market value could reach GBP 60,000 kg^{-1}. A 52-year old man admitted theft and was cautioned by police for the illegal sale of rhino horn. Donald Alison pleaded guilty to attempting to smuggle a threatened species and was jailed for 12 months.

Source: BBC News (2010), http://www.bbc.co.uk/news/uk-england-11477508

Predators seeing red

Research in south-western Spain neatly demonstrates the complications that arise from the invasion of a non-native species. The red swamp crayfish colonized the Guadalquivir marshes in 1973 and is viewed as one of the 10 invasive species of greatest ecosystem concern in Europe. However, research has shown that the red swamp crayfish is present at levels of > 10% in the diets of more than half the predator species in the Guadalquivir marshes, a number of which are considered threatened. However, the presence of the crayfish has also altered the flow of energy in these marshes, with much of the energy from the crayfish going directly to the top predators, and is thus reducing the number of trophic levels in the ecosystem. Furthermore, the abundance of top predators also has a detrimental effect on the native species they prey on.

Source: Conservation Biology (2010), 24, 1230–1238

Year of the Bat

The Year of the Bat 2011–2012, run jointly by the UN's Convention on the Conservation of Migratory Species of Wild Animals and the Agreement on the Conservation of Populations of European Bats, was launched in September 2010. Attention will focus on the ecological benefits provided by bats across a diverse range of environments and the campaign will also promote research, education and the conservation of bats. Although bats are found almost everywhere on Earth, populations have declined significantly in recent years. Over half of the world's 1,100 bat species are currently categorized by the IUCN as threatened or near threatened and require ongoing protection. Conservationists increasingly view bats as indicators of healthy ecosystems, and biodiversity is an integral part of this UNEP-backed campaign.

Source: United Nations Environment Programme (2010) http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID = 647&ArticleID = 6757&l = en&t = long

Should wind turbines be painted purple?

Avian and bat mortality at wind turbine installations is of concern for both the energy industry and conservationists, particularly in areas known to be inhabited by rare or protected species. Little research exists on possible causes of mortality but a study in the UK has shown turbine colour may attract insects to the turbines, which in turn lure birds and bats to their death as they pursue their prey. In experiments with different coloured turbines, researchers found that pure white and light grey, the most common colours used for turbines, attracted the highest number of insects, whereas purple was the least attractive colour to insects. While paint colour may offer a partial solution to the problem of avian and bat mortality, other factors also seem to play a significant role. The heat generated by the turbines may attract insects and their predators and bats may find turbines difficult to detect using echolocation.

Source: European Journal of Wildlife Research (2010), http://dx.doi.org/10.1007/s10344-010-0432-7, and *BBC News* (2010) http://news.bbc.co.uk/earth/hi/earth_news/newsid_9067000/9067721.stm

Tadpoles playing into the flippers of invasive turtles

Experiments on four species of Iberian anuran tadpoles have shown that, while they are able to recognize and respond to chemical cues from native predators, they appear not to be able to do so when the predators are non-native. Three of the four tadpole species reduced their swimming ability when chemicals cues of native turtles were present but did not do so in the presence of cues from exotic turtles. In the Iberian Peninsula two native terrapins, the European pond turtle and the Spanish terrapin, are threatened by the presence of the red-eared slider and other introduced exotic freshwater turtles. The introduced turtles compete with the native terrapins, and in some cases displace them. The evidence from this study suggests a mechanism by which alien predators are sometimes more successful than native predators.

Source: Animal Behaviour (2010), 80, 461–466, http://dx.doi.org/10.1016/j.anbehav.2010.06.004

Impact of increased biofuels use in Europe

A report compiled by the Institute for European Environmental Policy concludes that Europe is set to increase biofuel use significantly in the next decade. By 2020 > 90% of biofuels will come from food crops and will provide 9.5% of transport fuel. The planned use of biofuels in Europe will lead to a huge increase in carbon emissions and land conversion. The report found that up to 69 km^2 of new land will be required to meet Europe's planned use of biofuels and that the increased use of biofuels will result in the emission of an extra 27–56 million t of greenhouse gases each year. This timely study indicates the necessity of an EU policy review to consider the impacts of biofuels on climate change, food security and energy efficiency in transport.

Source: BirdLife International (2010), http://www.birdlife.org/community/2010/11/europe's-biofuels-plans-driving-social-and-environmental-destruction/

Distinct salmon populations at risk of being lost

The Atlantic salmon's habit of returning to the rivers in which they were hatched means that the salmon population in a certain area tends to consist of distinct populations with characteristics unique to the river of their birth. Now a study carried out at the southern limit of the Atlantic salmon's range, in Spain's northern Asturias province, in which tissue samples of adult salmon returning to five rivers in the province between 1988 and 2007 were analysed has revealed a high level of mixing between these populations. Two distinct periods of mixing were identified. Until

1992 stock transfers of non-native salmon occurred to meet the demand for big fish by fishermen but even after stock transfers ceased mixing between populations was still common. The study's authors therefore speculate that changes in water temperature, driven by changes in climate, is also affecting the fidelity of salmon to their natal streams.
Source: Global Change Biology (2010), http://dx.doi.org/10.1111/j.1365-2486.2010.02350.x, and *BBC News* (2010), http://www.bbc.co.uk/news/science-environment-11525087

Otters abound in England

Otters in England came close to extinction in the 1970s as the result of toxic pesticides in use at that time. Now, 30 years on, the species has made a dramatic comeback, and is present in all but one county in England. In some rivers, particularly in the south-west, otters occur at maximum carrying capacity, meaning that their territoriality is the limiting factor on the otter population at these locations. The otter's presence at the top of the food chain means that they function as indicators of the health of river ecosystems, and their recovery is thus good news for the country as a whole. England's Environment Agency predicts that otter numbers will have recovered fully across the country in < 20 years.
Source: Environment Agency News (2010), http://www.environment-agency.gov.uk/news/124316.aspx?month = 10&year = 2010&sector = Wildlife+and+conservation

England's frogs succumb to *Ranavirus*

Data from a long-term study of England's frogs have shown that certain populations of wild common frogs in England have suffered serious declines as a result of infection by *Ranavirus*. Between 1996 and 2008 18 common frog populations were found to undergo recurring mortality events and suffered median declines of 81% in the number of adult frogs. Another 16 populations that were uninfected by the virus did not undergo declines in population size, with some evidence that larger frog populations may suffer larger declines than smaller populations. These findings indicate that the emergence of disease among common frog populations may be brief and catastrophic, or be persistent, with recurring mortality events, as well as suggesting that some frog populations may have immunity to ranaviral infection.
Source: Animal Conservation (2010), 13, 514–522, and *ZSL News* (2010), http://www.zsl.org/science/news/killer-disease-uk-frog,752,NS.html

Storm petrels avoid damaging effects of oil spill

Researchers have established that there was very little change in survival rates of European storm petrels in response to acute pollution caused by the Prestige oil spill. More than 24,000 t of crude oil was released into the sea off the Spanish coast in 2002, yet this study demonstrates how the seabirds maximized their own survival probability by dispensing with attempts to breed. As a result of these findings the researchers concluded that short- to medium-term management of acute pollution such as oil spills should focus on ecosystem restoration.
Source: Marine Pollution Bulletin (2010), http://dx.doi.org/10.1016/j.marpolbul.2010.09.004, and *BBC Earth News* (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9061000/9061576.stm

NORTH EURASIA

Korean pine gains protection

Russia has listed the Korean pine on CITES Appendix III, meaning that the export of Korean pine timber from Russia will now require permits. It is hoped that this move will reduce the illegal trade in Korean pine timber, particularly as recent rises in demand for this wood have seen an increase in commercial trade of this species. Korean pine forests in Russia's Far East and north-east China are home to c. 400 Amur tigers, where their prey species depend on Korean pine nuts. The listing of the pine will also bring benefits for the people who live around the forests, many of whom receive an income from the trade in pine nuts.
Source: IUCN news release (2010), http://www.iucnredlist.org/news/russia-tiger-habitat-gets-a-boost-with-protection-of-key-tree-species

SUB-SAHARAN AFRICA

Ant defenders prevent elephant damage in savannah ecosystems…

Studies conducted in Laikipia District and Tsavo National Park, Kenya, have shown symbiotic ants play a powerful role in protecting *Acacia drepanolobium* from elephant feeding damage. Although the number of elephants is increasing in the central highlands of Kenya, researchers observed that tree cover in areas with clay soil primarily supporting *A. drepanolobium* had not decreased. Areas with sandy soil supported a wider variety of trees but severe damage resulting from elephants feeding was causing tree cover to decline significantly in these areas. In feeding trials elephants avoided plants with ants and seemed to be wary of being bitten. The research highlights the importance of symbioses and plant defence for the maintenance of tree cover and the protection of savannah ecosystems.
Source Current Biology (2010), 20, 1768–1772, and *BBC News* (2010), http://www.bbc.co.uk/news/science-environment-11168039

… although elephant damage benefits amphibians and reptiles

A study has shown that habitats damaged by foraging elephants support more species of amphibians and reptiles than habitats from which elephants have been excluded. Researchers from Georgia Southern University, USA, carried out the study over a 6-month period in mixed savannah woodland and open savannah in north-east Tanzania. They found 18 species of herpetofauna in areas of high elephant damage but only eight species in a protected control site. Areas of high damage were also found to be favoured by insects, an important source of food for amphibians and reptiles. The study supports the notion that elephants influence amphibian and reptile distribution by modifying the landscape to create habitat complexity.
Source: African Journal of Ecology (2010), http://dx.doi.org/10.1111/j.1365-2028.2010.01238.x, and *BBC News* (2010), http://www.bbc.co.uk/news/science-environment-11607299

Deforestation ripples demonstrated in Tanzania

An understanding of the drivers and patterns of deforestation is crucial both for the conservation of forest biodiversity and for the success of forest-based climate change mitigation projects. New research from Tanzania supports an economic model that predicts the sequential removal of forest products from high to low value, with the most valuable products, such as timber, removed first, followed by lower-value products such as charcoal. The rate of high-value logging was found to expand at 9 km yr^{-1} from Dar es Salaam, while an inner wave of charcoal production expanded at a rate of 2 km yr^{-1}. Although most logging in Tanzania is illegal, migration to cities and a rising demand for timber, particularly in China, are thought to be responsible for the continued degradation of this country's forests.
Source: Proceedings of the National Academy of Sciences of the USA (2010), http://dx.doi.org/10.1073/pnas.0914471107, and *WWF press release* (2010), http://

www.worldwildlife.org/who/media/press/2010/WWFPresitem17543.html?enews = enews1008c

Mpanga Gorge conservation concerns

A recent visit to Uganda's Mpanga Gorge (see *Oryx*, 42, 325), the site of a proposed hydroelectric dam, by the Chair of the Eastern African Plant Red List Authority has raised concerns within the conservation community. He reports that while the conservation and rehabilitation of cycads in the area should be improved, a more pressing question is the future management of the site and the urgent need to gather baseline biodiversity data before the dam closure and start of electricity generation. A complete botanical inventory has not been carried out within the impoundment area nor below the dam, thus it is unknown what other species of conservation concern exist within the Gorge. Furthermore, baseline vegetation studies have not been carried out and so the impact of the reduction in the dry season flow will not be measurable in the future. It is probable that knowledge of the other sections of biodiversity is limited and that mammalogy, ornithology, herpetology and invertebrate studies are still necessary.
Source: IUCN-SSG e-bulletin September (2010), http://cmsdata.iucn.org/downloads/iucn_ssc_e_bulletin_september_2010_1.pdf

New carnivore found in Madagascar

Surveyors looking for bamboo lemurs in the Lac Alaotra wetlands in central-eastern Madagascar have found something else: the first new species of carnivorous mammal to be found for 24 years. Durrell's vontsira weighs c. 500 g, is a speckled brown colour and is adapted for life in an aquatic habitat. Endemic to Madagascar, the species is thought to be one of the most threatened carnivores in the world and, furthermore, the Lac Alaotra wetlands in which it occurs are at risk of destruction from burning (see *Oryx*, 43, 403–406), invasive species and agricultural expansion. The discovery of this species is good news for this part of the country, particularly as the extinction of the Lac Alaotra grebe was announced only a few months ago. Urgent conservation action is now required to ensure the long-term survival of this new find.
Source: Durrell press release (2010), http://www.durrell.org/Latest/News/First-new-species-of-carnivorous-mammal-for-24-years-is-discovered-in-Madagascar/

Tomato frogs exiled…

Celebrations following the recovery at Kuala Lumpur airport of a number of species that were being smuggled from Madagascar have been tempered by the fact that 40 tomato frogs that formed part of the customs haul cannot return to the island. Despite the pressures on Madagascar's wildlife that have been brought about by the ongoing political unrest, Madagascar's amphibians have so far escaped the threat that is causing extinctions in amphibians elsewhere around the world, the fatal chytrid fungus. However, there are concerns that the tomato frogs may have become infected with the fungus during their stay in Malaysia, where the fungus does occur. It is hoped that the frogs may be accommodated in a captive breeding programme outside Madagascar.
Source: Science Insider (2010), http://news.sciencemag.org/scienceinsider/2010/07/should-smuggled-madagascar-frogs.html?ref = hp

…but spray toads return to Tanzania

One hundred Kihansi spray toads, categorized as Extinct in the Wild, have returned to the land of their ancestors following a successful captive-breeding programme in the USA. The frogs were flown to a propagation centre in Dar es Salaam from the Bronx and Toledo zoos. These two zoos now hold c. 6,500 spray toads, bred from a population of 499 toads collected from the Kihansi Gorge in 1999. The toad was discovered in the Gorge in 1996 during an environmental impact assessment for a hydroelectric dam in the Udzungwa mountains, and only occurred in a 2-ha area under the spray of a waterfall. The dam's construction reduced the flow of the waterfall, with the concomitant destruction of the toads' habitat. An artificial sprinkler system has now been installed with the intention of releasing the repatriated toads into the area in the near future.
Source: Guardian Newspaper (2010), http://www.guardian.co.uk/world/2010/aug/20/kihansi-spray-toads-tanzania

Fungus infects Atlantic sea turtle eggs

A study of the loggerhead turtle on Boavista Island, Cape Verde, off the West African coast has revealed that a fungal infection is targeting eggs and leading to high rates of hatching failure. While the human impact on the coastal environment has played a significant role in the worldwide decline of marine turtle nesting beaches, the research shows that the fungus *Fusarium solani* may also have contributed to the decline in turtle populations over the last 3 decades. Turtle eggs spend an extended period covered by sand under conditions of high humidity and warm temperatures, which are known to favour the growth of soil-born fungi, such as *F. solani*. Although the fungus represents a significant risk to marine turtles, the research may lead to the development of conservation programmes including artificial incubation and preventative methods in the field.
Source: FEMS Microbiology Letters (2010), 312, 192–200, and *ScienceDaily* (2010), http://www.sciencedaily.com/releases/2010/10/101029104610.htm

Lake Natron wins Blue Globe Award

Lake Natron in Tanzania was among the winners of the Blue Globe Award for best practice in management in the first World Wetlands Network Globe Awards. The Lake was awarded the prestigious Blue Globe at a ceremony held at the 10th Conference of the Parties to the Convention on Biological Diversity in Nagoya, Japan. The award was given in recognition of efforts to improve the management of the lake, including the employment of a Ramsar Site manager by the Wetlands Unit and a site conservation manager by the Wildlife Conservation Society of Tanzania, as well as the development of an integrated management plan and establishment of two wildlife management areas. Blue Globe Awards were also won by Nakatsu tidal flats (Japan), Danube Delta (Romania), Laguna de la Cocha (Colombia), Marais de Kergus (Canada) and Pambula wetlands (Australia).
Source: BirdLife International (2010), http://www.birdlife.org/community/2010/11/lake-natron-scoops-top-award/, and *World Wetlands Network* (2010), http://www.worldwetnet.org/awards/results/

Africa's freshwater species at risk

A 5-year survey by 200 researchers that examined the status of 5,167 African freshwater species, including fish, molluscs, crabs, dragonflies and damselflies, and some aquatic plant species, has found that 21% of these species are at risk of extinction. The major threats behind the imperilled conservation status of Africa's freshwater ecosystems are agriculture, water abstraction, dams and invasive alien species. Despite covering only 1% of the Earth's surface, freshwater ecosystems are home to c. 7% of species as well as providing protein and livelihoods to many people. In sub-Saharan Africa, for example, c. 7.5 million people depend on inland fisheries, underlining the urgency of protecting these vital habitats.
Source: IUCN press release (2010), http://www.iucn.org/about/work/programmes/species/?5898/African-freshwater-species-threatened—livelihoods-at-stake

Taita apalis population in freefall

One of the world's rarest birds, the Taita apalis, appears to be undergoing a rapid decline in population size. This Critically Endangered species, found in only five forest fragments in the Taita Hills in south-eastern Kenya, was estimated to number c. 300–650 individuals in 2001 but the results of recent surveys have caused alarm among conservationists. Counts of the apalis in 2009 and 2010 showed that sighting rates had decreased by almost 80% since the 2001 surveys, and it is feared that the population may have fallen to as low as 60–130 individuals, located in a single forest of c. 120 ha. The factors behind the decline are not clear, especially as illegal logging and human disturbance in the Taita Hills have decreased. The effects of other possible factors, such as nest predation and climate change, are unknown.

Source: BirdLife International (2010), http://www.birdlife.org/community/2010/09/major-population-crash-of-critically-endangered-taita-apalis/

Deforestation affecting Kilimanjaro's ice caps

Mount Kilimanjaro, which has lost 85% of its ice cap since 1912, is often cited as a victim of changes in global climate. However, new research indicates that local factors may also be playing a part in the ice cap's disappearance. A comparison between surface climate on the mountain and the free atmosphere has found that Kilimanjaro's lower, forested slopes are consistently cooler and moister than the atmospheric boundary layer, while surface temperatures above the treeline (c. 3,000 m) undergo heating during the day. Hotter temperatures at higher elevations generate a flow of moisture from lower elevations, suggesting that Kilimanjaro's trees play an important role in the movement of moisture from lower to higher elevations, through their transpiration. Deforestation of the mountain's slopes may thus be linked to the loss of ice on Kilimanjaro's summit.

Source: *Global and Planetary Change* (2010), 74, 61–75, and *New Scientist* (2010), 207(2779), 20

SOUTH AND SOUTH-EAST ASIA

A new species of crested gibbon

Molecular genetic analysis using the mitochondrial cytochrome b gene has identified a new species of crested gibbon, the northern buff-cheeked gibbon *Nomascus annamensis*, from a small area of the Greater Annamite mountain range in the border region of Laos, Cambodia and Vietnam. The northern buff-cheeked gibbon resembles the yellow-cheeked crested gibbon *Nomascus gabriellae*, which occurs to the south of where the new gibbon was found, but the songs of the two species are different. Furthermore, male northern buff-cheeked gibbons have a distinctive-coloured deep orange/gold fur on their cheeks.

Source: Vietnamese Journal of Primatology (2010), 4, 1–12

Hairy sighting

A hairy-nosed otter has been spotted in Borneo's Sabah state for the first time for 100 years during a camera-trap survey in the Deramakot Forest Reserve. Three species of otter were captured on film during this survey, the other two being the smooth-coated and the Asian small-clawed otter. This record is the first for the hairy-nosed otter in Borneo since 1997, when an individual was killed by a car. Hairy-nosed otters also occur in Thailand, Cambodia, Vietnam, Peninsular Malaysia and Sumatra, although the records from these countries come from only a few sightings, road-kills and skins. The hairy-nosed otter, the world's rarest otter species, is categorized as Endangered on the IUCN Red List.

Source: IUCN news release (2010), http://www.iucnredlist.org/news/rarest-otter-discovered-in-sabah-borneo

India and Nepal sign forest-management agreement

The 1,751 km Indo-Nepal border is now a safer place for tigers and other threatened wildlife following the signing of an agreement between India and Nepal. The agreement will ensure better management of forest areas and the restoration of border habitats, as well as resulting in an increase in joint patrolling of border areas. There will also be coordination between the two countries in the implementation of their national action plans to protect tigers, rhinos and elephants, as well as increasing the capacity of wildlife conservation personnel. The porous India-Nepal border has traditionally been used by wildlife smugglers to transport wildlife and wildlife products out of the region for use in other parts of Asia, with items confiscated in the past including tiger, snow leopard and otter skins.

Source: TRAFFIC (2010), http://www.traffic.org/home/2010/8/4/india-and-nepal-sign-accord-to-protect-wildlife-and-tackle-c.html

Bornean orang-utans previously occurred at higher densities than present

Researchers examining encounter rates with Bornean orang-utans since the mid 19th century have found that mean daily encounter rates have declined c. six-fold in undisturbed forest areas. The likely explanation for this decline is that the local density of orang-utans has declined. A further investigation of the major causes of orang-utan decline—habitat loss and degradation, hunting and disease—suggest that hunting pressure is the chief cause of the orang-utan decline. Orang-utans are hunted for a variety of reasons, including for meat, as agricultural pests, and for traditional medicine. These findings are significant, as present-day research on orang-utans assumes that their densities in pristine forest are at their ecological carrying capacity, an assumption challenged by this research.

Source: PLoS One (2010), http://dx.doi.org/10.1371/journal.pone.0012042

Tigers under continued threat from illegal trade of body parts…

Although the tiger is protected under CITES Appendix I, the illegal trade in its parts continues relentlessly. Traffic International and WWF collected data from 11 of the 13 countries with tiger populations and estimated that over the last decade 1,069–1,220 tigers have been killed to supply the demand for body parts. Analysis of seizures of tiger parts showed that India had the greatest number of seizures, followed by China, Nepal and Indonesia. Skins, bones and claws are among the most common items found by officials but there is also a trade in live and whole dead tigers. A further study by the US-based Wildlife Conservation Society has warned that Asia's tiger population could be near extinction, with fewer than 3,500 remaining in the wild.

Source: BBC News (2010) http://www.bbc.co.uk/news/science-environment-11718648, and *Reuters* (2010) http://www.reuters.com/article/idUSTRE6A90MT20101110

… and live tiger cub found in luggage

Staff at Bangkok's Suvarnabhumi International Airport recovered a live tiger cub from the luggage of a Thai national after scanning the oversized suitcase she was attempting to check in. X-ray images indicated that the bag contained a live cat and officers from the Livestock Development Department and the National Parks, Wildlife and Plant Conservation Department opened the bag to find the tranquilized

cub hidden among stuffed-tiger toys. The cub is being cared for at a rescue centre as officials attempt to ascertain its origin, and whether it was wild caught or captive-bred. Tigers are listed on CITES Appendix I, prohibiting any international commercial trade. Despite the success of this seizure, conservationists are warning that the brazen nature of this smuggling attempt indicates the need for continued and sustained pressure on wildlife traffickers, supported by tough penalties.
Source: TRAFFIC press release (2010), http://www.traffic.org/home/2010/8/26/live-tiger-found-in-check-in-baggage.html

Safe passage for Asian elephants in India

Plans to purchase a large area of privately-owned land to create a protected corridor for elephants have been announced by the Karnataka Forest Department in India. The Government hopes to secure land near the Bannerghatti National Park to provide safe passage for elephants to this protected area. The project will follow a similar model to that used by the World Land Trust, which advocates the purchase of privately owned land within elephant-human conflict zones and the voluntary relocation of settlements. Working in partnership with the Wildlife Trust of India, the World Land Trust has previously protected two elephant corridors in the states of Meghalaya and Kerala. The Karnataka project requires substantial funding but direct government involvement is a positive step forward for the future of Asian elephants in India.
Source: World Land Trust (2010), http://www.worldlandtrust.org/news/2010/10/ngos-inspire-government-protect-corridors-wildlife-india.htm

Record number of white-shouldered ibis observed

The population size of the Critically Endangered white-shouldered ibis, one of South-East Asia's rarest waterbirds, has been revised following a survey of 37 roost sites across Cambodia. The number of birds recorded during the survey was 429, a 30% increase on the previous population estimate. The survey also improved conservationists' knowledge of the occurrence of the species, with Lomphat Wildlife Sanctuary found to contain 40% of the known population, making this site the second most important for the species after Western Siem Pang IBA. Previously recorded in Thailand, Myanmar, Vietnam, Malaysia and southern China, hunting and habitat loss precipitated a steep decline in ibis numbers, and the species now only occurs in dry, deciduous forests in north and east Cambodia. The species' future is still by no means certain, as much of the population occurs outside Cambodia's protected area system.
Source: BirdLife Indochina News (2010), http://birdlifeindochina.org/cepf/White-shouldered-Ibis-PR3

Owl trade widespread in India

A survey of markets at a number of locations in India has revealed that owls are traded regularly, despite being protected under both national and international legislation. Owls are valued for their flesh, which is believed to be an aphrodisiac, and parts of their bodies and eggs are used in traditional medicine and folk recipes. Prices for owls appear to have risen considerably in recent years, with several tribes connected to the bird trade making a living from the owl trade. The report's author speculates that recent clampdowns on the trade in domesticated birds has driven traders to shift back to selling wild caught birds, among which owls generate particularly lucrative returns given their perennial popularity. The report makes a number of recommendations, including a public awareness campaign and stricter monitoring and control of the bird trade.
Source: Imperilled Custodians of the Night (2010), http://www.traffic.org/species-reports/traffic_species_birds12.pdf

Saola sighting

An individual belonging to one of the most elusive mammal species in the world, the saola, has been captured in Laos, the first confirmed sighting of this species since 1999. The Critically Endangered saola was discovered in 1992 and is known only from the Annamite Mountains of Laos and Vietnam. With its long horns and white facial markings the saola resembles the antelopes of North Africa, although the species is more closely related to cattle. On receiving news of the recent capture, the Provincial Agriculture and Forestry Office sent a technical team to examine the saola, which died shortly after the team reached the remote village. The saola's population size is unknown, although estimates suggest it may only number a few hundred individuals at best. Conservation and awareness-raising activities are being increased in the area in which the male was captured.
Source: IUCN press release (2010), http://www.iucn.org/knowledge/news/?6045/Asian-Unicorn-sighted-for-first-time-in-over-ten-years

New monkey found in Myanmar

A team of national and international primatologists have described a new species of monkey from northern Myanmar, following reports by hunters of the presence of a monkey with prominent lips and upturned nostrils, a description that did not match the characteristics of any known primates from the area. The new species, the Myanmar snub-nosed monkey *Rhinopithecus strykeri*, is well known to local people, who call it *mey nwoah*, or monkey with an upturned face. The monkey is believed to be limited to the Maw River area and to have a distribution that covers c. 270 km^2 that, combined with an approximate population of 260–330 individuals, means the species would be categorized as Critically Endangered on the IUCN Red List.
Source: Fauna & Flora International press release (2010), http://www.fauna-flora.org/news/fauna-flora-international-discovers-new-species-of-snub-nosed-monkey/

Notebooks reveal scale of pangolin trade

An interview-based survey of pangolin hunters, as well as analysis of logbooks confiscated from a criminal syndicate, has given an insight into the illegal trade of sunda pangolins in Sabah, Malaysia. Despite this species being categorized as Endangered on the IUCN Red List, and protected under CITES, it is clear from this survey that the trade in pangolins in Sabah is well established, and that wildlife-trading syndicates are well organized, with links to the international trade network. Pangolin hunters are secretive about their activity but appear to come from a variety of social backgrounds. The logbooks recorded that c. 22,200 pangolins were supplied to the syndicate between May 2007 and January 2009, suggesting that a large number of people are prepared to hunt pangolins in this region. The report's authors recommend a strengthening of enforcement efforts and awareness-raising, and also urge additional surveys into the pangolin trade in Sabah.
Source: A Preliminary Assessment of Sunda Pangolin Trade in Sabah (2010), http://www.traffic.org/home/2010/10/28/seized-notebooks-give-unique-insight-into-scale-of-illicit-p.html

Flores scops owl photographed

A photograph of the Endangered Flores scops owl has been secured from the Mbeliling Forest on Flores, possibly only the second time that this species has been photographed in the wild. A team of Danish and Indonesian researchers discovered a pair of scops owls deep in the forest, the first time that the species has been located in this area. Previous sightings have

all been from forests further inland. The forests around Mbeliling are home to four bird species endemic to Flores, as well as to many other species, including the Komodo dragon. Conservationists are working with local farmers in the area to develop sustainable livelihoods in return for the farmers' protection of local biodiversity.
Source: BirdLife International (2010), http://www.birdlife.org/community/2010/11/rare-indonesian-owl-photographed-by-danes/

EAST ASIA

Ambitious plan launched to save China's biodiversity

China has launched a biodiversity action plan that aims to control biodiversity loss by 2020, a move described as putting the country at the forefront of global efforts to reverse species declines. The plan designates 35 priority conservation areas that will cover 23% of the country's surface, as well as promising state funds to support conservation. Sichuan is the first Chinese province to have implemented the plan, setting aside c. GBP 87 million and identifying five ecological protection areas. Supporters of the plan have praised its far-reaching commitments but some conservationists have voiced their concern that the plan is at risk of being outweighed by economic interests and that the domestic focus of the targets means that little will be done to stop China's over-consumption of resources and illegal trade in threatened species.
Source: Guardian Newspaper (18 October 2010), http://www.guardian.co.uk/environment/2010/oct/18/china-wildlife-conservation-un-talks/print

Mongolia signs up to saiga protection

Mongolia has become the fifth government to sign a Memorandum of Understanding concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope. Along with Kazakhstan, Uzbekistan, Turkmenistan and Russia, Mongolia is one of the range states for this Critically Endangered antelope, which used to number c. 1 million in the early 1990s but declined to c. 60,000–70,000 by 2006. The species' migratory nature means that cooperation between the governments of saiga range states is vital to its conservation, and it is hoped that the Memorandum of Understanding, which falls under the UN Convention on Migratory Species, will aid ongoing conservation efforts. Saiga populations are now believed to be stable, and some appear to be increasing, although the species is still hunted for its meat and horns, despite this being illegal (see also *Oryx*, 4, 477–478).
Source: FFI news release (2010), http://www.fauna-flora.org/news/conservation-boost-for-saiga-antelope/

NORTH AMERICA

Grey whale plasticity

Grey whales are renowned for their long migrations but new evidence suggests that historic populations of these whales may have been more sedentary. Models of grey whale feeding grounds during peak glaciation indicate that much of the north Pacific was not shallow enough for whales to feed in, and the Bering Sea was a land bridge. Despite the fact that the northern feeding grounds of the whales could only have supported a small population there are no signs of a genetic bottleneck in the populations at this time. Instead, researchers believe the whales switched to feeding in open water, a theory supported by the existence of a small population of open-water feeding grey whales in the Pacific north-west. The preponderance of migratory grey whales today may be a reflection of the fact that a sedentary population of whales would have been an easy target for whalers.
Source: New Scientist (2010), 208 (2782), 17

New colonies of one of the world's rarest birds found in Colombia

Two colonies of the rare baudo oropendula have been found in north-western Colombia. The birds, which are categorized as Endangered on the ICUN Red List, were discovered during an expedition by Fundación ProAves. The two colonies, which constitute a population of 70–80 birds, are near the Western Cordillera, and are under direct threat from accelerating deforestation in the area. In collaboration with Fundación ProAves, The American Bird Conservancy has identified the urgent need for the introduction of conservation measures to protect this gregarious and vocal species.
Source: American Bird Conservancy (2010), http://www.abcbirds.org/newsandreports/releases/100929.html

Lights out in New York City

Workers and residents of New York City are being encouraged to switch off their lights in a bid to reduce the numbers of birds striking buildings and skyscrapers during the autumn migration. The organizers of the scheme, NYC Audubon, believe that the bright lights at night disorientate migrating birds and disrupt their natural navigational cues. Each year an estimated 90,000 birds are killed in the city as a result of striking glass-fronted buildings, although difficulties in monitoring deaths mean the true scope of the problem remains unknown. Among the species that appear to be particularly affected are white-throated sparrows, common yellow throats and ovenbirds.
Source: BBC News (2010), http://www.bbc.co.uk/news/science-environment-11141196

Mining plan in doubt

A permit to carry out one of the USA's largest mountaintop removal mining projects may be revoked following a recommendation by the Environmental Protection Agency. The proposal by the Arch Coal company to dynamite the tops off mountains within a 920 ha area of the Appalachian Mountains to access the coal beneath was approved by the Bush administration in 2007. However, a review ordered by the current administration has found that the project would devastate the area around the proposed mine in West Virginia. More than 84,000,000 m^3 of mining spoil would be dumped in local water courses, burying over 11 km of streams in the area. The company, which intends to challenge the recommendation, had planned to construct new steams to replace those buried by spoil.
Source: New York Times (2010), http://www.nytimes.com/2010/10/16/science/earth/16westvirginia.html?_r = 1

Sunburnt cetaceans

Photographic and histological surveys of blue, fin and sperm whales in the Gulf of California have revealed a range of abnormalities on their skins consistent with damage from sunburn. Paler-skinned blue whales had more signs of sun damage compared to the darker-skinned fin whales. The authors suggest that the pigmentation in the whales' skin, and thus their relative susceptibility to sun burn, may be related to migratory patterns. Blue whales migrate annually between Alaska and California, and thus become abruptly exposed to high UV radiation when they arrive in the Gulf of California, while fin whales remain in the Gulf all year round, so are constantly exposed to high levels of UV radiation. The prevalence of skin blisters increased during the study, consistent with the growing levels of UV radiation as a consequence of the global reduction in the ozone layer.

https://doi.org/10.1017/S003060531000164X Published online by Cambridge University Press

Source: Proceedings of the Royal Society, B (2010), http://dx.doi.org/10.1098/rspb.2010.1903

DDT legacy still affecting condors

Californian condors nesting in along California's Big Sur coast appear to be suffering from DDT poisoning, despite this pesticide having been banned in the USA since 1972. The problem came to light when researchers working on the Central Californian condor recovery programme found abnormally thin eggshells in an abandoned condor nest. Although no source of DDT exists near Big Sur, there is a high concentration of DDT in marine sediments of the Palos Verdes Shelf, off the southern Californian coast. In recent years the Big Sur condors, which are carrion eaters, have started feeding on sea lions that breed near the Shelf. Sea lion blubber contains high levels of a toxic metabolic breakdown product of DDT and it is believed that this may be the source of the condors' poisoning.

Source: New York Times (2010), http://www.nytimes.com/2010/11/16/science/16condors.html

Elk say boo to the wolves in Yellowstone

When wolves were reintroduced to Yellowstone in1995 it was thought that these top predators would affect their environment both directly and indirectly. An example of the latter was the wolves' expected effect on elk, which it was thought would start to avoid areas in which they were at risk of wolf attack, with the consequence that plants such as quaking aspen would start to recover in these places. Now an investigation of the relationship between wolves, elk and aspen has found that aspen are not recovering in Yellowstone, despite elk numbers having decreased to 40% of the population that existed prior to the wolf reintroduction. This study is the first to test adequately the popular theory of behaviourally mediated trophic cascades, and suggests that further investigation is required.

Source: Ecology (2010), 91, 2742–2755, and *BBC News* (2010), http://www.bbc.co.uk/news/science-environment-11178293

Translocation not straightforward

The translocation of gopher tortoises to St Catherine's Island, Georgia, USA, has illustrated that the movement of species into protected habitats is not straightforward. The researchers sampled male and female tortoises that had been part of a series of releases to the island during 1987–1994, and also 121 offspring that had hatched since the releases. It transpired that males released earlier during the translocation were three times more likely to produce offspring than males belonging to a group introduced later. This effect was only noticed in the male gopher tortoises, leading the authors to suggest that future releases could focus on releasing female tortoises. It is thought that the social hierarchy that influences breeding patterns among gopher tortoises is vulnerable to disruption through the translocation of multiple groups to new habitats.

Source: Biological Conservation (2010), http://dx.doi.org/10.1016/j.biocon.2010.08.012, and *University of Georgia news release* (2010), http://www.uga.edu/news/artman/publish/101102_Not_Panacea.shtml

CENTRAL AMERICA AND CARIBBEAN

Belize's jaguars range widely

A 3-year camera-trapping study in Belize that generated 1,380 photographs of jaguars and pumas shows that while these sympatric species are similar in their use of secondary rainforest, pumas were rarely found outside this habitat, whereas jaguars ranged throughout the human-influenced landscape. This is positive news for the jaguars as it ensures connectivity between jaguar populations, although it also increases the likelihood off human-jaguar conflict. The reluctance of pumas to venture beyond their rainforest habitat was a surprise for the researchers, as these felids have traditionally occupied more varied habitats than the similar-sized jaguars but it is possible that pumas are less tolerant of people than jaguars are. The camera traps also revealed that jaguars and pumas coexist in close proximity within the forest, thought to be facilitated by the different diets of the species.

Source: Biotropica (2010), 42, 724–731, and *PlanetEarth Online* (2010), http://planetearth.nerc.ac.uk/news/story.aspx?id = 809

SOUTH AMERICA

Conservation dilemma

An open letter from Iniciativa Amotocodie to the Natural History Museum, London, has highlighted a conservation dilemma. with Iniciativa Amotocodie claiming that an expedition to a remote area of Paraguay to record biodiversity in the dry Chaco region poses a risk to isolated indigenous peoples. The dry Chaco, a vast area of semi-arid lowland, is the ancestral home of the nomadic Ayoreo tribe, but it is under threat from logging and intensive agriculture. The Natural History Museum plans to go ahead with the expedition, believing that there is a need for a greater understanding of fragile habitats to aid the development of governmental and conservation strategies to manage and protect them. The museum confirmed it was taking measures to ensure that tribal groups would not be disturbed by the expedition.

Source: BBC News (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9171000/9171328.stm

Ecotourism is the best land use for rainforest

The first study to compare the profitability and producer surplus in a developing-country ecotourism sector, which also compared these values across a range of different land uses, has found that the net present value of ecotourism-controlled land (measured by looking at the producer surplus) in Amazonian Peru is USD 1,158 ha^{-1}. In addition, ecotourism-controlled land in this part of the Amazon sequesters between 5.3 and 8.7 million t of above ground carbon, much more than the carbon emitted from ecotourists' air and surface travel to the area. Of the alternative land uses considered in the study, which included timber logging, cattle ranching, timber extraction and Brazil-nut harvesting, timber logging could result in a higher income than ecotourism but only for the first 5 years of operation. The authors point out, however, that changes in the price of timber, gold and agricultural products could also alter this situation.

Source: PLoS One (2010), http://dx.doi.org/10.1371/journal.pone.0013015, and *Planet-Earth Online* (2010), http://planetearth.nerc.ac.uk/news/story.aspx?id = 830

Paraguayan capital's IBA being destroyed

Part of an Important Bird Area in the Paraguayan capital of Asunción is being destroyed through the use of heavy machinery, which has been brought onto the site to start working on a new waterfront development project. This is despite the area having been declared a Reserve by Paraguay's Congress in 2005. Asunción Bay is a vital refuelling stop for many Neotropical migrants, with 3% of the world population of Near Threatened buff-breasted sandpiper feeding at the Bay on their migratory journeys. A total of 280 bird species have been recorded at Asunción Bay, of which four species are categorized as Near Threatened and one as Vulnerable. Guyra Paraguay, a local NGO that has been

working with the Environmental Authority to propose the declaration of Asunción Bay as a Ramsar Site, have voiced their concern about developments in the Bay.
Source: *BirdLife International* (2010), http://www.birdlife.org/community/2010/10/key-paraguayan-iba-being-destroyed/

PACIFIC

Plans to remove rodent invaders from Henderson Island

Each year over 25,000 seabird chicks are eaten by non-native rats on the remote Pacific island of Henderson. Four species of petrel are at particular risk from competition and predation by the rats, and the island's population of petrels is thought to have decreased from a possible five million pairs to only 40,000 pairs. In August 2011 the Royal Society for the Protection of Birds plans to eradicate the rats as part of a GBP 1.7 million project to prevent the global extinction of the Henderson petrel. Only 5% of petrel chicks currently survive to adulthood and the majority of the chicks are eaten alive. Eradication of the rats may also allow populations of the island's four species of landbird, the Henderson reed-warbler, crake, fruit-dove and lorikeet to rise.
Source: RSPB media release (2010), http://www.rspb.org.uk/news/262476-rspb-plans-to-remove-rodents-from-pacific-paradise

AUSTRALIA/ANTARCTICA/ NEW ZEALAND

Painted snipe hunt begins

Conservationists in Australia are commencing with their yearly search for one of Australia's most threatened and cryptic wetland bird species, the Endangered Australian painted snipe. With a population of an estimated 1,500 individuals or less, bird-watchers throughout the country are being called upon to look out for the species, which can occur in many different types of habitat, from lagoons to storm water drains. Surveys in the spring and summer months of 2009/2010 resulted in the sightings of only 11 individuals but hopes are high for the current season. Heavy rains throughout the Murray Darling Basin, the Channel Country and into the interior have already resulted in excellent breeding conditions for other Australian waders, although the wetter conditions may also cause the snipe to remain dispersed, this decreasing their detectability.
Source: BirdLife International (2010), http://www.birdlife.org/community/2010/10/australian-painted-snipe-surveys/

Super cane toads

Experiments carried out by researchers in Australia have demonstrated a runaway evolutionary effect that is aiding the highly invasive cane toad. Previous evidence showed that toads at the forefront of the invasion had stronger back legs and bigger front legs but the new research links these physiological changes to the toads' genes. By setting up cane toad races the researchers showed that toads from the edges of the toad's current range move faster than toads from the centre of their range. Furthermore, offspring from speedier toads were also faster movers than offspring from core-range toads, showing that the traits that make toads faster are passed on to their offspring. Faster-moving toads were even found to reproduce more quickly and this, coupled with their fast spread, means they may leave endemic diseases and parasites behind them, thus making them even more efficient invaders.
Source: Journal of Evolutionary Biology (2010), 23, 2595–2601, and *BBC News* (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_9096000/9096795.stm

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