

INTERNATIONAL

Illegal logging decreases

A study examining the impacts of actions against illegal logging by governments, civil society and the private sector has shown that these have had significant success. The study, which focused on 12 producer, processing and consumer countries, found that illegal logging decreased by 50–75% over the last decade in Cameroon, the Brazilian Amazon and Indonesia, and the import of illegal timber also decreased. The study's authors estimate that the result of these actions has been the protection of up to 17 million ha of forest from degradation. A further decrease in illegal logging would require substantial changes in government policy and regulation in producer countries, as well as the prohibition by Japan and China of the import and sale of wood from illegal sources.

Source: *Illegal Logging and Related Trade: Indicators of the Global Response* (2010), <http://www.chathamhouse.org.uk/publications/papers/view/-/id/911/>

Sperm whale poo plays an important role in carbon export

Sperm whales' tendency to eat their prey at depth and then defecate their iron-rich faeces into the photic zone means that these marine mammals have an important role in regulation of CO₂ levels in the atmosphere. Researchers estimate that sperm whales in the Southern Ocean are stimulating the export of 4×10^5 t of carbon to the deep ocean every year through their defecation of 50 t yr⁻¹ of iron into the photic zone. This iron acts as a fertilizer in the iron-limited Southern Ocean, promoting primary production. So significant is the contribution of sperm whales to carbon export in the Southern Ocean that the study's authors suggest that the intensive hunting of sperm whales during industrial whaling may have decreased the ability of the Southern Ocean to act as a carbon sink.

Source: *Proceedings of the Royal Society, B* (2010), <http://dx.doi.org/10.1098/rspb.2010.0863>

No peace for whales

Attempts to agree a compromise between whaling nations and their opponents at the International Whaling Commission's annual meeting in June have failed. Delegates were unable to reach agreement on major issues. The deal would have put whaling by

Iceland, Japan and Norway under international oversight for 10 years. Talks on the so-called peace process have been going on for 2 years and a further year's cooling-off period is now likely. Argentina's representative said the draft proposal did not meet the needs of Latin American countries because it legitimizes scientific whaling in the Southern Ocean by Japan and does not substantially reduce catches. The key stumbling block for Japan was the demand from the EU and the Buenos Aires group of Latin American countries that its Antarctic whaling programme must end within a set timeframe. The path forward now is unclear.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/10389638>

Plankton decline across oceans as waters warm

Phytoplankton in the oceans account for approximately half the global production of organic matter but appear to have declined markedly over the last century. Recent research in which available ocean transparency measurements and in situ chlorophyll observations were combined to estimate the time dependence of phytoplankton biomass at local, regional and global scales since 1899 has shown declines in eight of 10 ocean regions, and an estimated global rate of decline of c. 1% per year. This long-term decline appears to be related to increasing sea surface temperatures and could be ecologically significant as plankton are at the base of marine food chains. Phytoplankton produce half of all the oxygen we breathe, draw down surface CO₂, and ultimately support all fisheries.

Source: *Nature* (2010), 466, 591–596, and *BBC News* (2010), <http://www.bbc.co.uk/news/science-environment-10781621>

Chubby marmots illustrate complications in modelling effects of climate change

A population of yellow-bellied marmots in Colorado has increased rapidly since 2001, a fact that, coupled with the existence of a long-term data set, makes this an ideal study population in which to examine the links between phenology, morphological traits and population dynamics in the face of environmental change. Recent years have seen the earlier emergence of the marmots from hibernation, and earlier birth dates for marmot pups, as well as a general increase in marmot body mass. This change in body mass is a phenotypic, rather than a genetic,

change; i.e. one brought about by external environmental conditions. Further examination of the data showed that the relationship between body mass and demographic processes was affected by climate change, illustrating that modelling the future effects of climate change on populations needs to incorporate both evolutionary and ecological processes affecting the populations.

Source: *Nature* (2010), 466, 482–485

Geoengineering not a solution to sea-level rise

Geoengineering has been proposed as a way to mitigate anthropogenic climate change. The two main options are limiting incoming solar radiation or modifying the carbon cycle. An examination of the impact of five geoengineering approaches (SO₂ aerosol injection into the stratosphere, mirrors in space, afforestation, biochar and bioenergy with carbon sequestration) on sea-level rise by 2100 has shown that even the most extreme geoengineering approaches will not stop sea levels from rising. The combination of afforestation, biochar and bioenergy with carbon sequestration could be the most effective, eliminating up to 250 parts per million (ppm) of CO₂ and limiting sea level rise to 20–40 cm.

Source: *Proceedings of the National Academy of Sciences of the USA* (2010), <http://dx.doi.org/10.1073/pnas.1008153107>, and *BBC News* (2010), <http://www.bbc.co.uk/news/science-environment-11076786>

UN body for global ecology is born

Representatives from 85 countries have approved the creation of the Intergovernmental Science–Policy Platform on Biodiversity and Ecosystem Services (IPBES), a body modelled on the Intergovernmental Panel on Climate Change (IPCC). The IPBES will carry out assessments of biodiversity and ecosystem services at global, regional and sub-regional scales, based on reviews of scientific literature, and is expected to meet for the first time in 2011. Like the IPCC, the IPBES will not recommend courses of action but instead will provide authoritative and unbiased summaries. In addition, the IPBES will aid in the training of environmental scientists in developing countries and identify research gaps, as well as tools that could be of use to policy-makers.

Source: *Nature News* (2010), <http://www.nature.com/news/2010/100612/full/news.2010.297.html>

Sharks seek out human-free reefs

A study in which recreational divers were trained to collect data on shark presence at reefs in the greater Caribbean has revealed that sharks are mostly absent from areas with high human density. Other than nurse sharks, which were seen on reefs throughout most of the area, sharks were largely absent in reefs around Cuba, Jamaica, the Dominican Republic, Puerto Rico, throughout most of the Antilles and Central and South America. The only areas in which a high sighting frequency of sharks (> 10% per km² cell) overlapped with a large human population (> 1,000 people) was in Florida, central Bahamas and the US Virgin Islands. These are areas with strict fishing regulations such as the prohibition of shark finning. These findings indicate that the instigation of urgent management measures, particularly those aimed at exploitation of sharks by the fishing industry, could succeed in restoring sharks to the reefs they once occupied.

Source: *PLoS One* (2010), <http://dx.doi.org/10.1371/journal.pone.0011968>

Ocean acidification affects fishes' predator sense

Experiments on larval fishes have shown that raised levels of dissolved CO₂ affect the behaviour, and ultimately the survival, of the juveniles. Young clownfish raised in water containing 850 parts per million (ppm) CO₂ spent 94% of their time in a stream containing a predator's chemical cue. Even at levels of 700 ppm CO₂ fishes became attracted to the smell of predators. By comparison, juvenile clownfish living in water containing 390 ppm CO₂ avoided this stream completely. Current estimates suggest that the oceans may reach 850 ppm CO₂ by 2100. Experiments in the wild support these findings; wild-caught larval damselfish exposed to higher levels of dissolved CO₂ and then returned to their coral reef habitats were up to nine times more likely to be killed by predators than a control population.

Source: *Proceedings of the National Academy of Sciences of the USA* (2010), 107, 12930–12934, and *Nature* (2010), 466, 299

Where's froggy?

Conservationists are poised to begin a search in 14 countries in an attempt to locate 100 amphibian species thought to be extinct. One third of all amphibian species are at risk of extinction, with threats to their existence including habitat destruction, the spread of the chytrid fungus and climate change. The target species include the golden toad of Costa Rica, widely seen as a poster-child for the plight of amphib-

ians worldwide, the Mesopotamia beaked toad and two species of gastric brooding frog in Australia. The latter species are of interest to medical researchers as well as conservationists, as they are able to turn off the production of stomach acid while they raise their tadpoles in their stomachs, which could have implications for research into the treatment of stomach ulcers. It is hoped that the search for these 100 species may provide conservationists with information on how to slow the amphibian crisis.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/science-environment-10859989>

A whale of a call

An investigation into the vocalizations of North Atlantic right whales has found that these Endangered cetaceans call more loudly in areas with increased background noise. Many marine mammal species depend on sound for activities such as communication, feeding and navigation. Conservationists are concerned that increases in ocean noise levels may have detrimental effects on marine mammals, and this research is the first evidence of a baleen whale responding to background noise by increasing the amplitude of its calls. The findings have ramifications both for the way that whales use sound to communicate as well as the ability of researchers to detect the species underwater.

Source: *Biology Letters* (2010), <http://dx.doi.org/10.1098/rsbl.2010.0451>

Ecosystem metabolisms set to alter under climate change

Current research is unclear as to how rising temperatures will affect the balance between photosynthetic fixation of carbon and the respiratory release of CO₂ in ecosystems. Field experiments that modelled the effects of changes in temperature on 20 artificial ponds have now shown that temperature increases predicted for the end of the century reduced the amount of carbon sequestration by these ecosystems by 13%. The field experiments indicated that ecosystem respiration in ecosystems subjected to the temperatures predicted for the end of this century increased at a faster rate than primary production, leading to a decrease in carbon sequestration in these ecosystems. These results are of particular interest to those researching warming impacts at the ecosystem scale, because the models were found to be accurate predictors of the experimental results, despite being created with few parameters.

Source: *Philosophical Transactions of the Royal Society, B* (2010), 365, 2117–2126

Wet, not necessarily warmer, conditions aid chytrid fungus

Experiments on captive-bred Critically Endangered Panamanian golden frogs have found that frogs infected with the chytrid fungus *Batrachochytrium dendrobatidis* survived for longer when exposed to dry conditions, while warmer temperatures (23 compared to 17°C) also improved the life-expectancy for infected golden frogs. However, eventually the chytrid fungus proved equally lethal to this amphibian, with all infected frogs dying, regardless of the conditions in which they were kept. These laboratory-based experiments are not accurate reflections of the interaction between amphibians and the chytrid fungus in the field but they do suggest that rising global temperatures are not entirely to blame for the deaths of amphibians infected with the chytrid fungus, as the infection proved fatal for the frogs at both 17 and 23°C.

Source: *Integrative Zoology* (2010), 5, 143–153

Intensification of agriculture has positive impact on greenhouse gas mitigation

Examination of the effects of agricultural intensification on net greenhouse gas emissions between 1961 and 2005 has found that, despite increases from elements such as fertilizer production and application, the effect of higher yields has been to avoid the emissions of up to 590 giga t of CO₂ since 1961. This emissions saving comes as a result of more intensive farming methods, meaning that less land is required to produce the same amount of produce. The researchers estimate that agricultural intensification since 1961 has prevented an area of land larger than Russia from being pressed into agricultural service. Furthermore, for every dollar invested into agricultural yields, an estimated 249 fewer kg of CO₂ have been emitted relative to the agricultural technology in 1961.

Source: *Proceedings of the National Academy of Sciences of the USA* (2010), 107, 12052–12057

Arthropod diversity still largely unexplored

An estimate of the number of arthropods on earth is something that many researchers have constructed models to try and investigate, often using extrapolation from the number of species that live in tropical rainforest. However, these models are not able to provide accurate measures of uncertainty alongside their estimates. Now researchers have designed two models that

replace point estimates with probability distributions in an attempt to deal with parameter uncertainty. The median number of arthropods calculated by these two methods was 3.7 million (90% confidence interval 2.0–7.4 million) and 2.5 million (90% confidence interval 1.1–5.4 million). Currently c. 855,000 species of arthropod have been described, meaning that c. 70% of arthropods await discovery. *Source: The American Naturalist* (2010), 176, 90–95

Snakes in decline

A study of 17 snake populations in the UK, France, Italy, Nigeria and Australia has found that 11 of these populations fell sharply between 1998 and 2002, and remained at a low level until the end of the study in 2009. Of the other populations, five remained stable and one increased slightly. The decrease in snake populations appeared to affect females in these populations more than males. The causes behind this population crash are not known but it is suspected that the declines may be the result of a number of factors such as changes in prey availability and a decrease in habitat quality. The authors also suggest that the declines may share a common root cause in the form of global climate change. *Source: Biology Letters* (2010), <http://dx.doi.org/10.1098/rsbl.2010.0373>

EUROPE

Happy shrimps have fatal tendencies

There has been a massive increase in prescriptions for anti-depressant drugs in Britain over recent years but the effect of these pharmaceuticals on the wider environment is unknown. Researchers investigating the effects of these drugs, which are washed into coastal ecosystems in waste water, have shown that when shrimps and other amphipods are exposed to the anti-depressant fluoxetine their behavioural patterns alter dramatically. After exposure to these anti-depressant drugs shrimps are five times more likely to swim towards the light instead of away from it, thereby increasing their chances of being caught and eaten by predators such as fish or birds. The important role played by shrimps in the marine food-chain means that the ecological ramifications of any decrease in the shrimp population are serious. *Source: Aquatic Toxicology* (2010), <http://dx.doi.org/10.1016/j.aquatox.2010.05.019>, and *University of Portsmouth News* (2010), <http://www.port.ac.uk/aboutus/newsandevents/news/title,115003.en.html>

Pest control affects breeding success of house martins

House martins nesting in the Camargue in France have smaller clutch sizes and lower levels of fledgling survival in areas treated with *Bacillus thuringiensis israelensis* (*Bti*) compared to areas where this microbial agent is not used. *Bti* is the most widely-used microbial agent worldwide in the control of mosquitoes, and is seen as the most selective and least toxic mosquito-controlling substance. However, this new research shows that house martin intake of Nematocera (which includes midges and mosquitoes), and the spiders and dragonflies that prey on Nematocera, decreased significantly at sites treated with *Bti*, as did the intake of flying ants. Birds at treated sites were found to feed more on prey items < 2.5 mm in size, while martins at the control sites fed more on species > 7.5 mm in size.

Source: Journal of Applied Ecology (2010), 47, 884–889

Agri-environment schemes good for birds

Agri-environment schemes have been in place in England for over 20 years but there have been only limited investigations into whether these schemes actually benefit biodiversity. Now research in Derbyshire has shown that bird species are more common in fields that are included in an agri-environment scheme, particularly where surrounding fields are also included in a scheme. This was the case both for birds of conservation concern and birds that are upland specialist species. The survey, which looked at 346 fields, found that intensively-farmed fields, which have high levels of fertilizer application to provide grazing for sheep and cattle, were less attractive to birds. Although the type of habitat still plays a big role in bird abundances, implementation of agri-environmental schemes at the landscape level does bring benefits for bird species.

Source: Biology Letters (2010), <http://dx.doi.org/10.1098/rsbl.2010.0228>, and *Planet Earth Online* (2010), <http://planetearth.nerc.ac.uk/news/story.aspx?id=719>

Stowaways can make invaders worse

The 'enemy release' hypothesis suggests that invading species may be more successful because they are moving into new habitats and thus leaving their parasites behind. Research on the invasive freshwater amphipod *Gammarus pulex* in two Northern Ireland water bodies has found that this is not the case. In fact, *G. pulex* infected with the acanthocephalan parasite *Echinorhynchus truttae* consumed signifi-

cantly more prey than their uninfected conspecifics. Up to 70% of *G. pulex* were infected with *E. truttae*, meaning that the parasite has the potential to have a serious, albeit indirect, effect on habitats into which its host is invading. Infection did reduce the fitness levels of female *G. pulex* but the low level of parasite prevalence during the peak breeding season of the amphipods means that this is likely only to have a minor effect.

Source: Biology Letters (2010), <http://dx.doi.org/10.1098/rsbl.2010.0171>

Gold-digging invaders

The number of alien species invading new places continues to increase but, until recently, there has been no agreement on the relative importance of biogeographical, climatic, economic and demographic factors as drivers of this trend. Now a study that looked at data from invasions in Europe by a number of taxonomic groups has found that the two significant predictors in the majority of groups were national wealth and human population. The highest number of aliens were found in regions with > 91.1 inhabitants km⁻² and wealth levels of > USD 250,000 per capita, while the smallest numbers are found in regions with < 8.5 inhabitants km⁻², regardless of wealth. For many taxonomic groups the effects of wealth and demography translate into activities that enhance biological invasions such as pet keeping or the movement of contaminated commodities such as aquaculture stocks.

Source: Proceedings of the National Academy of Sciences of the USA (2010), <http://dx.doi.org/10.1073/pnas.1002314107>

Disease threat to UK garden birds

An emerging protozoal disease that first emerged in the UK in 2005 has caused a severe decline in the number of greenfinches and chaffinches, two of the most common British birds. By 2007 breeding populations of greenfinches and chaffinches in the region of highest disease incidence had decreased by 35 and 21% respectively, representing mortality of more than half a million birds. The impact of the disease has been estimated from a project in which > 700 people have monitored bird numbers in their gardens since 2003. The original source of the infection is not yet known but, as its emergence and spread has coincided with an increase in wood pigeons, it is possible that it came into gardens through wood pigeons and jumped across species into the finches.

Source: PLoS ONE (2010), <http://doi.doi.org/10.1371/journal.pone.0012215>, and *BBC*

News (2010), <http://www.bbc.co.uk/news/science-environment-11013507>

Insect pollinators get their own Initiative

Honeybees, hoverflies, wasps, bumblebees, moths and butterflies play a vital role in feeding people through the pollination of crops. If these pollinators were to disappear completely the cost to the UK economy could be up to GBP 440 million per year, which is c. 13% of the country's income from farming. In a bid to save these declining insects up to GBP 10 million has been invested in nine projects that will explore threats to pollinators. The Insect Pollinators Initiative, funded by several public and charitable organizations, will look at different aspects of the insects' decline. Some projects will look at factors affecting the health and survival of pollinators in general whilst others will focus on specific species and diseases.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/10371300>

First newborn beavers spotted in the Argyll Forest

The first beavers born in the wild since their reintroduction to the UK last year have been spotted in a Scottish forest. At least two kits, estimated to be 8 weeks old and belonging to different family groups, have been seen in Knapdale Forest in Argyll. A total of 11 beavers were brought to Scotland from Norway last year as part of the Scottish Beaver Trial. Beavers are native to the UK and were once common before they were hunted to extinction c. 400 years ago. Both beaver families have built their own lodge and one family has had success building a dam to access better food supplies. The trial aims to provide information that could determine whether or not beavers are reintroduced into the wild across Scotland.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/uk-scotland-10951209>

Deadly decade for EU seabirds

An estimate by BirdLife International and the RSPB puts the number of seabirds that have died as a result of fishing gear in EU waters during the last 10 years at c. 2 million. This is more than have perished from all the European oil tanker disasters since 1967. An estimate, widely considered conservative, puts the number of birds that drown in gill nets every year in the Baltic and North Sea at 90,000, while a single Spanish long-line fishery off the coast of Ireland is responsible for the death of up to 50,000 seabirds every year. Many of the

birds that are dying are protected by European law and are suffering population declines. BirdLife International and the RSPB have presented a 23,000-strong petition to the European Commissioner for Maritime Affairs and Fisheries, calling for the delivery of the EU's overdue Seabird Action Plan.

Source: *BirdLife International News* (2010), <http://www.birdlife.org/news/news/2010/06/seabird-petition.html>

Illegal bushmeat rife in Europe

Based on seizures from searches of personal baggage over 17 days at Charles de Gaulle airport in Paris, c. 270 tonnes of illegal bushmeat could be passing through the airport each year. A total of 134 passengers arriving on 29 flights from 14 African nations were searched. Nine people were found to be carrying a combined mass of bushmeat of 188 kg. The products were not only imported for personal consumption but were part of a lucrative organized trade with high prices. In total the remains of 11 species were found, including primates, crocodiles and rodents. This illicit trade could pose a risk to human and animal health and increase the demand for meat from threatened species. Ways to control the trade could include incentives to customs officers, increasing the penalties for illegally importing the products and raising awareness among passengers that bringing such products into the EU is prohibited.

Source: *Conservation Letters* (2010), <http://dx.doi.org/10.1111/j.1755-263X.2010.00121.x>, and *BBC News* (2010), <http://www.bbc.co.uk/news/10341174>

NORTH AFRICA AND MIDDLE EAST

Corals feel the heat in the Red Sea

Steadily rising sea surface temperatures, which have increased by 0.4–1°C since the mid 1970s, rather than ocean acidification, are driving dramatic changes in the growth of an important reef-building coral in the central Red Sea. Three-dimensional computer tomography analyses of annual growth bands in core samples from six colonies of the massive coral *Diploastrea heliophora* have revealed that skeletal growth of apparently healthy colonies has declined by 30% since 1998. Combining the growth data with climate model simulations by the Intergovernmental Panel on Climate Change, the study predicts that this coral could cease growing altogether by 2070 if the current warming trend continues.

Source: *Science* (2010), 329, 322–325, and *BBC News* (2010), <http://www.bbc.co.uk/news/science-environment-10646290>

Turkish gift boosts northern bald ibis population

A Critically Endangered migratory bird with scant regard for country borders needs all the international help it can get, and the partnership working to protect the last few northern bald ibises is an example of how this can work. Turkey has donated six semi-captive ibises to Syria, where two of these individuals have been fitted with radio-collars and introduced to the four wild bald ibises that spend the summer in Syria. It is hoped that the newly released birds will migrate with the wild ibises. The adult northern bald ibis from Syria overwinter in Ethiopia but it is not clear where the juvenile birds spend the winter. Syrian authorities have built aviaries for the Turkish birds that have not been released, with the ultimate intention of bolstering the wild population through captive breeding.

Source: *BirdLife International News* (2010), <http://www.birdlife.org/news/news/2010/07/northern-bald-ibis-donation.html>

SUB-SAHARAN AFRICA

Eastern chimpanzees could be saved by African action plan

A new 10-year action plan, developed by officials from Eastern and Central African nations, calls for the conservation of 16 areas that, together, could safeguard c. 96% of the eastern chimpanzee population from illegal hunting and trafficking. The eastern chimpanzee, currently categorized as Endangered on the IUCN Red List, shares an estimated 98% of genes with humans and is one of the best studied ape species. Despite this, information about the distribution and abundance of three-quarters of the world's population of eastern chimpanzees is lacking. The action plan identifies key areas for future surveys to assess the status of eastern chimpanzees and will help researchers to focus their conservation actions for the species.

Source: *IUCN News* (2010), <http://www.iucnredlist.org/news/chimpanzees-could-be-saved-by-african-action-plan>

Football World Cup adds to vultures' woes

In addition to reduced food availability, poisoning, and electrocution from pylons, Vulnerable Cape vultures are also in demand by users of traditional medicine, or muti magic. Conservationists raised

concerns before the 2010 Football World Cup that Cape vultures would be a target for gamblers, because it is believed that smoking the dried brains of vultures confers supernatural powers that allow the smoker to predict match results. In the worst case scenario Cape vultures could undergo a population collapse within 12 years, with their use in muti magic contributing to this crash. Concern also surrounds the way in which vultures are killed for muti magic, as most are poisoned with Aldicarb, which is also poisonous for humans.

Source: *BirdLife International News* (2010), <http://www.birdlife.org/news/news/2010/06/It-doesnt-take-brains-to-pick-a-world-cup-winner.html>

Cameroon loses African wild dog and cheetah

Three years of intensive surveys in Cameroon by researchers from The Netherlands, Cameroon and Zimbabwe have revealed that the African wild dog and the cheetah have been almost completely extirpated from Cameroon, and only small populations remain of lions, hyenas and leopards. The surveys, which were carried out in the Bénoué Complex in northern Cameroon, involved interviews with local communities, baited camera-traps, counting tracks over more than 4,100 km and direct observation. The main drivers of the collapse in the wild dog and cheetah populations are habitat destruction, poaching, lack of prey and animals being killed by rangers. The findings of the project will be used to develop a strategy to maintain the current populations of wild carnivores, with a particular emphasis on the involvement of local stakeholders.

Source: *Universiteit Leiden News* (2010), <http://news.leiden.edu/news/african-wild-dog-and-cheetah-all-but-gone-from-cameroon.html>

Kenya makes massive seizure of ivory and rhino horns

Circa two tonnes of ivory and five rhino horns have been seized in Kenya's Nairobi international airport, packed inside boxes labelled as avocados to be exported to Malaysia. The find is believed to be the biggest of its kind in Kenya for several years. Two suspects have been arrested over the seizure of the ivory, which was in 317 separate pieces. The ivory appears to be from elephants that died naturally and did not have the indelible ink used to mark government-held stocks.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/world-africa-11062726>

SOUTH AND SOUTH-EAST ASIA

Cultural drivers of trade in slender and slow lorises

Slow and slender lorises are particularly prevalent in trade in South and South-East Asia. Analysis of international records for the last 30 years has revealed that live animal trade was more prevalent than trade in body parts, with Laos, Cambodia and Thailand the largest exporters. Drivers of international and domestic trade during 1994–2009 shows that slender lorises are important in Sri Lankan folklore but their use as pets and for traditional medicine is rare, trade in Bengal slow and pygmy lorises in Cambodia for use in traditional medicines is widespread, and trade in Javan, Bornean and greater slow lorises in Indonesia is largely for pets. Culturally specific patterns in wildlife trade are evident among different ethnic groups, even within a country. Revealing such patterns is the foundation for developing conservation management plans for each species of loris. Source: *American Journal of Primatology* (2010), 71, 1–10

Critically Endangered sandpiper being hunted

Following surveys in 2008–2010, 200 spoon-billed sandpipers have been tracked down to their wintering quarters in Myanmar. This is thought to be over half the world population of this Critically Endangered species. Furthermore, researchers found evidence of hunting around one of the key locations for the species, the Bay of Martaban. Interviews with hunters around the Bay revealed that the spoon-billed sandpipers are not their main targets but that they are caught more frequently in mist nets than the species that are targeted by the hunters, such as Pacific golden plovers and Eurasian curlews. The authors suggest that without conservation action the sandpiper might be extinct within 10–20 years, and recommend investigating ways of providing local hunters with economic alternatives to hunting, instigating an awareness campaign and protecting the vital habitat of the Bay of Martaban.

Source: *Wader Study Group Bulletin* (2010), 117, 1–8

Repeatedly logged forests still harbour some biodiversity

Research in repeatedly logged forests in Sabah, Borneo, suggests that these forests retain some conservation value after logging. Researchers compared the species

richness of birds and dung beetles in unlogged, once-logged and twice-logged forests, and found that <75% of bird and dung beetle species that occurred in unlogged forests persisted in twice-logged forests. Before this research the prevailing wisdom was that forests degraded after multiple rounds of logging have little conservation value, with the result that there was no concerted effort to protect these areas from conversion to oil palm plantation. This study's authors say that efforts to prevent conversion of degraded forests to plantation should become a priority for policy-makers and conservationists.

Source: *Proceedings of the Royal Society, B* (2010), <http://dx.doi.org/10.1098/rspb.2010.1062>

Indonesian treasures come to light during expedition

An expedition to Indonesia's Foja Mountains in 2008 has resulted in the discovery of many species hitherto unknown to science, including a forest wallaby species that is the smallest member of the kangaroo family. The survey, which was undertaken by a group of international and Indonesian scientists working together as part of Conservation International's Rapid Assessment Programme, also found other new species of mammal, an undiscovered bird species, 12 new insects, a reptile and an amphibian. Located in the Indonesian province of Papua, on the island of New Guinea, the Foja Mountains cover more than 3,000 km² of undisturbed rainforest, and it is hoped that these discoveries will ensure long-term protection for this unique area, currently classified as a national wildlife sanctuary.

Source: *Conservation International press release* (2010), http://www.conservation.org/newsroom/pressreleases/Pages/New_Species_in_Foja_Mountains.aspx

Tiger poachers arrested in Sumatra

Undercover work by FFI's Tiger Protection and Conservation Unit has resulted in the arrests of two tiger poachers in Bengkulu City, south-west Sumatra. The two poachers, a father and his son, were found in possession of a pelt and skeleton of a Sumatran tiger. During the 2-month investigation, which also involved the Bengkulu police, the older poacher told an undercover investigator that he had poached over 100 Sumatran tigers during his 30-year career as a professional poacher. Current estimates suggest that the Sumatran tiger population stands at c. 500 individuals. Even allowing for this as a conservative estimate, the two poachers have undoubtedly had a negative impact on this Critically Endangered subspecies.

Source: FFI media release (2010), http://www.fauna-flora.org/docs/Media_release_Poachers_killed_100_tigers.pdf

Indonesia's first forest for ecosystem restoration increases in size

An area of rainforest in a former logging concession, acquired by Burung Indonesia (a BirdLife partner), BirdLife International and the RSPB in 2008 has almost doubled in size, thanks to an announcement by the Indonesian Forest Minister. Originally 52,000 ha in size, the Harapan Rainforest was Indonesia's first forest for ecosystem restoration, although since its acquisition the number of applications for forest restoration licences received by the Ministry of Forestry has increased substantially. The announcement by the Forest Minister increases the size of the forest under protection to 98,000 ha. Home to 55 mammal species including Critically Endangered Sumatran tigers, Harapan Rainforest is one of the last remaining areas of dry lowland Sumatran forest. Work already carried out in the forest includes a tree planting programme to link up fragments of forest and action to decrease illegal logging and forest fires.

Source: *BirdLife International News* (2010), <http://www.birdlife.org/news/news/2010/06/second-licence-concession-for-harapan.html>

Hope for Asian vultures

In a positive development for Asia's beleaguered vultures, three species of vulture are reported to have bred successfully in captivity, fledging a total of 10 chicks. For one of the species, the long-billed vulture, this represents the first time that the species has ever fledged chicks in captivity. These three species, which also include slender-billed and oriental white-backed vultures, have suffered severe declines over the past few years, with worst case scenarios suggesting that they could be extinct within 10 years. The main driver of the vulture population decreases has been the use of diclofenac as a veterinary drug. Birds feeding on cattle carcasses containing this drug suffer acute kidney failure and die within a few days. While the captive breeding success is good news in terms of preventing the total extinction of these species, diclofenac still needs to be completely removed from circulation before a release programme for the vultures can be considered.

Source: *RSPB press release* (2010), <http://www.rspb.org.uk/news/details.asp?id=tc:9-255318>

Illegal 'zoo' inadvertently uncovered...

Police in Malaysia inadvertently uncovered a massive haul of threatened wildlife during

a raid for stolen cars. In a warehouse in the suburbs of Kuala Lumpur the police found thousands of birds, leopard cats, albino pygmy monkeys and other animals. More than 20 species of protected wildlife were found, including a pair of rare birds of paradise worth c. GBP 205,000. The animals are now under the protection of the wildlife department. The authorities believe the animals were to be bred or sold, and are now searching for the syndicate behind the illegal operation.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/10628632>

...and smuggled rare Madagascar tortoises seized

In July customs officers at Kuala Lumpur airport found nearly 400 rare radiated and ploughshare tortoises smuggled from Madagascar, believed to be destined for pet shops and possibly cooking pots. The animals were found in the luggage of two Malagasy women, who have been arrested. There are fears that, as Madagascar's political problems continue, illegal exportation of the country's animals and plants is on the rise.

Source: *BBC News* (2010) <http://www.bbc.co.uk/news/world-asia-pacific-10674741>

Old World's smallest frog in pitcher plants on Borneo

A new diminutive species of microhylid frog *Microhyla nepenthicola* has been described from the Matang Range, Sarawak, Malaysian Borneo. The new species is an obligate of the pitcher plant *Nepenthes ampullaria*, breeding in senescent or mature pitchers, and is the Old World's smallest frog and one of the world's tiniest. Snout-vent length of adult males is 10.6–12.8 mm. Miniaturization and reduced webbing may be the result of navigation on the slippery zone of the pitcher plants. The plant lives off decomposing organic matter that collects in its deep pitcher-shaped cavity. The frog uses this as a habitat, laying its eggs there. When the tadpoles hatch they live in the gathered organic goo until they mature.

Source: *Zootaxa* (2010) 2571, 37–52, and *BBC News* (2010), <http://www.bbc.co.uk/news/science-environment-11095728>

EAST ASIA

Baiji's range did not appear to shrink before its extinction

Interviews with Yangtze fishing communities suggest that the Yangtze river dolphin or baiji did not undergo a range contrac-

tion in the years leading up to its extinction. The baiji, which occupied the Yangtze channel and two nearby lakes, is the first large mammal to have been declared extinct for over 50 years. However, a data set of 406 last-sighting records of the species show that the species was still being seen across the middle and lower parts of the Yangtze channel and in one of the lakes in the decade before its extinction. This is significant because some of the IUCN's calculations of extinction risk take into account decline in range extent, and this new evidence demonstrates that mobile species such as the baiji may not show a decline in range even when hurtling towards extinction.

Source: *Proceedings of the Royal Society, B* (2010), <http://dx.doi.org/10.1098/rspb.2010.0584>, and *Journal Watch Online* (2010), <http://journalwatch.conservationmagazine.org/2010/05/18/up-and-down-the-creek/>

How many species of finless porpoises are there?

Finless porpoises, which inhabit a range of tropical and temperate waters around the Indo-Pacific, may be more threatened than previously thought. A study of finless porpoises in Asia has revealed there are three distinct evolutionarily significant units including at least two separate species. Finless porpoises living in the fresh water of China's Yangtze River, which number < 1,000, are genetically unique and distinct from marine porpoises. Those porpoises living in the Yellow Sea are distinct from those in the South China Sea, with no or very little gene flow between them, even in areas where they overlap. China is considering upgrading the conservation status of the Yangtze population of finless porpoises from a national II conservation grade to national I.

Source: *Marine Biology* (2010), 157, 1453–1462, and *BBC News* (2010) http://news.bbc.co.uk/earth/hi/earth_news/newsid_8767000/8767968.stm

NORTH AMERICA

Cat trap

Scavenging cougars in Canada are becoming snared in carrion-baited traps set by trappers to catch wolves. It is illegal to trap or snare cougars in Canada but an increase in wolf trapping has led to a rise in cougar bycatch; researchers suggest that between 1991 and 2008 the number of cougars being killed by snaring increased by 1.2% every year, which, combined with high hunting mortality, is leading to low annual survival

of cougars in the study area of west-central Alberta. The traps still snare more wolves than cougars but the study's authors say more could be done to lower the number of cougars being caught, for example by placing baited traps in wolf-specific habitats.

Source: *Journal of Wildlife Management* (2010), <http://www.bioone.org/doi/abs/10.2193/2009-252>, and *Journal Watch Online* (2010) <http://journalwatch.conservationmagazine.org/2010/04/30/cat-trap/>

Turtles going up in flames in the Gulf...

A lawsuit by environmental groups has resulted in an interim agreement by BP and the US Coast Guard to halt the burning alive of threatened sea turtles in burn boxes in the Gulf of Mexico. The burn boxes, in which oil is corralled before being set alight are part of BP's attempt to clear some of the oil from the Deepwater Horizon oil spill. BP and the US Coast Guard have agreed to let environmentalists clear the burn boxes of turtles before the oil is set alight. Wildlife observers will also be placed on board every vessel in an attempt to help protect the turtles. This new agreement has been welcomed by conservationists, who are now focusing their attention on how to safeguard the long-term future of the turtles that inhabit the Gulf of Mexico.

Source: *Sea Turtle Restoration Project* (2010), <http://www.seaturtles.org/article.php?id=1685>

...and Gulf spill cleanup efforts ineffective and harming birds

A report released in July by the American Bird Conservancy has shown how some of the cleanup efforts from the Deepwater Horizon oil spill are causing harm to birds and their habitats rather than helping them, that cleanup vessels are inadequate and operating in the wrong locations, and that the deployed boom has failed to protect some important bird colonies. The report provides five key recommendations: use of a more effective boom, employment of better fencing to protect sensitive nesting areas, deployment of adequately sized and equipped oil skimmers close to the coast, creation of a staging and recovery area for heavily oiled birds close to the coast, and the restoration of eroded island habitat for nesting birds.

Source: *American Bird Conservancy Press Release* (2010), <http://www.abcbirds.org/newsandreports/releases/100719.html>

Bat caves closed

The US Forest Service has issued an emergency order to close caves and abandoned mines in National Forests and National

Grasslands in Colorado, Wyoming, South Dakota, Nebraska and Kansas. The year-long closure is in response to the spread of white-nose syndrome, which has resulted in the death of over 1 million bats in the eastern USA. The fungal disease has affected nine bat species since 2006, with mortality reaching almost 100% in some caves and mines where bats hibernate. Bats affected with the fungus come out of hibernation severely underweight, and often starve before their insect prey emerges in the spring. Originally detected in New England and mid-Atlantic states, white-nose syndrome has now spread to states in the south and mid west, and was recently found at sites in Missouri and north-west Oklahoma.

Source: *US Forestry Service news* (2010), <http://www.fs.fed.us/r2/news/2010/july/nr-wnsclosureorder-final7-27-10.pdf>

Streams and mountain-top mining make for a potent mix

A study presented at the Ecological Society of America's annual conference has provided further evidence of the detrimental effects of mountain-top mining on watersheds. Mountain-top mining is widespread in eastern Kentucky, West Virginia and south-western Virginia. The US Environmental Protection Agency recommends that mining should not increase the electrical conductivity of stream water, a measure of its ionic concentration, to > 500 microsiemens per cm ($\mu\text{S cm}^{-1}$). This recent study found that 208 sites in the Appalachian Mountains where mining had occurred had streams with an average water conductivity of $650 \mu\text{S cm}^{-1}$, and areas that had undergone intensive mining had levels of $1,110 \mu\text{S cm}^{-1}$. Even in areas where as little as 1% of the watershed had been mined the number of invertebrates decreased sharply. By comparison, sites where no mining had taken place had average conductivity levels of $105 \mu\text{S cm}^{-1}$.

Source: *Nature* (2010), 466, 806

Vanishing vaquita

Surveys of the waters at the northern end of the Gulf of California suggest that the most threatened marine mammal in the world is now c. 250 individuals away from extinction. The threats faced by the vaquita are similar to those affecting other small cetaceans that live in rivers and coastal areas, namely pollution, ship traffic and fishing. A survey in 1997 reported the entire vaquita population to be 567 individuals. Ten years later a survey based on porpoise population growth rates and catches by fishermen suggested that the population had crashed to 150 individuals. The new study, which

used hydrophones along some transects to listen for the distinctive clicks made by the vaquita, suggested that the population now stands at 250 individuals. This, plus the researchers' sightings of newborn vaquita calves, is encouraging, although the species is still in need of urgent conservation action.

Source: *Nature* (2010), 465, 674–675

Invasive tendrils affect atmosphere

An investigation at three sites in the south-eastern USA of the effects of invasion by the nitrogen-fixing legume kudzu had found that this plant affects the atmosphere of areas it invades. Kudzu, native to Asia, was introduced to the USA to act as a forage crop and to stabilize the soil during the early 20th century. However, the plant raises ozone levels by increasing the nitric oxide emissions from soils as a result of its nitrogen fixing activities. Soils where kudzu had invaded in Georgia had nitric oxide emissions that were 100% higher than soils where the vine was not present. In areas with extensive invasion by kudzu researchers predict that the number of pollution events could increase by up to 7 days each summer.

Source: *Proceedings of the National Academy of Sciences of the USA* (2010), 107, 10115–10119

Reservoirs remodel fish

An examination of the body shape of fishes from eight pairs of river and reservoir sites in the USA's Mobile River Basin has revealed that reservoirs are having a significant impact on their fishy inhabitants. *Cyprinella venusta* that live in reservoirs have a deeper body, smaller head, a more ventral eye position and dorsal fins closer to the front of their bodies compared to their river-dwelling conspecifics. The size of the reservoir was also found to have an effect on the body shape of the fish. Considering that the USA is estimated to have c. 79,000 dams this could be having a more significant effect on fish biodiversity than has previously been recognized.

Source: *Biology Letters* (2010), <http://dx.doi.org/10.1098/rsbl.2010.0401>, and *Journal Watch Online* (2010), <http://journalwatch.conservationmagazine.org/2010/06/08/shape-shifter/>

Mexico arrests man with 18 monkeys around his waist

Mexican authorities have arrested a Mexican citizen who was trying to smuggle 18 titi monkeys into the country in a girdle around his waist. Roberto Sol Cabrera was stopped at Mexico City's international airport upon arrival from Lima because

he had apparently been behaving nervously. The animals were in socks and two of them were dead at the time of confiscation. Mr Sol Cabrera has indicated he paid the equivalent of GBP 19,70 for each specimen in Peru. According to estimates, monkeys such as those confiscated could have been sold for GBP 509–1,018 in Mexico. Animal trafficking is a serious problem in Mexico because it is a route for those who want to smuggle animals into the USA and because there is a deep-rooted tradition of having wild animals as pets. The Sonora market, in the Mexican capital, is known to sell parrots, monkeys and reptiles.

Source: *BBC News* (2010), <http://www.bbc.co.uk/news/world-latin-america-10692772>

CENTRAL AMERICA AND CARIBBEAN

Turtle hero named as 2010 National Geographic Emerging Explorer

FFI's Nicaragua Programme Manager José Urteaga has been named an Emerging Explorer for his work on threatened marine turtles. Nicaragua's waters are home to five of the seven marine turtle species, all of which are threatened with extinction. In Nicaragua a major threat is the harvesting of turtle eggs by local people, many of whom live on < USD 1 day⁻¹. Not only do José and his team patrol the nesting beaches, they also work with local communities to develop alternative livelihoods. The team is also working to reduce the demand for turtle eggs in cities through a high profile campaign against their consumption. The results of their efforts are striking; before the project began the vast majority of leatherback nests along Nicaragua's Pacific coast were poached, now > 90% of nests of these Critically Endangered turtles are protected.

Source: *FFI press release* (2010), http://www.fauna-flora.org/docs/Press_Release_Nicaraguan_Marine_Biologist_named_Emerging_Explorer.pdf

Cane toad curse spreads

The effect of invasive cane toads on Australia's native fauna has been well documented. Now evidence has come to light that animals in other areas where the cane toad was introduced are also being poisoned by eating these amphibians. Cane toads, native to South and Central America and the southern USA, were introduced to islands in the Caribbean in the 19th century to control sugar cane pests. Researchers at

the University of the West Indies have now documented cane toads poisoning Vulnerable Jamaican boas. Despite having shared the island with the cane toads for over 160 years, these observations indicate that the boa, which is also threatened by habitat loss and introduced dogs and pigs, has not yet learnt to avoid these toads.

Source: *BBC News* (2010), http://news.bbc.co.uk/earth/hi/earth_news/newsid_8728000/8728758.stm and *Biological Invasions* (2010), <http://dx.doi.org/10.1007/s10530-010-9787-7>

Coral transplant offers hope

A transplantation project carried out on elkhorn coral in the British Virgin Islands has shown that transplantation, using cheap and simple methods, can be effective. Fragments of elkhorn coral, which break off in rough weather, were collected by divers and either attached to a reef at the donor site or at a new site. Fragments were attached using four different methods: cable tie, two types of epoxy resin and hydrostatic cement. Four years after the transplantation fragments had grown to 1,450 cm² in area, large enough to be potentially sexually active. There was no difference between fragments moved to new reefs and those attached to old ones, and the methods of attachment were all successful; the researchers suggest that cable ties are suitable for attaching fragments to projections, and resin and cement are suitable for use on low-relief reefs.

Source: *Restoration Ecology* (2010), <http://dx.doi.org/10.1111/j.1526-100X.2010.00664.x>

SOUTH AMERICA

Concern at removal of Galapagos from World Heritage Sites in Danger list

The Galapagos Conservation Trust has voiced its concern about UNESCO's decision to remove the Galapagos from the World Heritage Sites in Danger list. The Galapagos Islands were listed as a World Heritage Site in 1978 but the combination of a rapid increase in the human population and in visitor numbers, a growing menace from invasive species, and unregulated development contributed to the inclusion of the Islands on the UNESCO Danger list in 2007. Since this listing the Ecuadorian government has introduced measures to address some of these threats including tightening immigration and quarantine procedures, the creation of a USD 15 million Invasive Species Fund and strengthening the governance of the

islands. The Galapagos Conservation Trust fears that the UNESCO decision may give the mistaken impression that these islands are no longer threatened.

Source: *Galapagos Conservation Trust news* (2010), <http://www.savegalapagos.org/news/2010/07/unescos-decision-to-remove-galapagos-from-world-heritage-in-danger-list-as-premature.shtml>

A new and Critically Endangered titi monkey from Colombia

A new species of titi monkey, *Callicebus caquetensis*, has been described from the Department of Caquetá, Colombia. It is similar in fur color to *Callicebus ornatus* and *Callicebus discolor* but has no white band on the forehead, and the hands and feet are not white, as they are in *C. ornatus*. *C. caquetensis* is scarce and its habitat is fragmented. It occurs at low densities in agricultural land, in fragmented remnants of the former forest, and dispersal is difficult if not impossible. The species should probably be categorized as Critically Endangered because its geographic range is severely fragmented and continuing to decline. It is also suspected that the population size is < 250 mature individuals. Immediate efforts are needed to publicize the presence and the state of this primate species as well as to create some small reserves in the region.

Source: *Primate Conservation* (2010), 25, <http://www.primat-sg.org/PC25.htm>

Four new protected areas in the Atlantic Forest of Brazil

On 10 June 2010, as a result of a collaboration between the federal government and the government of the state of Bahia, four new protected areas were created in the Atlantic Forest of the state and an existing Park was expanded. With the creation of the National Parks of Alto Cariri, Boa Nova and Serra das Lontras, the Boa Nova Wildlife Refuge and the amplification of the Pau Brasil National Park, the total protected area that will be created is 65,070 ha. For the Atlantic Forest of Bahia this is an increase of c. 60% in strictly protected areas and 5% in all protected areas, both strictly protected and for sustainable use.

Source: *Associação Ação Ilhéus* (2010), <http://www.acaoilheus.org/news/2205-quatro-novas-unidades-de-conservacao-namata-atlantica-da-bahia>

Jaguar hunters arrested

In July an operation called Operation Jaguar, by the Brazilian Federal Police, arrested 15 people for illegal jaguar hunting.

The group had organized hunting safaris and charged USD 1,500 for each jaguar killed on farms in the Brazilian states of Mato Grosso do Sul, Mato Grosso and Paraná. Besides group members, the police detained six tourists who were preparing for a safari on private property near Sinop in Mato Grosso: four Argentinians, a Paraguayan and a member of the military police from Mato Grosso. The members of the group will be charged under the law on environmental crimes and for carrying arms, crimes that carry a penalty of 7 years in prison.

Source: *Diarionline* (2010), <http://www.diarionline.com.br/index.php?s=noticia&id=16838>

Albatrosses benefit from Task Force

The Albatross Task Force in Brazil is having a significant effect on albatross populations, with fewer birds dying on longline hooks thanks to the intervention of expert instructors on board fishing vessels. It is estimated that, in 2007, one albatross died per 1,000 long-line hooks set but now this figure has fallen to one bird per 10,000 hooks. The Albatross Task Force encourages the use of simple methods to reduce bycatch by the Brazilian tuna and swordfish fleet. These methods include weighted hook lines, which sink rapidly below the surface, and bird-scaring lines, which deter birds from diving for baited hooks. Two new instructors have now been employed, thanks to funding by the BBC Wildlife Fund. Their roles are to identify ports and boats where Task Force efforts should be focused, carry out assessments of fishing gear, and assess bycatch and the positive impact of the new technologies.

Source: *BirdLife International News* (2010), <http://www.birdlife.org/news/news/2010/06/BBC-fund-helps-to-keep-albatrosses-off-the-hook.html>

AUSTRALIA/ANTARCTICA/ NEW ZEALAND

Australia's protected area system needs rearranging?

An investigation of Australia's strictly protected areas, which cover c. 8% of the country's landmass, has revealed that if the least cost-effective 1% of these 6,990 areas were replaced and the capital used elsewhere there could be significant benefits for conservation in the country. In particular, the number of vegetation types that have $\geq 15\%$ of their pre-clearance extent (i.e. before clearance by European settlers) protected could increase from 18 to 54, out of a maximum of 58. Furthermore,

the area of land under conservation protection would also increase substantially, without any additional spending requirements. The study's authors acknowledge that degazetting protected areas is a controversial idea, and suggest that an alternative idea could be to scale up or down the investment in management of a protected area according to its cost-effectiveness.

Source: *Nature* (2010), 466, 365–367

Hot weather equals shorter dives for crocodiles

One may imagine that warmer water is good news for ectotherms such as crocodiles but new research suggests this might not be the case. In the summer freshwater crocodiles in Queensland were found to make dives of a shorter duration in the summer compared to winter dives. Furthermore, crocodiles made fewer dives of longer than 50 minutes in the summer compared with the winter, and diving for > 40 minutes in the summer also required the crocodiles to spend longer at the surface following their dive. It would appear that higher summer body temperature, calculated to be $5.2 \pm 0.1^\circ\text{C}$ higher than in the winter, means that the crocodiles' bodies had an increased oxygen demand during the dive, thus requiring the crocodiles to surface more frequently.

Source: *Proceedings of the Royal Society, B* (2010), <http://dx.doi.org/10.1098/rspb.2010.0902>

Easy-going management better for dingoes

Research into the relationship between the influx of invasive species and ecosystem resilience has shown that the way in which predators are managed in an ecosystem affects resilience, which has knock-on effects on the dominance of invasive species. Sites with different levels of control of Australia's top predator, the dingo, were investigated, and it was found that lethal control of dingoes affected the social structure of their populations. Fractured dingo societies result in the ecosystem becoming vulnerable to bottom-up increases of invasive mesopredators and herbivores. Less harsh control allows the reinstatement of top-down predator control by dingoes, and concomitant increases in biodiversity.

Source: *Ecology Letters* (2010), <http://dx.doi.org/10.1111/j.1461-0248.2010.01492.x>

Ancient frogs can breathe easy once more

Two amphibians that have been described as living fossils have seen off the latest threat to their existence, namely the pro-

posal to mine for minerals in their range. Hochstetter's and Archey's frogs, which constitute half of New Zealand's native amphibian fauna, are both included on the Zoological Society of London's Evolutionarily Distinct & Globally Endangered list. The proposal by the New Zealand government to remove 7,000 ha of land from Schedule 4 of the Crown Minerals Act, which grants land protection from mining, received 37,552 submissions responding to the discussion paper, most of which opposed the removal of land from Schedule 4. Areas originally considered for delisting from Schedule 4 included several long-term frog monitoring sites, where data had been collected for over 40 years, as well as the type locations for both Hochstetter's and Archey's frogs.

Source: *ZSL* (2010), <http://www.edgeofexistence.org/edgeblog/?p=864>

Rock flippers take note

New research in south-eastern Australia sounds a warning to those who like to turn over rocks to investigate what lies beneath. The Vulnerable broad-headed snake and its prey, velvet geckos, live in crevices within rocky outcrops in this part of Australia but researchers found that even though most disturbance of these rocks was subtle, with rocks moved < 30 cm from their original places, disturbed rocks typically harboured fewer reptiles. A field experiment showed that the crevices beneath displaced rocks were generally larger and cooler than those beneath rocks that were replaced to their original locations. The findings suggest that faunal surveys and educational activities around rocky outcrops risk making the habitat less suitable for crevice-dwelling reptiles unless care is taken to reposition the rocks accurately.

Source: *Animal Conservation* (2010), 13, 411–418

Plastic found in world's most remote seas

The first coordinated joint survey of marine debris has taken place in the seas around East and West Antarctica, with observations made from Greenpeace and British Antarctic Survey ships as well as an ice patrol vessel. The *Dumont D'Urville* and *Davis* Seas off the coast of east Antarctica were found to contain fishing buoys and a plastic cup, while the Amundsen Sea, in western Antarctica, also harboured fishing buoys and plastic packaging. The Amundsen Sea is not near any research stations or other bases, so researchers suspect that the debris ended up in these remote areas via ocean currents. A survey of seabed

sediments from around Antarctica found no evidence yet of plastic fragments but with floating debris present this may just be a matter of time.

Source: *Marine Environmental Research* (2010), 250–252, and *Planet Earth Online* (2010), <http://planetearth.nerc.ac.uk/news/story.aspx?id=643>

All internet addresses were up to date at time of writing. Note that in the HTML version of this document (at <http://journals.cambridge.org>) all internet links are live and can thus be used to navigate directly to the cited web sites. The Briefly section in this issue was written and compiled by Elizabeth Allen and Martin

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