Briefly

INTERNATIONAL

Forget dining by candlelight—elephant seals prefer blue light

Four female southern elephant seals in Kerguelen, in the southern Indian Ocean, fitted with satellite tags and time-depth recorders that also measured light levels, have revealed that bioluminescence helps the seals find their prey in dark marine environments. Seals that feed during the night or during deep dives, such as elephant seals, have vision that is adapted to low light intensity, with a sensitivity peak at 485 nm, which corresponds to the blue light produced by bioluminescent marine organisms. Data from 3,386 dives made by the four tagged seals revealed a positive correlation between bioluminescence events and the foraging intensity of the elephant seals. The researchers suggest that bioluminescence may be providing the seals with an indication of prey occurrence in a habitat that provides few other visual cues.
Source: PLoS One (2012), http://dx.doi.org/10.1371/journal.pone.0043565

Only connect: forest health linked to its surroundings

A large-scale examination of 60 protected areas in 36 nations throughout the world's major tropical regions has revealed much variation in the health of these reserves. The study examined changes over the last 20–30 years using a data set comprising 31 functional groups of species and 21 potential drivers of environmental change. Although about half of the reserves have been effective, or performed passably, at sustaining their biodiversity, the other half have lost biodiversity, and this loss is often widespread throughout the taxonomic groups studied. The factors most strongly correlated with a decrease in reserve health are habitat disruption, hunting and exploitation of forest products. A significant finding of this study was the observation that changes outside the reserves were linked to the ecological health of the reserves themselves, suggesting that protected areas maintain strong ecological ties to the land beyond their boundaries.
Source: Nature (2012), http://dx.doi.org/10.1038/nature11318

Medal winners announced at IUCN Congress

Sir David Attenborough and Dr Wolfgang E. Burhenne have been honoured with prestigious IUCN awards in recognition of their outstanding contributions to international conservation. Sir David Attenborough received the John C. Phillips Memorial Medal, which was announced at the IUCN World Congress in September. As a British naturalist and broadcaster, Sir David has, over the course of the last 50 years, inspired generations through his captivating television programmes, raising awareness of the natural world and its vulnerability. The Harold Jefferson Coolidge Memorial Medal was awarded in recognition of the significant contributions made to international environmental law by Dr Wolfgang E. Burhenne of Germany in his role as the Executive Governor of the International Council on Environmental Law. The award also recognizes his role within the IUCN, specifically as Chair and Deputy Chair of IUCN's Commission on Environmental Law, Legal Adviser to the Union and long standing member of the IUCN Council.
Source: IUCN News (2012), http://www.iucnworldconservationcongress.org/news__press/?10958/IUCN-Congress-recognises-conservation-greats

Landmark decision on zoological nomenclature

Following years of heated debate the International Commission on Zoological Nomenclature (ICZN) has passed an amendment to its rules, allowing electronic-only publication of scientific names of animals. Previously, for an animal species name to be recognized under ICZN rules the researchers had to publish their work in hard-copy format. Under the amendment, online-only publication will be accepted as long as the online journal or book has an ISSN or ISBN number and is archived for long-term access. This rules out publication in blogs, Wikipedia, and other web-only, unarchived sources. In addition to these caveats, researchers will also be required to register the publication on ZooBank, the official ICZN online registry for scientific names of animals when the new rule comes into force at the beginning of 2013.
Source: ICZN Press Release (2012), http://iczn.org/content/iczn-amendment-electronic-publication

Sea ice lows

Arctic sea ice cover has reached its lowest extent since satellite monitoring of the ice began in 1979. By 26 August 2012 the sea ice extent had fallen to 4.10 million km^2, eclipsing the previous lowest extent, 4.17 million km^2, on 18 September 2007. Further melting is anticipated in 2012 as the melt season could continue into September. Whereas the record set in 2007 came in a year of near perfect summer weather for melting ice, 2012 has been unremarkable in this respect, with only one big, ice-melting storm at the beginning of August. Researchers point out that, whereas in previous years Arctic ice cover was predominantly made up of thick, multi-year ice, it now consists of more seasonal ice, which is weaker and more prone to melting during the summer months.
Source: National Snow and Ice Data Center Press Release (2012), http://nsidc.org/news/press/20120827_2012extentbreaks2007record.html

Forests are good for rain

Although there is broad understanding that vegetation affects precipitation and that the replacement of forest by pasture or crops may lead to a reduction in rainfall, there have been few observational studies of the effects of large-scale deforestation on precipitation. Now researchers have used satellite remote sensing data of tropical precipitation and vegetation together with simulated atmospheric transport patterns to assess the pan-tropical effect of forests on tropical rainfall. The results indicate that for $>60\%$ of land located between 30° south and 30° north, air that has passed over extensive vegetation in preceding days produces twice as much rain as air that has passed over sparse vegetation. When this relationship is applied to current trends of deforestation in the Amazon, the results indicate that there may be reductions of 12 and 21% in wet- and dry-season precipitation, respectively, by 2050 across the Amazon basin.
Source: Nature (2012), http://dx.doi.org/10.1038/nature11390

Long reach of bottom trawlers

The effects of bottom trawling on fish populations is well documented but new research suggests that the process of bottom trawling may be having an effect on the submarine landscape over large spatial scales. An investigation into deep sea floor morphology on upper continental slopes showed that the methods employed in

bottom trawling, in which heavy nets and gear are dragged across the sea floor, result in the dispersal and removal of sediment in fishing areas. High-resolution sea floor relief maps of trawled areas show the deep sea floor becoming smoother and less topographically complex over time. The researchers draw comparisons between the effects of bottom trawling on seascapes with those of intense agricultural activities on land, although they point out that while ploughing only occurs a few times a year, trawling can occur on a nearly daily basis.
Source: Nature (2012), http://dx.doi.org/10.1038/nature11410

Threatened invertebrates documented

The most comprehensive review of the conservation status of the world's invertebrates indicates that up to 20% may be threatened with extinction. Investigation into the conservation status of invertebrates has lagged behind that of vertebrates; despite some regional invertebrate assessments, and examination of some iconic groups such as reef-building corals, the conservation status of $<1\%$ of all described invertebrates is known. This report, which assessed conservation assessments of 12,631 invertebrates, found similarities between vertebrates and invertebrates, with highest risk of extinction in less mobile species with small ranges. Similarly, freshwater invertebrate species had the highest levels of threat, followed by terrestrial and marine species. The report details the threats faced by invertebrates, which include pollution, dam construction and water offtake (the main threats to freshwater invertebrates), agricultural expansion and invasive species (terrestrial invertebrates) and exploitation, human disturbance and climate change (marine invertebrates).
Source: Spineless (2012), http://www.zsl.org/science/research-projects/indicators-assessments/spineless-status-and-trends-of-the-worlds-invertebrates,1987,AR.html

Shell faces big challenges in the Arctic

Damage to one of Shell's spill clean-up barges, the *Arctic Challenger*, is the latest in a series of problems to beset the oil company as they commence with their multi-year drilling programme in the Arctic sea. The limited nature of Shell's drilling schedule, which stipulated that they had to cease drilling exploratory wells in the Chukchi Sea by 24 September because of the dangers from encroaching ice fields, combined with damage to oil containers on the *Arctic Challenger*, has led the company to revise and delay their plans for the 2013–2013 exploration programme. Shell will continue to drill preparatory wells, known as top holes, in both the Chukchi and Beaufort seas, which will be capped during the winter months.
Source: Nature News Blog (2012), http://blogs.nature.com/news/2012/09/barge-damage-forces-shell-to-abandon-drilling-in-arctic-sea.html

Ocean Health Index developed

A group of researchers have developed an index that aims to measure the health of the world's oceans. The index is based on 10 goals ranging from carbon storage, to artisanal fishing opportunities and biodiversity, and works by assessing the current status and likely future condition of each of these goals. Each of the goals can be considered separately, as well as being combined into an overall score, and can be calculated for regional, national and international scales. The researchers who designed the model applied it to every coastal country to calculate an index of ocean health for each. Overall, the global index score was 60 out of 100, with individual country scores varying from 36 to 86. Developed countries generally had higher scores than developing countries, although there were some exceptions such as Suriname and Seychelles, which scored 69 and 73, respectively.
Source: Nature (2012), http://dx.doi.org/10.1038/nature11397, and *Ocean Health Index* (2012), http://www.oceanhealthindex.org/

Equations prove to be a barrier to citations

An investigation into the use of mathematical equations in articles about ecology and evolution has shown that the presence of equations in an article results in fewer citations of that article. For every additional equation per page of main text, papers receive 28% fewer citations overall. Other theoretical papers tend to cite equation-rich papers more frequently but citation in non-theoretical papers drops significantly, with 35% fewer citations for each additional equation per page in the main text. The findings suggest that where equations occur in accompanying appendices citation rates are not affected.
Source: Proceedings of the National Academy of Sciences of the USA (2012), http://dx.doi.org/10.1073/pnas.1205259109

Organized crime and logging go hand in hand

A new report from the United Nations Environment Programme and INTERPOL reveals that 50–90% of logging in key producer tropical countries is illegal, with an estimate that illegally logged timber may account for 15–30% of the global volume of all forestry. Illegal logging is a lucrative business, making it attractive to organized crime syndicates. The income from illegally harvested timber is estimated to be at least USD 11 billion, comparable to the USD 13 billion generated by the production of drugs. Illegal logging poses a threat to local communities, as well as hampering schemes such as Reduced Emissions from Deforestation and Forest Degradation. The report shows how the illegal logging industry is now more sophisticated than it has been in the past, and contains details of >30 ways to conduct illegal logging, laundering, selling and trading illegal logs.
Source: Green Carbon, Black Trade (2012), http://dev.grida.no/logging/layout/RRAlogging_english.pdf

Putting a cost on conservation

The financial cost of meeting targets set for halting extinctions and safeguarding important habitats by 2020 have, until recently, been largely unknown. But a new study providing figures for investment estimates that USD 4 billion is needed annually to reduce extinction risk for all known threatened species. Furthermore, an additional USD 76 billion is needed each year to protect and manage terrestrial sites of global conservation significance. It is hoped the findings of the analysis will be used as a basis for discussions among world governments as they negotiate finance needed to implement the Convention on Biological Diversity's Strategic Plan for Biodiversity up to 2020.
Source: BirdLife International (2012), http://www.birdlife.org/community/2012/10/new-study-costs-of-conservation/, and *Science* (2012), http://dx.doi.org/10.1126/science.1229803

Marine reserves not sufficient for bigeye conservation

Current mortality of bigeye tuna in the Pacific Ocean from all fishing gears indicates that unless action is taken the biomass of the bigeye tuna in the Pacific Ocean will fall below that capable of producing a maximum sustainable yield. Over 50% of the total bigeye tuna landed in the Western Central Pacific Ocean are caught as incidental bycatch in the purse seine industry, while the rest are landed in long-line fisheries. In 2009 two high-seas enclaves were closed as a conservation measure but it appears that this has had no beneficial effect on the bigeye tuna stock. Now a model examining alternative management

strategies has shown that measures to control bigeye mortality through the prohibition of fish-aggregation devices in the purse seine fishery and restrictions on longline fishing in spawning areas are more effective means of maintaining bigeye tuna stocks. Patience is required, however, as large-scale benefits from bigeye tuna conservation measures will only become apparent in the 2030s.
Source: Proceedings of the National Academy of Sciences of the USA (2012), http://dx.doi.org/10.1073/pnas.1209468109

Sea-grass carbon bounty

One of the world's most threatened ecosystems, seagrass meadows, has more in common with another imperilled ecosystem, tropical forests, than first appearances might suggest. An analysis of 945 seagrass beds around the world has estimated that seagrass captures 27.4 million t of carbon annually and stores it in the soil beneath its roots. Given the total area, this means that seagrass meadows store up to 19.9 billion t of carbon and, unlike forests, which store carbon for c. 60 years before starting to release it, seagrass beds store carbon indefinitely. Given the importance of seagrass meadows for carbon storage, the threats to these ecosystems are particularly serious. The 1.5% of seagrass meadows lost as a result of water pollution, dredging for coastal developments and climate change each year equate to the release of 299 million t of carbon annually.
Source: New Scientist (2012), 214(2866), 16, and *Nature Geoscience* (2012), http://dx.doi.org/10.1038/ngeo1477

EUROPE

Study further muddies organic waters

A meta-analysis investigating the environmental impacts of organic vs conventional farming in Europe has found that organic farming tends to have a positive impact on the environment per unit of area but not always per product unit. Higher soil organic matter content and lower nutrient losses were associated with land farmed organically compared to conventionally farmed land but when the two systems were compared by looking at what they produce, organic farming had higher land use, eutrophication potential and acidification potential per product unit. Most studies showed fewer impacts on biodiversity arising from organic farming than from conventional farming. The analysis identified the areas where both farming systems need to improve, and suggests that techniques from both organic and conventional systems could contribute to the development of farming systems that are high yield but low impact.
Source: Journal of Environmental Management (2012), http://dx.doi.org/10.1016/j.jenvman.2012.08.018

Red meat consumption impacts health and our carbon footprint

A recent study suggests that reducing red and processed meat consumption would not only prompt a fall in chronic disease incidence in the UK but also shrink the country's carbon footprint by c. 28 million t per year. Food and drink account for a third of all greenhouse gas emissions attributable to UK consumers, with livestock farming accounting for nearly half of this proportion because of the large quantity of cereals and soya imported for animal feed. Previously studies have shown that the risks of coronary heart disease, type 2 diabetes, and bowel cancer rise by 42%, 19%, and 18% respectively with every additional 50 g of red and processed meat eaten daily. The research indicates that cutting average consumption from 91 to 53 g a day for men and from 54 to 30 g for women would significantly cut the risk of coronary artery disease, diabetes and bowel cancer by 3–12% across the population as a whole. Furthermore, the expected reduction in greenhouse gas emissions would amount to 0.45 t per person per year.
Source: BMJ Open (2012), http://dx.doi.org/10.1136/bmjopen-2012-001072

Archived vegetation surveys of terrestrial protected areas

The original record sheets of the International Biological Programme's surveys of terrestrial protected areas are now in the archives of the Royal Society in London. The surveys were carried out in the 1969s and 1970s using standardized recording sheets described, with instructions, in Peterken et al. (1968) and with the results summarized in Clapham (1980). This archive includes > 3,000 data sheets from 55 countries. The original data sheets sent in are in this archive and could be of considerable interest to those monitoring vegetation changes in specific areas, particularly if copies of the data sheets have not been retained in local archives.
Source: Notes and Records of the Royal Society (2012), http://dx.doi.org/10.1098/rsnr.2012.0029

Large wetland creation planned in England

A partnership between the Royal Society for the Protection of Birds and Crossrail, the company constructing new rail tunnels under London, will result in the creation of Europe's largest man-made wetland. Crossrail will provide 4.5 million t of earth to Wallasea Island, in the Thames Estuary. This earth will be used to recreate the wetland landscape that last existed 400 years ago, transforming Wallasea from an area of levee-protected farmland to a wetland twice the size of the City of London. The new wetland, which will be 670 ha in size, will contain > 12 km of coastal walks and cycle routes, and will be a habitat for tens of thousands of migratory birds, as well as provide a buffer area against coastal flooding.
Source: RSPB News (2012), http://www.rspb.org.uk/news/324715-construction-of-europes-largest-manmade-coastal-reserve-starts

Stop fishing for a decade and reap long-term dividends

A report by a UK-based think tank, the new economics foundation, has calculated that a temporary cessation in fishing to allow depleted stocks to recover could bring long-term benefits for the fishing industry. An examination of 49 overfished stocks in the North-east Atlantic revealed that all of these stocks would recover within 9.4 years, after which these restored stocks could deliver up to GBP 14.62 billion per year in gross revenues. This total is 2.7 times the value of landings from these stocks in 2010. The new economics foundation calculated the investment required to mitigate the short-term costs to the fishermen who would suffer from a temporary moratorium on fishing would amount to a total of GBP 10.4 billion over the 9.4-year period of fishery recovery. As long as fishing does not exceed the maximum sustainable yield for these stocks post recovery, the financial benefits are predicted to be generated indefinitely.
Source: No Catch Investment (2012), http://www.neweconomics.org/nocatchinvestment

Salt-marsh proves a slippery customer to recreate

A study of managed realignment projects in the UK, where salt-marshes are restored along coasts, has found that community composition of these managed restoration sites is lower than that of natural salt-marshes. Although managed realignment sites are rapidly colonized by halophytic species, early successional species remain dominant at these sites, even on the high marsh areas. Comparison between natural sites and managed realignment sites suggest one reason for the difference may be that, on the low and mid marsh, sediments were less oxygenated on recreated salt-marshes

than at the same elevations on the reference sites, which may favour pioneer species. On the high marsh, oxygenation at managed realignment sites was similar to that at reference sites but the sediments were often drier than at natural marshes. These findings have significant management implications because currently salt-marshes created through managed realignment do not meet the requirements of the EU Habitats Directive.
Source: Journal of Applied Ecology (2012), http://dx.doi.org/10.1111/j.1365-2664.2012.02198.x

Honey harvest devastated by wet summer

The cold and wet summer of 2012 caused a dramatic fall in the amount of honey produced by British bees, a survey of beekeepers has revealed. Yields are down 72% compared to 2011, research by the British Beekeepers' Association suggested. A mean of 3.6 kg of honey was produced per hive this year compared to the annual mean of 13.6 kg. The cold and wet conditions early in the year forced the organization to issue a mid summer warning to feed honey bee colonies with sugar syrup if necessary, to avoid starvation. The Association warned the worst may be yet to come, as a lack of food for bees and wet conditions mean breeding queens have been unable to produce a large enough brood to see colonies through the winter.
Source: BBC News (2012), http://www.bbc.co.uk/news/uk-20139062

Top 10 species most reliant on zoos

The British and Irish Association for Zoos and Aquariums has compiled a list of the top 10 species most reliant on zoos in the UK and Ireland. Animals on the brink of extinction including the mountain chicken, Amur leopard and blue-eyed black lemur are all in the top 10. The list highlights the importance of zoos not only in captive breeding for reserve populations and re-introductions but in the role they play in conservation. The criteria for selecting the top 10 included choosing species associated with ongoing field initiatives by zoos. Species chosen are currently categorized as Endangered, Critically Endangered or Extinct in the Wild on the IUCN Red List of Threatened Species. Other species that made into the top 10 include the white-clawed crayfish, blue-crowned laughing thrush, Potosi pupfish, Polynesian tree snail, Verdcourt's polyalthia tree, plough-share tortoise and scimitar-horned oryx.
Source: British & Irish Association of Zoos & Aquariums (2012), http://www.biaza.org.uk/uploads/Press%20Releases/Final%20Top%20Ten%20Press%20Release%20Web.pdf

Lead poisoning threat to waterbirds

Wildlife is exposed to lead, a highly toxic poison, through sources such as fishing weights, leaded paint, mining and smelting activities. But by far the greatest exposure comes from spent ammunition such as gunshot. Waterfowl and terrestrial game birds mistakenly ingest spent cartridge shot in place of the grit needed to aid digestion of food. Recent research by the Wildlife & Wetlands Trust (WWT) found a third of tested waterbirds had lead levels in their blood indicative of lead poisoning. The UK is now committed under the African–Eurasian Waterbird Agreement to phasing out the use of lead shot, with regulations restricting the use of lead shot introduced in England, Wales, Scotland and Northern Ireland in 1999, 2002, 2004 and 2009, respectively. In 2008 Defra commissioned WWT, working with the British Association for Shooting and Conservation, to conduct an 18-month study to assess compliance with these regulations. The final report is available at http://randd.defra.gov.uk/Document.aspx?Document=WC0730_9719_FRP.pdf
Source: WWT (2012), http://www.wwt.org.uk/issues/stop-lead-poisoning-our-birds/

Warning: exotic pet markets may seriously damage your health

A new study has found that reptile and amphibian markets in the UK and elsewhere in Europe pose a significant health threat to visitors. Conducted at exotic pet markets in the UK, Germany and Spain the results of the study showed that, within a relatively brief period, all visitors were potentially subject to some level of contamination. Furthermore, the findings also confirm that the public may be at risk from infection even if they do not visit such markets. The research warns of the health hazards associated with hiring out venues such as schools and leisure centres for exotic pet markets where germs may persist for weeks or even months after the event. Although trading of exotic pets at markets was banned in the UK in 1983, a small number of events still take place because of poor enforcement by local authorities. Markets in other European countries are still legal.
Source: Animal Protection Agency (2012), http://www.apa.org.uk/, and *Journal of the Royal Society of Medicine* (2012), http://dx.doi.org/10.1258/shorts.2012.012012

NORTH AFRICA AND MIDDLE EAST

Snow leopards tracked in Afghanistan

Two Endangered snow leopards have been fitted with radio-tracking devices in Afghanistan, the first time this species has been radio-tracked in the country. Snow leopards are found in many of the great mountain ranges in Asia, including the Pamir, the Himalaya, the Karakorum and the Hindu Kush, where these two male individuals were collared. The knowledge of local community rangers, and a recent camera-trapping programme by the Wildlife Conservation Society, enabled the identification of locations frequented by snow leopards. It is hoped that the results from the collars will shed light on the behaviour and habitat use of the snow leopard in this part of its range.
Source: Wildlife Conservation Society Press Release (2012), http://www.wcs.org/press/press-releases/snow-leopards-radio-collared-afghanistan.aspx

SUB-SAHARAN AFRICA

Abundance of Afromontane forest found in Angola

A visit to Angola's Namba mountains by a team of researchers in 2010 resulted in the discovery of hundreds of hectares of previously unrecorded Afromontane forest. Until this discovery, Afromontane forest, the most threatened habitat type in Angola, was thought to cover an area of c. 200 ha, with the c. 85 ha at Mount Moco considered the most important location for this habitat type. The high conservation value of Afromontane forest, and the threats this forest type faces, means its conservation is of high priority. The discovery of $>$ 590 ha of forest in the Namba mountains, as a result of the 2010 survey and onscreen digitization of forest patches, more than trebles the previous national estimate of Afromontane forest cover. Furthermore, the survey also revealed there is little human disturbance in the Namba mountains' Afromontane forests, as well as a significant population of the Endangered Swierstra's francolin.
Source: Bird Conservation International (2012), http://dx.doi.org/10.1017/S095927091200024X

New species of monkey identified in Democratic Republic of Congo

A new primate species has been found in the middle Lomami Basin of central Democratic Republic of Congo, where it is

known locally as a *lesula*. Researchers first encountered the monkey when they discovered a captive female in the town of Opala. During investigations in the local area the team found further captive monkeys and 6 months later they finally observed the species in the wild. After genetic analysis identified the species as a member of the guenon group of Old World monkeys, it was named *Cercopithecus lomamiensis* after the nearby Lomami River. Adult lesula monkeys have a bare face with a distinctive cream-coloured vertical nose stripe. The species' reliance on primary forest and its relatively restricted distribution is thought to make it vulnerable to bushmeat hunting.
Source: BBC News (2012), http://www.bbc.co.uk/nature/19556915, and *PLoS ONE* (2012), http://dx.doi.org/10.1371/journal.pone.0044271

NASA satellites document extent of deforestation inside Virunga National Park

Nearly 60% of the Democratic Republic of Congo is under forest cover, with c. 45% of the country still covered by old-growth forests. But two satellite images by NASA, from 13 February 1999 and 1 September 2008, show the extent of deforestation in Virunga National Park. The rate of forest loss shown by the two images is the highest among all national parks in the country. The Park has suffered from the effects of conflict between rebels and government forces, slash-and-burn agriculture, the charcoal trade and a booming human population but is home to the Critically Endangered mountain gorilla and other threatened wildlife. A UK-based oil company, SOCO International, has recently announced plans to perform exploratory drilling for oil inside the Park but this has been opposed by the UN, WWF, IUCN and the British government.
Source: NASA Earth Observatory (2012), http://earthobservatory.nasa.gov/IOTD/view.php?id=79276, and *Mongabay.com* (2012), http://news.mongabay.com/2012/1003-hance-virunga-deforestation-nasa.html, and http://news.mongabay.com/2012/1001-hance-virunga-uk-government.html

Rarest dog: Ethiopian wolves are genetically vulnerable

A 12-year study of Ethiopian wolves has found there is little gene flow between the small remaining populations, placing the wolves at greater risk of extinction. Quantification of the genetic diversity, population structure and patterns of gene flow among 72 wild-living Ethiopian wolves within six of the remaining seven remnant populations in the Ethiopian highlands found that genetic diversity is relatively high for a species that has declined to < 500 individuals. However, there is now weak gene flow between the groups, possibly because, unlike other canids, Ethiopian wolves prefer very specific habitats and are unlikely to travel long distances and thus join other groups. This endemic wolf is adapted to life above 3,000 m, where it preys almost exclusively on high-altitude rodents. The limited gene flow between Ethiopian wolves makes them increasingly vulnerable, as they may not have the genetic diversity needed to fight off disease or adapt to new habitats.
Source: Animal Conservation (2012), http://dx.doi.org/10.1111/j.1469-1795.2012.00591.x, and *BBC News* (2012), http://www.bbc.co.uk/nature/20041534

Surging demand for rhino horn

A new TRAFFIC report documents the circumstances that have led to the dramatic escalation in rhino poaching in South Africa. According to the report poor compliance over rhino horn stockpile management, loopholes in sport hunting policy, and surging demand for horn in Viet Nam have created ideal conditions for the involvement of sophisticated criminal networks. Although more resources are being expended to protect the nation's rhinos, South Africa has witnessed a rapid increase in poaching of live animals, rising from 13 in 2007 to a record 448 rhinos in 2011. In early 2012 almost two rhinos were being poached every day. Although South Africa continues to respond to the crisis, the report identifies the need for measures to be taken by Viet Nam to strengthen its legislation and employ effective law enforcement strategies.
Source: TRAFFIC (2012), http://www.traffic.org/home/2012/8/21/

Copper mining proposal on hold

The Zambian Environmental Management Agency (ZEMA) has turned down a mining proposal for the Lower Zambezi National Park and Important Bird Area. The proposal to mine eight million t of copper ore per year was put forward by Mwembesi Resources Ltd, an Australian affiliated company. The project would involve development of the main pit at Kangaluwi and satellite pits at three other areas. ZEMA's decision comes a few months after public hearings held at Chiawa Basic School, Kafue District, and Council Guest House, Luangwa District, in June 2012. The project is thought to have received little support during the hearings because the developers failed to address key issues such as job creation and impacts on biodiversity. Mwembeshi Resources Ltd has now appealed to the Minister of Lands, Natural Resources and Environmental Protection to review ZEMA's decision under the Environmental Management Act of 2011.
Source: BirdLife International (2012), http://www.birdlife.org/community/2012/09/hope-as-copper-mining-at-lower-zambezi-iba-put-on-hold/

Nowhere left to run

The first Africa-wide survey of great ape habitat has revealed large decreases in the area of land containing environmental conditions suitable for these species over the past 2 decades. Gorilla species have been particularly badly affected, with Cross River gorillas having lost 59% of their habitat between 1995 and 2010, eastern gorillas 52%, and western gorillas 31%. The only good news for great ape conservation is that the areas containing suitable environmental conditions for Nigeria–Cameroon chimpanzees, and eastern chimpanzees, has not decreased significantly since 1995. The areas of Africa that have lost the greatest amount of great ape habitat are the centre and east of the Democratic Republic of the Congo, western Equatorial Africa and the upper Guinean forest in Liberia. The researchers suggest that the reasons behind these sharp decreases in great ape habitat over the past 2 decades reflect changes in the socio-economic situation in the region during this time.
Source: Nature News Blog (2012), http://blogs.nature.com/news/2012/09/massive-shrinkage-in-african-great-ape-habitat-since-1990s.html, and *Diversity and Distributions* (2012), http://dx.doi.org/10.1111/ddi.12005

Pirate fishing exposed

A report by the Environmental Justice Foundation has found that the majority of pirate vessels illegally fishing off Sierra Leone are accredited to export their catches to Europe. Pirate fishermen fish inside exclusion zones, use banned fishing equipment, attack local fisherman and refuse to pay fines. The UK-based Foundation has called for vessels that break the law to be blacklisted and that weaknesses in EU regulations be addressed to stop illegal fish entering Europe. The report notes that West African waters have the highest global levels of illegal, unreported and unregulated fishing, representing up to 37% of the region's catch, and 90% of the pirate vessels investigated were bottom trawlers that devastate marine

environments by dragging heavy trawl equipment along the seabed.
Source: Environment Justice Foundation (2012), http://ejfoundation.org/oceans/media/pirate-fishing-exposed, and *BBC News* (2012), http://www.bbc.co.uk/news/world-africa-19905709

March of the worms

A study of the erosion of coral reefs affected by a mass mortality event in the Indian Ocean in 1998 has documented differing fates according to where the reefs are located. A number of anthropogenic factors were found to be involved in the composition of macroborers, which include worms, sponges and bivalves. In areas of high fishing pressure worms were the main agents of bioerosion, whereas in areas with less fishing, such as in marine parks, the macrobioeroding communities were dominated by sponges. The cause of this variation is thought to be because on overfished reefs grazing, often by sea urchins, is heavier, with the consequence that only fast-growing early colonist species, such as worms, are able to survive within the reefs. In addition, the effects of pollution were also seen on these reefs, with the rates of macrobioerosion strongly affected by water quality.
Source: Wildlife Conservation Society Press Release (2012), http://www.wcs.org/press/press-releases/microbes-sponges-worms.aspx, and *Marine Ecology Progress Series* (2012), http://dx.doi.org/10.3354/meps09726

SOUTH AND SOUTH-EAST ASIA

Men arrested hiding loris in underwear at Delhi airport

Three men have been arrested in Delhi for trying to board a flight with lorises hidden in their underwear. Two of the men were found with slender lorises concealed in pouches. The men were transit passengers, en route to Dubai from Bangkok. The animals were uncovered when security guards noticed a bulge in their underwear during a frisk. The animals are now being cared for by the Delhi-based organization People For Animals. The slender loris is native to India and Sri Lanka. Lorises are a popular exotic pet but the trade is contributing to their demise in the wild (see *Oryx*, 46, 169–170). Poachers pull out their teeth (as the primates have a toxic bite) with pliers, making it impossible for them to return to the wild. The men arrested are all nationals of the United Arab Emirates, according to the customs official, and an investigation into the incident is under way.
Source: BBC News (2012), http://www.bbc.co.uk/news/world-asia-19542386

Coexistence between people and tigers in Nepal

Motion-detecting camera traps located within and outside Nepal's Chitwan National Park in 2010 and 2011 have revealed that people were present, both on foot and in vehicles, throughout the area studied, but that tiger density in the same area was also high. Data from the cameras did indicate, however, that the tigers altered their temporal activity patterns so that they became less active during the day, when human activity was at its greatest. These findings are significant, as they suggest that people and tigers can co-occur at fine scales. The authors suggest that a number of factors may be influencing this co-existence, including low levels of tiger poaching and abundant tiger prey.
Source: Proceedings of the National Academy of Sciences of the USA (2012), http://dx.doi.org/10.1073/pnas.1210490109

Forest cover overestimated in India

Official surveys of India's forest cover suggest that protection of these forests is proving successful, with a biennial report showing that the amount of forest lost between 2009 and 2011 was just 367 km^2. However, a senior forestry official, Ranjit Gill, has voiced his concerns that the data in the report are not showing the full picture. His concerns arise from the fact that the reports are based on satellite data, and that the satellites used produce images with a resolution of 23.5 m per pixel, and are thus too coarse to identify small-scale deforestation. Although higher-resolution satellite instruments are used in some small-scale surveys, the time and manpower required to use high-resolution images is prohibitive, according to the Forest Survey of India. Ranjit Gill is urging the use of on-the-ground visits to corroborate satellite data and has lodged a legal case with India's Central Empowered Committee to investigate his allegations.
Source: Nature (2012), 289(7414), 14–15

Study sheds more light on human–elephant conflict in south India

Contrary to popular beliefs that elephants raid crops during dry seasons because of unavailability of resources such as food and water within protected areas, a study in Nagarahole National Park, south India, has shown this has little scientific basis. Data show that the frequency of conflict incidences increases with crop maturity and ripening in the months of August–November. Elephants are possibly attracted to crops such as finger millet, maize, cotton, paddy and sugar cane because of their high nutritional value. It was also found that agricultural lands that had more area abutting the Park could expect higher probability of crop raiding. Effective strengthening and maintenance of physical barriers would pay off in the long-term, decreasing conflict incidences to tolerable limits while reducing animosity towards elephants among the affected local populace.
Source: Biological Conservation (2012), http://dx.doi.org/10.1016/j.biocon.2012.01.046

Illuminating the blind spot

According to a new study on illegal trade in leopards in India at least four leopards have been poached and their body parts trafficked every 4 weeks over a 10 year period. Furthermore, the study documents a total of 420 seizures of leopard skins, bones and other body parts reported from 209 localities between 2001 and 2010. Leopards are fully protected under India's domestic legislation and commercial international trade is banned under CITES but the new report reveals the sheer scale of leopard-related crime. Until recently the disturbing threat has been overshadowed by the trade in another of the country's national icons, the tiger. The report recommends the establishment of a task force to tackle illegal trade in leopards in the areas identified as having the highest levels of crime, as well as better regional co-operation between source, transit and market countries through initiatives such as the South Asia Wildlife Enforcement Network.
Source: TRAFFIC (2012), http://www.traffic.org/home/2012/9/28/four-leopards-a-week-enter-indias-illegal-wildlife-trade.html

Narcondam hornbill flies under the radar

A proposal from the Indian Coast Guard to build a radar surveillance station on Narcondam Island has recently been rejected by the Ministry of Environment and Forests (Government of India). The 12 km^2 island, which is situated within the Andaman and Nicobar Island group, has been a recognized Wildlife Sanctuary since 1977 and is home to the Narcondam hornbill. The seabird has one of the smallest natural ranges of any bird species and with a population of 50–249 mature individuals it is extremely susceptible to large-scale development and natural disasters. The rejection of the plan to build a large radar installation, diesel power generator and 2 km access road has led to the successful protection of the Narcondam hornbill and

was based on the strength of a public campaign and an impact assessment carried out by the Bombay Natural History Society.
Source: BirdLife International (2012), http://www.birdlife.org/community/2012/09/

Thailand arrests lorry driver transporting tiger cubs

Thai authorities have arrested a lorry driver after 16 tiger cubs were discovered in the back of his vehicle, packed into eight plastic crates. The man was stopped near the border with Laos after avoiding a police checkpoint. The driver told police he had been paid THB 15,000 (USD 490) to transport the cubs. Thailand is one of the centres of the illegal trade in tigers. Tiger body parts are valued in many parts of Asia for their reputed medicinal properties. The driver now faces the possibility of a 4-year jail term or a fine of THB 40,000 (USD 1,300) on wildlife-smuggling charges. The cubs are now in the care of wildlife officials.
Source: BBC News (2012), http://www.bbc.co.uk/news/world-asia-20111464

Earthworm-eating rodent ditches molars

The discovery of a new species of shrew-rat on Sulawesi Island, Indonesia, has put paid to the idea that all rodents share the same traits when it comes to their teeth. *Paucidentomys vermidax* is the first rodent ever discovered that lacks molars and has bicuspid upper incisors, making it unique among the > 2,200 rodent species. An examination of the stomach contents suggests that the species' diet may consist solely of earthworms. This diet of soft tissue is also thought to be the reason for the adaptation of the shrew-rat's mouth and teeth, possibly explaining why the species has moved away from the physiology that has made rodents one of the most successful and widely-distributed orders of species. The researchers who found the species suggest that *P. vermidax* has no need to chew its food, and thus has evolved specialized dentition that helps with the procurement of its earthworm prey.
Source: Biology Letters (2012), http://dx.doi.org/10.1098/rsbl.2012.0574

Investigation into activist's death dismissed

An investigation into the death of prominent Cambodian forest activist Chut Wutty has been dismissed. The court decided that because the suspect in Wutty's death, In Rattana, was also dead there was no need to proceed. Chut Witty was shot to death while escorting journalists to a logging site run by Timbergreen. According to court proceedings Chut Wutty was killed by In Rattana, who worked for Timbergreen, after refusing to give up a memory card containing photos. In Rattana was in turn shot and killed by a Timbergreen security guard who was attempting to disarm him. Although the court has accepted this as the official version, several other stories surfaced in the days following Wutty's death. Critics believe that the rapid dismissal of the case indicates a cover-up. Forest loss and land conflict are major issues in Cambodia, as economic land concessions have stripped local people of access to many resources.
Source: Mongabay.com (2012), http://news.mongabay.com/2012/1008-hance-chut-wutty-case-dismissed.html

Indigenous blockade expands against massive dam in Sarawak

Indigenous people have expanded their blockade against the Murum dam in the Malaysian state of Sarawak. Beginning on 26 September 2012 the blockade now involves over 300 Penan, who are protesting against what they say has been disdainful treatment from the government-owned corporation overseeing the 900 megawatt dam project, Sarawak Energy Berhad (SEB). The construction of the dam, which will inundate 24,500 ha of native land, will lead to the involuntary resettlement of seven indigenous communities. In addition, the tribe alleges that SEB has been intentionally destroying important sacred and historical sites. Traditionally the Penan were nomadic hunter–gatherers but today most live in settled villages although they still depend on the forests for their livelihood. Sarawak already produces more energy than the state uses leading critics to allege that numerous massive dam projects are merely means for corrupt officials to siphon off state funds and collect bribes.
Source: Mongabay.com (2012), http://news.mongabay.com/2012/1008-hance-dam-blockade-penan.html

Ninety percent of oil palm plantations were at expense of forest in Kalimantan

Oil palm supplies > 30% of world vegetable oil production and plantation expansion is occurring throughout the tropics, predominantly in Indonesia. Landsat satellite analyses to discern multiple land covers, coupled with above- and below-ground carbon accounting, have been used to develop the first high-resolution carbon flux estimates from Kalimantan plantations. From 1990 to 2010 90% of lands converted to oil palm were forested (47% intact, 22% logged, 21% agroforests). Although oil palm expanded by 278% from 2000 to 2010, 79% of allocated leases remained undeveloped. Full lease development by 2020 would convert 93,844 km^2 (c. 90% forested lands, including 41% intact forests). Oil palm would then occupy 34% of lowlands outside protected areas. Plantation expansion in Kalimantan alone is projected to contribute 18–22% (0.12–0.15 Gt C yr^{-1}) of Indonesia's 2020 CO_2-equivalent emissions.
Source: Nature Climate Change (2012), http://dx.doi.org/10.1038/nclimate1702, and *Mongabay.com* (2012), http://news.mongabay.com/2012/1008-hance-kalimantan-palm-oil.html

EAST ASIA

Biocontrol services increase in transgenic crops

Since 1997, Chinese cotton growers have used transgenic cotton plants that produce insecticidal proteins from the bacterium *Bacillus thuringiensis* (Bt) to combat crop destruction by the cotton bollworm, and by 2011 > 95% of the cotton crop in northern China was Bt cotton. This has led to a reduction in the use of broad-spectrum insecticides. Now a study looking at data from 36 sites in six provinces in northern China between 1990 and 2010 has found a marked increase in the abundance of three generalist arthropod predators (ladybirds, lacewings and spiders) in cotton crops, while the abundance of cotton aphids decreased. The study's authors suggest that the reduction in use of broad-spectrum insecticides has enabled the promotion of biological control services provided by arthropod predators and that this was instrumental in the suppression of aphid populations.
Source: Nature (2012), http://dx.doi.org/10.1038/nature11153

NORTH AMERICA

Wolf recovery

The US Fish and Wildlife Service has declared that the population of grey wolves in Wyoming has recovered sufficiently for their management to pass to the state, and for their protection under the Endangered Species Act to be removed. Management of wolf populations in Idaho and Montana has already passed to their respective states. The US Fish and Wildlife Service will monitor the wolf populations in all three states for a minimum of 5 years to ascertain that their recovery is sustained, and can reinstate

Endangered Species Act protections at any time. The most recent estimate of the grey wolf population in the Northern Rocky Mountains, of which the wolves of Wyoming are part, is 1,774 adult wolves. Estimates suggest that most of the suitable wolf habitat in the Northern Rocky Mountains is now occupied, and may even exceed long-term carrying capacity.
Source: US Fish and Wildlife Service News Release (2012), http://www.fws.gov/mountain-prairie/pressrel/2012/08312012_Wyoming_Wolf.html

Lake research jeopardized by funding cuts

A project in Canada that has played an influential role in freshwater research since its establishment in the late 1960s is likely to be shut down in 2013 as a consequence of budget cuts. The Experimental Lakes Area (ELA), in north-western Ontario, comprises 58 lakes that have been studied under a range of conditions, including the addition of pollutants, the construction of fish farms, and the draining of wetlands, and provides researchers with the ability to manipulate entire lake ecosystems during their investigations. Results from experiments on phosphates at the site led to banning of these substances from laundry and dishwasher detergents. With all federal departments facing spending reductions, however, the decision has been taken by the Department of Fisheries and Oceans, who employ the 17 staff at the ELA, to close the project. Attempts are being made to find an alternative funding source to enable the ELA to remain open.
Source: Nature (2012), 488(7412), 437–438

Amphibians may be particularly vulnerable to wildfire

A new study investigating the potential threat of increases in the frequency and severity of droughts and wildfire has shown that accounting for the magnitude of change and time lags is critical to understanding population dynamics of amphibians. Researchers measured the response of 3 amphibian species to fires of different sizes and severity that had burned between 1988 and 2003 in a small area in Glacier National Park, Montana. Estimates of occupancy pre-fire and at different post-fire recovery periods showed that for the long-toed salamander and Columbia spotted frog occupancy was not affected for 6 years after wildfire. But 7–21 years after wildfire occupancy for both species decreased in areas where > 50% of the forest within 500 m of wetlands had burned. Occupancy of the boreal toad tripled, however, in the 3 years after low-elevation forests burned but this increase was followed by a gradual decline.
Source: PubMed (2012), http://www.ncbi.nlm.nih.gov/pubmed/22978248, and *Conservation Biology* (2012), http://dx.doi.org/10.1111/j.1523-1739.2012.01921.x

Lead poisoning hampers condor comeback

The recovery of the Critically Endangered California condor may be less of a recovery than it appears. A new study has shown that lead poisoning, one of the factors involved in the original decline of the species, remains a significant threat to the condor, with c. 20% of condors in the wild containing lead levels high enough to require treatment to prevent morbidity and mortality. Isotopic analysis of the lead found within condors indicates that lead-based ammunition is the main source of the lead poisoning, as a consequence of their ingestion of animal carcasses shot by hunters, despite the use of lead shot having been banned in California since 2008. Furthermore, evidence from this study also indicates that the condor's recovery has only been achieved through intensive management, and that a true recovery will only be possible through the elimination or substantial reduction of lead poisoning rates.
Source: Nature (2012), 486(7404), 451, and *Proceedings of the National Academy of Sciences of the USA* (2012), http://dx.doi.org/10.1073/pnas.1203141109

CENTRAL AMERICA AND CARIBBEAN

Tracking down the brown booby

In April 2012 a tracking project to determine the preferred feeding locations and foraging behaviour of the brown booby was conducted at Dog Island. At only 200 ha, this uninhabited offshore islet lying north-west of the Caribbean UK Overseas Territory of Anguilla is of global importance for the seabird. Nineteen birds were successfully tracked over 5–7 days using GPS data loggers. Maps of foraging flights revealed average foraging trip durations of just over 5 hours, with an average distance travelled of 110 km. It is hoped that this pilot study will form the basis of further tracking work on the Caribbean UK Overseas Territories, which also hold regionally important numbers of seabirds including colonies of laughing gull, magnificent frigatebird, sooty tern and masked booby.
Source: BirdLife International (2012), http://www.birdlife.org/community/2012/09/caribbean-seabird-tracking-pilot-study-gives-encouraging-results/

St Lucia racer is world's rarest snake

Data collected during a 5-month survey of St Lucia to study the endemic St Lucia racer has determined that the population size is 18–100 individuals, leading researchers to suspect that this is the world's rarest snake. The racer was once common but declined rapidly following the introduction of the Indian mongoose in the late 19th century, and the species now only occurs on a mongoose-free islet just 12 ha in size. Another racer from the West Indies, the Antiguan racer, previously held the title of world's rarest snake, as its population fell to 50 individuals. Seventeen years of conservation efforts by the Antiguan Racer Conservation Trust (see *Oryx*, 35, 119–127) has led to the population increasing to 900 individuals. Conservationists in St Lucia are studying the strategy used in Antigua to see whether it can also be applied to the St Lucia racer.
Source: Durrell Wildlife Conservation Trust Press Release (2012), http://www.durrell.org/Latest/News/The-Saint-Lucia-racer-takes-the-title-of-Worlds-rarest-snake-/

Bat chat

Researchers in Costa Rica have found that bats use echolocation calls as a means of social communication as well as a method to hunt prey. Examination of calls by free-living greater sac-winged bats in Costa Rica revealed that the bats' calls contain vocal signatures that encode sex and individual identity, and that male bats were able to distinguish between approaching male and female conspecifics based solely on their calls. Furthermore, the males reacted differently according to whether the approaching individual was another male, in which case they produced aggressive echolocation calls, or a female, in which case they produced courtship vocalizations.
Source: Proceedings of the Royal Society B (2012), http://dx.doi.org/10.1098/rspb.2012.1995

SOUTH AMERICA

Brazil's Forest Code undergoes final revisions

After years of debate about the best way to strike a balance between the interests of Brazil's rural farmers and its forests, new legislation that gives farmers more freedom over the use of their forested land has

https://doi.org/10.1017/S0030605312001585 Published online by Cambridge University Press

undergone what appears to be its final amendments. A version of the Forest Code was passed by Brazil's National Congress in May 2012, which was seen as favouring landowners, but this draft version was later toned down by the Brazilian president Dilma Rousseff. Final approval was still required by Congress, however. Now the congressional committee charged with finalizing the text has done so but has amended some of the president's changes. The new bill, expected to be finalized in the autumn of 2012, reduces some of the protection for riparian corridors and wetland but government allies see these amendments as the only possible way of moving forwards with the legislation.
Source: Nature News Blog (2012), http://blogs.nature.com/news/2012/08/brazilian-congress-waters-down-forest-protection.html

Tree rings reveal Amazon's rainfall history

Samples from eight cedar *Cedrela odorata* trees in Bolivia have shed light on the seasonal rainfall in the Amazon basin over the past century. Oxygen isotope ratios in tree rings from these lowland tropical cedars provided a proxy for the reconstruction of variation in precipitation. The century-long record shows that tree rings preserve the signal of oxygen isotopes in precipitation during the wet season. The signal correlates most strongly with basin-wide precipitation and Amazon river discharge. The record provides a new way to diagnose and improve understanding of variation and trends of the hydrological cycle of the world's largest river catchment (c. 17% of the annual discharge from rivers into the world's oceans comes from the Amazon). Because of the region's vast size and position on the equator the response of the forested area's hydrological cycle may significantly affect the magnitude and speed of climate change for the entire globe.
Source: Proceedings of the National Academy of Sciences of the USA (2012), http://dx.doi.org/10.1073/pnas.1205977109, and *BBC News* (2012), http://www.bbc.co.uk/news/science-environment-19788671

Carbon emissions lag behind falling deforestation rates…

With rates of deforestation in the Amazon falling in recent years, one might expect that rates of carbon release will also decline. Annual deforestation in the Brazilian Amazon fell from 27,772 km^2 in 2004 to 6,418 km^2 in 2011, with estimates suggesting that the CO_2 emissions resulting from this deforestation would decline by nearly 74% over the same time period. However, a new model used by Brazil's National Institute for Space Research to calculate CO_2 emissions has shown that CO_2 emissions actually only decreased by 57% between 2004 and 2011. The reason for this discrepancy is explained by a delay in the time it takes for roots that remain post-felling to decay, as well as the fact that material removed one year may only be burnt in subsequent years.
Source: Nature (2012), 488(7413), 570

…deforestation rates increase in the Amazon…

The monthly deforestation results from Brazil's National Institute for Space Research, which uses satellites to examine deforestation in the Brazilian Amazon in near real time, has revealed that August 2012 was a bumper month for tree felling. Deforestation increased by 220% in August 2012 compared to the same month in 2011, with 522 km^2 clear-cut in August 2012 compared to 163.3 km^2 in August 2011. Deforestation rates have been decreasing since April 2011, when the government implemented a crackdown on environmental crime, and the August 2012 figures are the first major reversal of this downward trend. As the annual deforestation figures, released in December, are measured from August to July, the increase in deforestation in August 2012 will be felt in the 2013 figures.
Source: Nature News Blog (2012), http://blogs.nature.com/news/2012/09/deforestation-rebounds-in-the-amazon.html

…and new environmental security force established in response

Brazil will set up an environmental security force in an effort to stem rising deforestation in the Amazon. Environment Minister Izabella Teixeira said the new body will be backed by the army, the federal police and IBAMA (the Brazilian environmental protection agency). The force will be charged with surveillance of the Amazon. The new force is a response to the sharp increase in deforestation.
Source: Mongabay.com (2012), http://news.mongabay.com/2012/1011-brazil-environmental-security-force.htm

Dam saga continues

Two weeks after a regional federal court in Brazil halted the suspension of work on the Belo Monte dam, citing the need for more consultation with indigenous people, the Supreme Court in Brazil has ruled that work can continue. Originally approved by the Brazilian Congress in 2005, the hydroelectric dam on the Xingu River, a tributary of the Amazon, will be the third-largest in the world. The dam's construction is caught between two seemingly implacable camps: the government, which argues that the dam is needed to make Brazil more energy self-sufficient, and the dam's opponents, who argue that the dam will flood a large area of tropical forest, displacing thousands of indigenous people and causing damage to the environment. The Supreme Court is currently considering evidence in the case, so it is possible that construction may be halted again in the future.
Source: BBC News (2012), http://www.bbc.co.uk/news/world-latin-america-19404740

PACIFIC

World's Largest Marine Park

The establishment of the world's largest marine park was formally launched in the Cook Islands in September 2012. Located in the Pacific Ocean and covering 1.06 million km^2, the park will be three times the size of Australia's Great Barrier Reef Marine Park. The ambitious project is being undertaken by an alliance of government agencies, conservation NGOs and the tourism industry. The precise design of the park is still pending, and compiling a detailed database for the establishment of specific zones will be the next major step in the development process. It is hoped the park will provide the necessary framework to promote ecologically sustainable development by balancing economic growth in tourism with preserving fish stocks and conserving biodiversity in the ocean.
Source: BirdLife International (2012), http://www.birdlife.org/community/2012/09/cook-islands-unveils-worlds-largest-marine-park/

Poor shark management in the Coral Triangle region

WWF and TRAFFIC have released a report that highlights the need for a significant increase in effort, at regional and local level, to manage shark fisheries responsibly. Some fisheries in the Coral Triangle region target sharks for their meat but the main driver of unsustainable fishing of these threatened species is the demand in Asia for fins, a key ingredient for shark fin soup. The report (*An Overview of Shark Utilization in the Coral Triangle Region*) examines the catch, trade and management of sharks in waters of six Coral Triangle countries: Indonesia, Malaysia, Papua New Guinea, the Philippines, Solomon Islands and Timor Leste, as well as Viet Nam and Fiji.
Source: TRAFFIC (2012), http://www.traffic.org/home/2012/9/8/poor-fisheries-management-endangers-sharks-in-the-coral-tria.html

Tiny island takes huge step to boost artisanal fisheries

A tiny Mauritian island has taken a decisive step to help safeguard the future sustainability of its reef octopus for its fishing communities. Lying 1,000 km east of Madagascar, Rodrigues established its first national closure of the island's most economically important fishery in August 2012. All octopus fishing grounds on the island were closed for 2 months. Chronic overfishing on the island has led to declining fisheries productivity for the last 15 years. A similar fishery closure was piloted in Madagascar and both islands are now at the forefront of artisanal fisheries management efforts in the western Indian Ocean region. Results of a long-term study of the biological and economic impacts of fishery closures in Madagascar over the past decade have shown conclusive benefits to the octopus stocks and fishers' incomes.
Source: Blue Ventures Press Release (2012), http://blueventures.org/press-releases/innovative-fishery-closures-debut-in-rodrigues.html

Tokelau islands shift to solar energy

Tokelau has become the first territory able to meet all its electricity needs with solar power. This New Zealand territory, comprising the atolls of Atafu, Nukunonu and Fakaofo, had previously been completely dependent on diesel to generate electricity. New Zealand funded the USD 7 million project to construct solar grids on the three atolls. Most of the 1,500 islanders live by subsistence farming.
Source: BBC News (2012), http://www.bbc.co.uk/news/world-asia-20233754

AUSTRALIA/ANTARCTICA/ NEW ZEALAND

Long-term coral decline on the Great Barrier Reef

Analysis of data on the condition of 217 individual reefs that make up the Australian Great Barrier Reef World Heritage Site has shown that coral cover declined from 28.0 to 13.8% during 1985–2012. This decline was attributed to the 34 tropical cyclones that occurred during this time, predation by coral-eating crown-of-thorns starfish and coral bleaching linked to climate change. This long-term loss occurred because the intervals between disturbances are generally too short for recovery. Improvement in water quality was key to controlling starfish outbreaks, with increased agricultural run-off such as fertilizer along the reef coast having caused algal blooms that starfish larvae feed on.
Source: Proceedings of the National Academy of Sciences of the USA (2012), http://dx.doi.org/10.1073/pnas.1208909109, and *BBC News* (2012), http://www.bbc.co.uk/news/science-environment-19800253

Lungworms slow toads down

Infection by lungworms is being examined as a new tool in the arsenal of weapons under consideration to help combat the spread of invasive cane toads in Australia. Lungworms occur in cane toads in the native range of this species as well as in Australian invaders, and impair lung function in infected animals. In experiments, toads had their resting heart rate and saturation level of oxygen in their haemoglobin measured, and were then made to hop continuously for 2 minutes, after which researchers again measured these variables. The results indicated that infection with lungworms meant that toads had to elevate their heart rates to maintain blood oxygenation compared to uninfected individuals. The authors suggest that lungworm infection may be useful in curtailing the movement of cane toads, as infection can lead to individuals becoming exhausted under conditions of prolonged exercise.
Source: Journal of Zoology (2012), http://dx.doi.org/10.1111/j.1469-7998.2012.00898.x

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 Nikki Burton, Elizabeth Allen and Martin Fisher, with additional contributions from Pat and Mary Morris, and Rashmi Bhat. Contributions from authoritative published sources (including web sites) are always welcome. Please send contributions by e-mail to oryx@fauna-flora.org