

# Briefly

## INTERNATIONAL

### Red List assessment confirms tuna in trouble

The first global assessment of the conservation status of the scombrids and billfish, two groups of fish that include species of high commercial value such as tuna, marlin and mackerel, is bleak reading. Sixty-one species were assessed according to the categories and criteria of the IUCN Red List, with five species classified as Vulnerable, one Endangered (Atlantic bluefin tuna) and one Critically Endangered (southern bluefin tuna). The IUCN is expected to confirm the results of this assessment in a future update of the Red List. These findings support what many people have already suspected for a while, namely that many species of marlin and tuna are already over-exploited. However, because the methods used in the Red List assessments examine population health at a global level, rather than at the level of individual fisheries, the results give a clearer view of the overall health, or otherwise, of a population.

Source: *Nature news* (2011), <http://www.nature.com/news/2011/110707/full/news.2011.398.html>, and *Science* (2011), <http://dx.doi.org/10.1126/science.1208730>

### New sites added to the World Heritage List

The United Nations Educational, Scientific and Cultural Organization's World Heritage List now numbers 936 properties following the inscription of 25 new sites, 21 of which are cultural sites, 3 natural sites and one a mixture of the two. The three new natural World Heritage Sites are the Kenya Lake System in the Great Rift Valley, home to some of the highest bird diversity in the world, the Ningaloo Coast in Australia, which includes one of the world's longest nearshore reefs, and the Ogasawara Islands in Japan, home to the Critically Endangered Bonin flying fox. The mixed natural and cultural heritage site is the Wadi Rum Protected Area in southern Jordan. Human activity in two of the existing natural World Heritage Sites, the Tropical Rainforest Heritage of Sumatra and the Río Plátano Biosphere Reserve in Honduras, has led to their inclusion on the list of World Heritage Sites in Danger.

Source: *UNESCO News* (2011), <http://whc.unesco.org/en/news/776/>

### Gloomy outlook for oceans

A group of experts on the oceans, who met in April 2011 for a 2-day workshop, have concluded that there is a risk of losing entire marine ecosystems. The report resulting from the workshop, which was led by the International Programme on the State of the Ocean in partnership with IUCN, demands immediate action, suggesting that if this does not happen, the combined effects on the oceans of climate change, overexploitation, pollution and habitat loss are likely to cause the next globally significant extinction event. Actions to reverse current trends are recommended in four areas: an immediate reduction in the emissions of CO<sub>2</sub>, the urgent restoration of the structure and function of marine ecosystems, the use of the precautionary principle, and the introduction of effective governance of the High Seas.

Source: *International Programme on the State of the Ocean* (2011), <http://www.stateoftheocean.org/ips0-2011-workshop-summary.cfm>

### Tool developed to correct plant names

A group of botanists have put together an online tool, the Taxonomic Names Resolution Service (TNRS), to find and correct the numerous errors within botanical databases. The concept of the TNRS arose when researchers compiled a data set of records on plants in the Americas, only to discover the data set contained more than twice as many plant names as there are plant species. Errors are thought to arise when names are entered into online databases, with one-third of plant names in such databases estimated to be incorrect. Synonyms also account for some of the extra plant names. The TNRS compares plant names with those listed within the Missouri Botanical Garden's Tropicos database, one of the most authoritative botanical databases for the flora of the Americas. If a name cannot be matched the TNRS uses a fuzzy-matching algorithm to search for misspellings.

Source: *Nature* (2011), 474(7351), 263

### Dive below the ocean waves without getting wet

Data collected on research cruises have been used to create maps of the sea-floor, accessible to even the most hydrophobic through Google Earth. The vast majority of

the ocean floor has barely been mapped but these data from oceanographers at Columbia University's Lamont-Doherty Earth Observatory provide a resolution of 100 m for 5% of the ocean floor. Areas that can now be viewed include the Hudson Canyon off New York City, and the 3-km-high Mendocino Ridge off the USA's Pacific Coast. A virtual tour called Deep Sea Ridge 2000 enables viewers to see sea-floor hydrothermal vents and includes information on the organisms that occur there. Mapping the ocean floor is more time-consuming than mapping terrestrial sites, as the latter can be mapped from satellites in a single trip, but every part of the sea-floor has to be visited by ship to create accurate maps.

Source: *Lamont-Doherty Earth Observatory news* (2011), <http://www.ldeo.columbia.edu/news-events/new-google-ocean-maps-dive-down-deep>

### Area of sustainably managed forests grows, albeit slowly

The area of tropical forest under sustainable management has grown by 50% in 5 years but still accounts for <10% of the global tropical forest estate, according to a report by the International Tropical Timber Association. The report shows that some countries, including Brazil, Malaysia and Peru, have made good progress towards sustainable forest management since 2005. In other countries, however, such as Cambodia, Liberia and Guatemala, major conflicts have taken their toll on the development of the institutions required to achieve sustainable forest management, while in other countries such as Nigeria and Papua New Guinea the forest administration does not have sufficient resources to be able to supervise the forest management regime. The report's authors warn that forces that favour forest destruction, including higher food and fuel prices, may overwhelm the forces favouring forest conservation.

Source: *ITTO Press Release* (2011), [http://www.itto.int/news\\_releases/id=2663](http://www.itto.int/news_releases/id=2663)

### Rhino horn worth more than diamonds, gold and cocaine

The UK has secured an international agreement at the 61st meeting of the Standing Committee of CITES in Geneva to curb the illegal trade in rhino horn. The belief that rhino horn has medicinal powers is fuelling demand for the product in Asia and it is

now worth GBP 50,000 per kilo. The UK will lead global talks to fight such misconceptions and, as part of the agreement, policing techniques and awareness campaigns will be shared by countries and conservation groups. Under new rules brought in for the UK and backed by the European Union, export licences for worked items such as ornaments, created and acquired before June 1947, will now only be granted under special circumstances. A workshop to develop better co-operation between countries where rhinos are poached and countries where their horns are sold was held in South Africa in September 2011.

Source: *BBC News* (2011), <http://www.bbc.co.uk/news/science-environment-14603905>

### The natural world in numbers

A new estimate that the natural world contains c. 8.7 million species has been described as the most accurate ever. However, the vast majority of species have not yet been identified and many will become extinct before they can be studied, warn the research team responsible for the study. The vast majority of the 8.7 million species are animals, with progressively smaller numbers of fungi, plants, protozoa and chromists. The figure excludes bacteria and some other types of micro-organism. The research team from the UN Environment Programme's World Conservation Monitoring Centre, Microsoft Research in Cambridge, UK, Dalhousie University in Canada and the University of Hawaii quantified the relationship between the discovery of new species and the discovery of new higher groups such as phyla and orders, and then used it to predict how many species there are likely to be.

Source: *BBC News* (2011), <http://www.bbc.co.uk/news/science-environment-14616161>

### Climbing mountains year on year

A recent study has shown animals and plants are shifting their natural home ranges towards the cooler poles three times faster than previously thought. Researchers looked at the effects of temperature on > 2,000 species across Europe, North and South America and Malaysia over the last 4 decades. They reported that species experiencing the greatest warming have moved furthest. On average organisms are shifting their home ranges at a rate of 17 km per decade away from the equator and evidence suggests species are also moving uphill by about 1 m per year. While many species may be able to seek out cooler habitats to stay within their optimal temperature range, rises in temperature pose a serious threat to those already living at the poles or

at the top of mountains where there is simply nowhere left to go.

Source: *BBC News* (2011), <http://www.bbc.co.uk/news/science-environment-14576664>, and *Science* (2011), <http://dx.doi.org/10.1126/science.1206432>

## EUROPE

### Kent otters complete species' comeback

The sighting of otters in two different locations in the county of Kent means that the mammal is now found in every English county. The return of the otter to England is a cause for celebration for conservationists, as it indicates that English rivers are now the healthiest they have been for 20 years. Otters are not the only species returning, with salmon and other species also increasing in English rivers. Otter numbers decreased drastically as the result of toxic pesticides and the species was almost extinct by the 1970s. Since measures were put in place to improve water quality and to protect otters in law, the speed of the otters' return has been remarkable: a recent survey of the river Ribble in Lancashire, for example, showed a 44% increase in otters since 2008.

Source: *BBC News* (2011), <http://www.bbc.co.uk/news/uk-england-14557381>

### New certification scheme for sustainable biofuel use

The European Commission has approved seven schemes set up by private companies and institutions to ensure biofuels used in the EU are produced in an environmentally sustainable way. Although biofuels are part of the EU strategy to cut CO<sub>2</sub> emissions their use is controversial and may pose a threat to biodiversity. In some developing countries forests have been cleared to make way for biofuel crops and they are seen to rival food crops in existing agricultural areas. Each scheme will verify where and how biofuels are produced and biofuels grown on land that was previously forest or wetland will not qualify. Companies importing or producing biofuels will be required to prove that they meet the EU's tough new criteria. Furthermore, to gain approval biofuels will have to emit at least 35% less greenhouse gases than fossil fuels and this percentage will rise over the next few years.

Source: *BBC News* (2011), <http://www.bbc.co.uk/news/world-europe-14205848>

### Cities can act as carbon stores

Despite growing rates of urbanization little research has attempted to quantify and map ecosystem services at a city-wide scale.

Now researchers have done this in a typical British city, Leicester, by examining vegetation across the entire urban area, as well as looking at how carbon density differs in domestic gardens and public land. The findings show that Leicester stores c. 230,000 tonnes of carbon in its above-ground vegetation, which equates to 3.16 kg C m<sup>-2</sup>. The vast majority of this carbon, 97.3%, is associated with trees rather than herbaceous and woody vegetation; gardens were found to store a mere 0.76 kg C m<sup>-2</sup> whereas the greatest above-ground carbon density was 28.86 kg C m<sup>-2</sup>, found in areas with tree cover on publicly owned/managed sites. These figures are an order of magnitude greater than current national estimates of Leicester's carbon storage contribution.

Source: *Nature* (2011), 475(7356), 268, and *Journal of Applied Ecology* (2011), <http://dx.doi.org/10.1111/j.1365-2664.2011.02021.x>

### Pharmaceutical factories appear to be contaminating rivers

A number of studies carried out on three continents appear to show that effluent from pharmaceutical factories may be contaminating nearby water bodies, despite the existence of stringent environmental regulations and standards. The most recent study to add to this finding comes from France, where wild gudgeon populations in a river close to a pharmaceutical factory producing steroid compounds were investigated after anglers reported seeing abnormal fish in the area. Downstream of the factory an average of 60% of fish were found to have both male and female sexual characteristics, while upstream only 5% of fish displayed intersex characteristics. Furthermore, male fish living downstream also had higher blood levels of a protein normally found in fish eggs. It is not clear how these compounds ended up in the river, and also how widespread these problems are, as no effects have been observed in other fish species.

Source: *Nature* (2011), 476(7360), 265

### Ecosystem services declining in UK

A newly-released report by the UK National Ecosystem Assessment has found that c. 30% of ecosystem services in the UK have declined over the last 60 years and others are considered to be in a reduced or degraded state. Furthermore, the report's authors warn that, as the UK's population continues to grow, pressures on the country's ecosystem services will increase. The authors urge the UK government to use the report's findings in future policy-making. The Assessment divided the UK into eight habitat types, and assigned a value to each habitat type, based on both market goods