

Briefly

SPOTLIGHT ON PLASTIC POLLUTION

Plastic pollution is everywhere...

Data on plastic pollution was gathered by the yacht *Turn The Tide On Plastic*, one of seven boats competing in the 2017/2018 Volvo Ocean race, a round-the-world sailing event. Sixty-eight seawater samples were collected over 8 months on the 45,000 mile journey, revealing marine microplastic pollution almost everywhere. Only two samples, from the south of Australia and east of Argentina, contained no microplastics. The team detected 26 microplastic particles/m³ of seawater even in the remotest parts of the Southern Ocean, hundreds of miles from land. Levels of 76 particles/m³ were recorded in the mid Atlantic, which could be connected to the edge of the North Atlantic garbage patch, estimated to be hundreds of kilometres across in size. The highest readings were recorded close to big population centres: 307 particles/m³ in the western Mediterranean and 349 particles/m³ in the South China Sea close to Hong Kong.

Source: *Sky News* (2018) tiny.cc/sky-news11416987, & *Times of Malta* (2018) timesofmalta.com/articles/view/20180705/local/plastic-pollution-found-even-at-extremes-of-the-oceans.683480

... from the deepest ocean trench to the mountains...

A recent study revealed a plastic bag to be the deepest known piece of plastic waste, found at a depth of nearly 11 km in the Mariana Trench. It was discovered in the Deep-Sea Debris Database, a collection of photos and videos taken from 5,010 dives over 30 years that was recently made public. Plastic is the most prevalent type of debris logged in the database, and plastic bags were found frequently. A 2017 study found alarming levels of chemical pollution in the Mariana Trench, which may have come in part from the breakdown of plastic. But plastics do not only pollute the oceans. Researchers have analysed soil from 29 river floodplains in Swiss nature reserves and found microplastics in 90% of the samples, even in remote mountain regions that can only be reached by foot. Most particles (70–80%) were < 0.5 mm, which were most likely blown across the country by wind.

Source: *National Geographic* (2018) news.nationalgeographic.com/2018/05/plastic-bag-

mariana-trench-pollution-science-spd/, & *The Guardian* (2018) theguardian.com/environment/2018/apr/27/the-hills-are-alive-with-the-signs-of-plastic-even-swiss-mountains-are-polluted

... and from Arctic sea ice to Antarctic snow

Researchers at the German Alfred Wegener Institute found up to 12,000 pieces of microplastic particles per litre of sea ice in samples taken from five regions of the Arctic Ocean. The plastic found included fragments of packaging, paints, nylon and polyester, with some particles measuring only 11 µm. The source of the particles ranged from degraded fishing equipment to pollution that has travelled thousands of miles on ocean currents. In Antarctica, researchers at Greenpeace spent 3 months taking water and snow samples from remote areas. Their analysis revealed persistent hazardous chemicals or microplastics in the majority of them; for example, microplastics such as plastic fibres were found in seven of the eight sea-surface water samples tested. These findings confirm that anthropogenic pollutants are now affecting ecosystems all over the world. The implications of this level of plastic pollution for marine life and human health are as yet unknown.

Source: *The Guardian* (2018) theguardian.com/environment/2018/apr/24/record-levels-of-plastic-discovered-in-arctic-sea-ice, & theguardian.com/environment/2018/jun/06/antarctica-plastic-contamination-reaches-earths-last-wilderness

New Zealand's seabirds threatened by plastic ingestion...

New Zealand is a hotspot for seabirds: there are northern royal albatrosses nesting on the Otago Peninsula, unique species of oystercatchers on the Chatham Islands and more penguin species than in any other country. Thirty-six species of seabirds breed only here, and a third of all seabird species spend time around the islands, making plastic pollution a particularly serious problem. Seabirds are vulnerable to eating plastic because they are surface feeders, swooping down, scooping it up and swallowing it. When their stomachs fill with plastic rather than food, they starve. Plastic accounts for 78% of all rubbish on New Zealand's beaches, and Wellington's Oriental Bay has one of the highest levels of plastic pollution in the

world. Government and businesses are working to tackle the problem: microbeads have been banned and single-use plastic bags are being phased out by some supermarkets, but new legislation is needed for a nationwide plastic reform.

Source: *The Guardian* (2018) theguardian.com/world/2018/jul/02/new-zealand-the-most-perilous-place-for-seabirds-due-to-plastic-pollution

... and Cambodia considering bans amidst plastic waste crisis

Cambodia has one of the highest rates of plastic use, with 10 million plastic bags being used every day in Phnom Penh. On average people use 2,000 plastic bags every year, 10 times that of Europeans. The 400 km² Angkor Archaeological Park is a popular tourist site and, along with many other parts of the country, is struggling with plastic pollution caused by littering and the lack of a functioning waste management system. A team of 500 cleaners collects c. 30 tonnes of waste from the park daily, much of it plastic. A ban on plastic is now being considered by the body that oversees the management of the Angkor complex, the Apsara Authority, together with the regional environment department and local NGOs. But a potential ban will have to be supported by enforcement efforts and education to increase social awareness of the problem.

Source: *Channel News Asia* (2018) channelnewsasia.com/news/asia/with-cambodia-drowning-in-a-wave-of-waste-plastic-could-be-10388780

'Plastic' chosen as Children's Word of the Year in the UK...

Oxford University Press has analysed this year's 134,790 entries submitted to BBC Radio 2's 500 Words competition and declared 'plastic' the Children's Word of the Year. The use of the word increased 100% compared to last year, and story titles such as *The Evil Mr Plastic* show that children are aware of the impacts of plastic on the environment and their own future. Plastic in marine environments featured in stories with titles such as *The Plastic Shore* and *The Mermaid's Plastic Mission*. A marine focus was also shown by the use of words such as ocean, whale, dolphin, turtle, shark, penguin and octopus in several stories. Apart from highlighting the problems of plastic pollution, children also came up

with ideas for solutions. The terms recycle and recycling, for example, also increased by more than 100% compared to 2017.

Source: *The Bookseller* (2018) [thebookseller.com/news/plastic-revealed-children-s-word-year-800696](https://www.thebookseller.com/news/plastic-revealed-children-s-word-year-800696)

... and children's authors and illustrators tackle ocean plastics

Fifty of the UK's best-known children's authors and illustrators have joined forces to launch AUTHORS-4-OCEANS, a campaign to encourage both the book industry and young readers to find alternatives to plastic items such as straws, bags and bottles. Lauren St John, author of eco-adventure stories, had the idea when a drink she ordered in a bookstore was served with a plastic straw. Several publishers and bookshops have already backed the campaign, taking the opportunity to review their plastic use and integrate the reduction of plastic waste into their planning around campaigns, packaging and publishing. The campaign, which will also include events such as beach cleans, collaborates with the Marine Conservation Society, Action for Conservation, the Born Free Foundation and a weekly children's magazine to launch a new UK-wide schools competition, Oceans are NOT Rubbish, where children will design and build models of endangered sea creatures out of plastic waste.

Source: *Marine Conservation Society* (2018) mcsuk.org/press/authors-for-oceans

Global outlook on efforts to beat plastic pollution

A report from UN Environment finds a surging global effort to address plastic pollution. The first comprehensive review of the state of plastics finds governments are increasing the pace of implementation and the scope of action to tackle the problem. It presents case studies from > 60 countries, analysing the complex relationships in our plastics economy and offering an approach to rethink how we produce, use and manage single-use plastics. Examples include India's goal to eliminate all single-use plastic in the country by 2022, a ban on styrofoam in Sri Lanka and plans in China to insist on biodegradable bags. Authors cite a need for more recycling and broader cooperation from business, including plastic producers. The report also presents a list of 35 potential substitutes for plastic, including Abaca hemp, rabbit fur, seagrass, foam made with fungus, textile fibres from waste milk and a plastic alternative made from pineapple leaves.

Source: *BBC* (2018) [bbc.co.uk/news/science-environment-44359614](https://www.bbc.co.uk/news/science-environment-44359614), & *UN Environment*

unenvironment.org/news-and-stories/press-release/new-report-offers-global-outlook-efforts-beat-plastic-pollution

Galápagos aiming for plastic free marine reserve

Although the Galápagos Islands are largely protected, they too are under pressure from increasing plastic pollution. At least 18 Galápagos species have been recorded either entangled by plastic, or have been found to have ingested it, including the Endangered Galápagos sea lion *Zalophus worlabeaki*. However, there is a growing movement to reduce marine plastic pollution, with the aim of having a plastic-free Galápagos Marine Reserve in the future. The Galápagos Conservation Trust ran a workshop in Galápagos in May 2018, which was attended by leaders in the field of marine plastic pollution from the UK and by local experts and Galápagos agencies. Participants explored three main themes: quantifying the impacts of plastics on Galápagos wildlife, determining the source and distribution of marine plastic pollution, and identifying solutions such as alternative products and behaviour change. The results will inform a 5-year action plan to address the issues surrounding plastic pollution.

Source: *University of Exeter* (2018) [exeter.ac.uk/news/featurednews/title_662253_en.html](https://www.exeter.ac.uk/news/featurednews/title_662253_en.html)

EU proposes ban on single-use plastics...

The European Union is proposing a ban on single-use plastics such as straws, plastic-stemmed cotton buds, balloon sticks and drink stirrers, disposable food containers, plastic dining ware, and packaging for food products. The proposal also wants almost all plastic bottles to be collected for recycling by 2025. The plan will need to be approved by the 28 member states and the European Parliament before it can be passed. If it is approved, member states will need to make efforts to reduce the number of single-use plastic items available for sale in supermarkets, although the plan does not set a deadline for a total ban. Incentives will be given to producers to make disposable products out of sustainable materials. Companies that produce plastic products may also be required to contribute to waste disposal costs; e.g. the makers of plastic fishing gear could have to pay for the cost of collecting waste from ports.

Source: *BBC* (2018) [bbc.com/news/business-44280532](https://www.bbc.com/news/business-44280532)

... but smuggling threatens to undermine Kenya's plastic bag ban

Plastic bags have been illegal in Kenya since August 2017, and with the government threatening large fines and even prison sentences for violators, the effects were immediately noticeable and bag litter reduced substantially. However, Rwanda is the only other country in East Africa to have successfully implemented such a ban, and smugglers bring plastic bags from other countries across the Kenyan border to sell on the black market. The Ugandan border along Lake Victoria has emerged as a high-traffic area for illicit bags, prompting many Kenyan leaders to call for bans in Uganda and other neighbouring countries, and ideally across all of East Africa. This could become a reality as countries such as Uganda, Tanzania, Burundi and South Sudan are considering similar laws on single-use plastic bags, and countries around the world increasingly look for ways to beat plastic pollution.

Source: *UN Environment* (2018) unenvironment.org/news-and-stories/story/how-smuggling-threatens-undermine-kenyas-plastic-bag-ban

Plastic-eating bacteria could help solve pollution crisis

A biology student in Portland, USA, has discovered microbes that break down polyethylene terephthalate (PET), one of the most common plastics, used in clothing, drinks bottles and food packaging. Morgan Vague extracted microbes from the soil and water around refineries in her hometown of Houston and tested c. 300 strains of bacteria for lipase, a fat-digesting enzyme potentially capable of breaking down plastic. She identified 20 that produced lipase, three of which had high levels of the enzyme and one that appears to have been previously undiscovered. When put on a diet of PET from strips of water bottles, these bacteria appeared to be breaking down the hydrocarbons in the material and using it as fuel. The experiments are in their early stages, but if sped up, this process could become part of the solution to the plastic problem.

Source: *The Independent* (2018) [independent.co.uk/environment/plastic-eating-bacteria-pollution-crisis-environment-microbes-student-a8423146.html](https://www.independent.co.uk/environment/plastic-eating-bacteria-pollution-crisis-environment-microbes-student-a8423146.html)

INTERNATIONAL

Winners of the Whitley awards for nature conservation 2018

Conservationists have been recognized for their work with local communities to

protect threatened wildlife and habitat. The prestigious Whitley awards are made annually by the Whitley Fund for Nature and provide winners with funding. Pablo Garcia Borboroglu was honoured for his outstanding work to protect penguins, and Shahriar Caesar Rahman won an award for his work to preserve Asia's largest tortoise in Bangladesh. The Whitley award for Kerstin Forsberg will help to protect manta rays in Peru. Dominique Bikaba promotes conservation education in the Democratic Republic of Congo to protect the eastern lowland gorilla in an area affected by civil unrest and mining. Olivier Nsengimana in Rwanda is working with grey crowned cranes, which are threatened by poaching for the pet trade, and Anjali Chandrara's work in Sri Lanka is fostering the coexistence of people and leopards. Raptor biologist Munir Virani is working to preserve vultures threatened by poisoning in Africa's Serengeti-Mara ecosystem. Source: *The Guardian* (2018) [theguardian.com/environment/gallery/2018/apr/26/whitley-awards-for-nature-conservation-2018-winners-in-pictures](https://www.theguardian.com/environment/gallery/2018/apr/26/whitley-awards-for-nature-conservation-2018-winners-in-pictures)

First hybrid embryo offers hope for northern white rhinos

Dvůr Králové Zoo in the Czech Republic and the Leibniz Institute for Zoo and Wildlife Research in Germany have announced in July 2018 that the first ever hybrid rhino embryo has been successfully created by Avantea, their associates and world leaders in assisted reproductive technologies for large animals in Italy. Using a southern white rhino egg and northern white rhino sperm, scientists developed a valid embryo that has a high chance of surviving to term. This could be a breakthrough for the regeneration of the northern white rhino, which is now functionally extinct. It is hoped that the procedure can be repeated with eggs harvested from Fatu and Najin, the last two surviving northern white rhinos, living at Ol Pejeta Conservancy in Kenya. Any embryos created by this in vitro technology would then be implanted into female southern white rhinos, who would act as surrogate mothers.

Source: *Ol Pejeta Conservancy* (2018) olpejetaconservancy.org/breakthrough-to-rescue-the-northern-white-rhino, & *Nature* (2018) doi.org/10.1038/s41467-018-04959-2

Capacity building for law enforcement to combat wildlife trafficking

In May 2018 USAID published a case study synthesis highlighting lessons learned from building capacity for law enforcement to

combat wildlife trafficking. Amongst other case studies, the report draws on 17 years of Fauna & Flora International's work with park officials, communities, police, the judiciary, and local government, to pioneer effective tiger protection strategies and secure a stable tiger density in the core of Kerinci Seblat National Park, Indonesia. Tiger Protection and Conservation Units, led by park officials alongside community rangers, conduct routine and information-led patrols informed by community informant networks. Key learning that has contributed to the success of this project includes the value of wide stakeholder engagement and collaboration, enabling learning opportunities for partners, building ownership at each stage of the law enforcement process, and timely and effective collaboration.

Source: USAID (2018) rportal.net/cwt-case-study-Compilation/finalists/finalists-pdf-folder/compiled-cwt-synthesis-and-cases/at_download/file

Rising levels of carbon dioxide not necessarily good for plants

Two groups of plants have shown a surprising reversal of growth rates when exposed to elevated levels of CO₂. During a 20-year field experiment in Minnesota, a widespread group of plants that initially grew faster when fed more CO₂, unexpectedly stopped doing so after 12 years. Around the same time, the extra CO₂ stimulated more growth in a less common group of plants, which had initially not responded to the change. The members of the first group are called C₃ plants (after the three-carbon molecules they produce) and are all trees, whereas the second group, the C₄ plants, are mostly grasses. Over the course of the experiment, nitrogen availability from the soil decreased for C₃ plants, but it increased for C₄ plants, suggesting that soil nutrients may be driving the observed pattern. The results imply that forests and the majority of plants may in future not absorb as much greenhouse gas as expected, whereas grasslands may take up more.

Source: *Science News* (2018) [sciencenews.org/article/rising-co2-levels-might-not-be-good-plants-we-thought](https://www.sciencenews.org/article/rising-co2-levels-might-not-be-good-plants-we-thought), & *Science* (2018) doi.org/10.1126/science.aas9313

One-third of the world's nature reserves are under threat from humans...

There are currently > 200,000 terrestrial nature reserves, covering > 20 million km², almost 15% of the world's land surface. Although protected areas are established to minimize human pressure and allow wild

plants and animals to thrive undisturbed, a new study shows that almost one third is under intense pressure from infrastructure development, mining, logging, farming and human habitation. The problem is most acute in western Europe and southern Asia. Only 42% of protected land was found to be free of measurable human pressure. Examples of such pressures within protected areas include major railways through national parks in Kenya, densely populated towns and increased tourism in the Americas and major oil and gas projects in Western Australia. Governments' approval of large-scale developments inside protected areas and failure to prevent illegal damage is probably a major reason why biodiversity continues to decline despite increases in the amount of protected land.

Source: *The Conversation* (2018) theconversation.com/one-third-of-the-worlds-nature-reserves-are-under-threat-from-humans-96721, & *Science* (2018) doi.org/10.1126/science.aap9565

... but reintroduction successes provide cause for optimism

In May 2018 Dutch and Romanian reintroduction programmes for the European bison were declared successful. The Dutch project began in 2007, after the bison had been extinct in the region for 2 centuries. Now national parks in both countries are seeing benefits from the bison's grazing, with a consequent flourishing of flora and fauna. Wolves have had a similar effect of increasing biodiversity in Yellowstone National Park, USA, where they were reintroduced in 1995 to curb an overpopulation of elk. Beavers were reintroduced in the Forest of Dean, UK, in late 2017, leading to improved soil conditions and flood protection, offered by the animals' dams. Giant tortoises had almost gone extinct from the Galápagos Islands, but the last 14 individuals were saved before invasive mammals such as rats were eradicated and the tortoises subsequently released. There is now a population of > 1,500 tortoises on Española, the southernmost island.

Source: *The Guardian* (2018) [theguardian.com/environment/2018/jun/03/rewilding-conservation-bison-wolves-beaver-giant-tortoise-tigers](https://www.theguardian.com/environment/2018/jun/03/rewilding-conservation-bison-wolves-beaver-giant-tortoise-tigers)

Technology is revolutionizing ecology and conservation

Emerging technologies are providing new insights into nature and applications for conserving biodiversity. Miniature sensors such as accelerometers, gyroscopes, magnetometers, micro cameras and barometers that are attached to animals make it possible

to track their movements with unprecedented precision and to measure the physiological cost of different behaviours. Drones help to measure environments, assess changes over time and observe animals remotely without disturbing them, and are also used in efforts to combat poaching. 3D Printing can be used to make lightweight tracking devices that can be fitted onto animals, or to create complex and accurate models of plants, animals or other organisms for use in behavioural studies. Bio-batteries allow researchers in the field to keep their electronic equipment operational in remote or dimly lit areas such as rain forests, where solar power cannot be used, using enzymes to convert natural sources of chemical energy, such as starch, into electricity.

Source: *The Conversation* (2018) theconversation.com/from-drone-swarms-to-tree-batteries-new-tech-is-revolutionising-ecology-and-conservation-94920

Night time is becoming the right time for many mammals

A new study shows that some previously diurnal animals, including foxes, deer and boars, have become nocturnal to avoid humans. Researchers analyzed 76 studies that investigated how 62 species of mammals on six continents changed their behaviour in response to human activities such as hunting, farming and development. Using technologies such as GPS tracking devices and motion-activated cameras, they found that animals became more active during the night than they were before humans arrived. This shift happened even if human activities did not directly affect the animals; e.g. deer may become more nocturnal because they see humans hiking nearby during the day. There is some risk associated with this behavioural change: it can make it harder for animals to hunt, forage or find a mate. The results could support planning for conservation efforts, for example by restricting human activities during times when a specific species is more active.

Source: *Science* (2018) sciencemag.org/news/2018/06/human-activity-causing-more-and-more-animals-embrace-night

Narwhals and walruses most at risk from Arctic ship traffic

As melting sea ice allows increased ship traffic in the Arctic, the risk of animals colliding with vessels and disturbance by noise also rises. To determine which marine mammals are most vulnerable, researchers looked at 80 populations of seven species, including belugas, narwhals, bearded seals, and polar bears. For each population, they

computed a vulnerability score based on two factors: the likely overlap of major shipping routes with the animals' habitat and their sensitivity to vessel traffic. Narwhal populations had the highest mean vulnerability scores, followed by walruses, bowhead whales and belugas. Polar bears and ringed seals, spending much of the open-water season on land, had the lowest scores. More data are needed to understand how individual species and the ecosystem as a whole will be affected by increased traffic, but the researchers hope their results will lead to less-disruptive shipping routes or at least quieter ships.

Source: *Science* (2018) sciencemag.org/news/2018/07/narwhals-walruses-are-most-risk-booming-arctic-ship-traffic

New hope for pangolins

All pangolin species are protected under the international CITES agreement, yet c. 300 are poached every day. Their scales are prized for Traditional Asian Medicine and the meat is considered a delicacy in China and Viet Nam. A new technique to obtain fingerprints from pangolin scales with gelatine lifters could help identify and catch the people responsible for trafficking these animals. The technique is already in common use by crime scene investigators, and the idea to apply it to conservation law enforcement came from two former Scotland Yard detectives. The gelatine lifters are easy to use and accessible for wildlife enforcement officers and rangers in developing countries. Following a preliminary trial, which used pangolin scales from several species and obtained clear fingerprint details on many samples, field packs for wildlife rangers in Kenya and Cameroon have been developed to help in their fight against illegal poaching of pangolins.

Source: *University of Portsmouth News* (2018) uopnews.port.ac.uk/2018/06/28/off-the-scale-can-forensics-save-the-worlds-most-trafficked-mammal/

Risk of extinction revealed in IUCN Red List update

The latest update to the IUCN Red List of Threatened Species confirms that we are moving into an era where extinctions are occurring at a much higher pace than the natural background rate, with six species being declared extinct since last year. The IUCN Red List now includes 93,577 species, 26,197 of which are threatened with extinction. The update to the IUCN Red List has also seen 19 species move to a higher level of concern, including two types of Japanese earthworm that are threatened by habitat loss, agrochemicals and radioactive fallout

from the nuclear disaster in Fukushima. The greater Mascarene flying fox has been uplisted from Vulnerable to Endangered following a cull carried out by the government of Mauritius at the request of fruit farmers who were concerned the bats were eating their crops. Overall, frogs and toads have experienced some of the sharpest population declines, along with corals and orchids.

Source: *The Guardian* (2018) theguardian.com/environment/2018/jul/05/red-list-research-finds-26000-species-under-extinction-threat

Report highlights the need for sustainable and ethical sourcing of wild plant ingredients

A study conducted by TRAFFIC has found that of the c. 30,000 plant species with documented medicinal or aromatic uses, c. 3,000 are found in international trade. Of these, 60–90% are harvested from the wild, often with little consideration given to sustainable collection. The report emphasizes the need for traceable, sustainable and ethical sourcing and trade of wild plants as the growing demand for ingredients has meant that many traditional sustainable harvesting practices have been replaced by more intensive and destructive alternatives. In 2015 the global reported trade for medicinal plants alone was valued at over USD 3 billion. Although this is thought to be an underestimate it is still a threefold increase since 1999. The top exporters of medicinal plants are China, India, Canada, Germany and USA, and the top importers were Hong Kong SAR, USA, Germany, Japan and China.

Source: *TRAFFIC* (2018) traffic.org/publications/reports/wild-at-home-an-over-view-of-the-harvest-and-trade-in-wild-plant-ingredients/

EUROPE

Dramatic decline in insects in the Netherlands...

Data from two long-term studies on insect populations in the Netherlands have shown that the number of ground beetles counted in a nature reserve in the province Drenthe has fallen by 72% over the past 22 years, and moths in a nature reserve in north Brabant were down by 54% over 20 years. The results are significant because the studies used different research methods, but both showed a strongly decreasing trend. Other insect groups were also analysed: numbers of beetles have fallen by 64% over 20 years and caddisflies by 62% in 10 years in the Brabant reserve. Causes

for this dramatic decline include intensification of agriculture and increased use of nitrogen, phosphorus and pesticides, as well as the fragmentation of natural habitats. Insects are vital for functioning ecosystems and their loss has wide-ranging effects. Natuurmonumenten, the organization managing nature reserves in the Netherlands, is now working with farmers, scientists, banks and companies on a national Delta Plan for Biodiversity Recovery. Source: *Radboud University Nijmegen* (2018) ru.nl/english/news-agenda/news/vm/iwvr/2018/dramatic-decline-insects-affects-netherlands-too/

... and EU agrees total ban on neonicotinoid pesticides

The EU will ban neonicotinoids, the most widely used insecticides, from all fields because of the serious danger they pose to bees and other pollinators. The ban is expected to come into force by the end of 2018, after which the pesticides can only be used in closed greenhouses. The plummeting numbers of pollinators in recent years has been caused in part by the widespread use of pesticides, and neonicotinoids have been banned on flowering crops such as oil seed rape since 2013. But any outdoor use poses a risk for pollinators, because the pesticides contaminate soil and water and appear in wildflowers or succeeding crops. The ban has widespread public support, but pesticide manufacturers and some farming groups have said it is unnecessary, and warned that crop yields could fall as a result. Scientists have cautioned against replacing neonicotinoids with similar compounds and called for a move towards truly sustainable farming.

Source: *The Guardian* (2018) theguardian.com/environment/2018/apr/27/eu-agrees-total-ban-on-bee-harming-pesticides

Hope for Sweden's skylarks

The intensification of agriculture has been largely responsible for the 50% decline in Europe's skylarks over the past 40 years and in Sweden this figure is as high as 75%. Farmland currently covers 45% of the European Union's land area and the development of agriculture has resulted in larger fields and more densely growing crops. Research in Sweden now reveals that skylark plots, undrilled patches in fields where larks can land and find food, have a significant positive effect on breeding skylarks. A 3-year study found that in fields with skylark plots the number of skylarks increased by up to 60% as there were more breeding larks and more young were thought to survive. The study also indicates that larks

from neighbouring fields are attracted to fields with skylark plots. Farmland birds are one of the most threatened bird groups in Europe but the efforts of conservationists and Swedish farmers have shown a practical way to maintain functional ecosystems.

Source: *BirdLife International* (2018) birdlife.org/europe-and-central-asia/news/reversing-skylarks-decline-sweden

Britain's wildlife meadows are vanishing...

Intensive farming has gradually replaced the wildflower meadows that were once widespread across Britain. These meadows are vital to the nation's ecosystems but 97% of Britain's wildflower meadows have been destroyed since the 1930s, with species including wild strawberry, ragged robin and harebell experiencing steep declines. The loss of wildflower meadows has received little attention but experts warn that these meadows are critical to healthy ecosystems and their loss has contributed to the decline of Britain's butterflies and bees. Populations of insects, birds and mammals have been declining across the UK and conservationists are urging the government to restore at least 120,000 ha of wildflower meadows to help prevent further loss of diversity. Plantlife, a British conservation charity, works to restore patches of meadow and are calling on the government to ensure the remaining 3% of wildflower meadows are protected from agricultural expansion and pollution post-Brexit.

Source: *The Independent* (2018) independent.co.uk/environment/wildflower-meadows-farms-agriculture-flowers-environment-brexit-butterflies-bees-defra-a8433541.html

... and a fifth of Britain's wild mammals are at high risk of extinction

An analysis of more than 1.5 million mammal sightings and data from over 500 published studies has enabled researchers to estimate the population size and range of Britain's mammal species. At least one in five wild mammals in Britain faces a high risk of extinction within a decade and, overall, populations are declining. Numbers of hedgehogs, rabbits, water voles and black rats are falling as a result of habitat loss, the impact of pesticides, invasive species and disease. According to the report there are just 200 Scottish wildcats remaining and the case of the greater mouse-eared bat is even more dire, with only a single wild male remaining. Britain is one of the most densely populated countries in Europe but some mammals are thriving. Otter numbers have increased to 11,000 after the banning of organophosphate

pesticides, beavers have become established since the last national analysis in 1995, and all six species of deer are expanding.

Source: *The Guardian* (2018) theguardian.com/environment/2018/jun/13/fifth-of-britains-wild-mammals-at-high-risk-of-extinction

Political debate in Germany as wolf populations grow

German wolf populations have been growing quickly since they returned to the country in 2000, leading to an increased number of wolf attacks on livestock, particularly sheep and goats. In 2016, > 1,000 farm animals were either wounded or killed by wolves. In an effort to ease tensions between conservationists and livestock farmers, the German parliament's Environment Committee debated the issue of rising wolf populations in April 2018. Four political parties submitted proposals on the issue, ranging from training for herd guard dogs to resettling or hunting wolves to control their numbers. The government's coalition agreement included the decision to ask the EU to re-examine the protected status of wolves. However, the LUPUS Institute for Wolf Monitoring and Research in Germany argued that killing the wolves doesn't solve the problem of livestock losses, and asked MPs to take note of successful herd protection strategies in Italy, Poland and Spain.

Source: *Deutsche Welle* (2018) dw.com/en/bundestag-committee-debates-wolves-protected-status-in-germany/a-43440424

EU court rules Malta's finch trapping illegal

In 2014 Malta issued a derogation allowing finches to be trapped, and an estimated 110,000 finches have been caught since then, along with many other birds, including thrushes and golden plovers. The use of clap nets to trap songbirds has resulted in the near absence of many nesting species of migratory birds and the trapping has been so intensive that only a handful of each of the common finch species now regularly breed on the islands. The European court has recently ruled that Malta has broken EU law by permitting the hunting and trapping of several finch species. The ruling will apply directly to siskins, goldfinches, European serins, linnets, greenfinches, common chaffinches and hawfinches, and Malta could face fines if it does not halt the trapping. The ruling also noted that more humane alternatives had not been considered and that the trapping was not selective.

Source: *The Guardian* (2018) theguardian.com/environment/2018/jun/21/maltas-barbaric-finch-traps-ruled-illegal-by-eu-court

NORTH EURASIA

Tackling land degradation and desertification in Ukraine

The area of degraded and unproductive arable land in Ukraine exceeds > 6.5 million ha and accounts for > 20% of the country's total arable land. Up to 600 million tonnes of soil are lost by erosion annually and depending on the level of degradation, crop yields can be reduced by 50%. The eroded area is estimated to have increased by 70,000 to 100,000 ha per year during the last decade but as a party to the United Nations Convention to Combat Desertification, Ukraine has committed to rebuilding degraded land and soils by 2030. A 3-year project supported by the Food and Agriculture Organization of the United Nations will engage farmers, deliver training, and support innovations, including monitoring systems and climate-smart agriculture. The project will also focus on restoring the productivity and resilience of production landscapes and will demonstrate alternative approaches in an area amounting to 7,500 ha across a number of territories.

Source: *ReliefWeb* (2018) reliefweb.int/report/ukraine/fao-kicks-project-aimed-tackling-land-degradation-ukraine

Saving the sturgeon in Georgia

The sturgeon was once found in all of Europe's great rivers but intensive fishing, compounded by the slow breeding of the species, has resulted in a dramatic decline in numbers. Currently just three rivers in the continent support breeding populations of sturgeon: the Garonne, the Danube and the Rioni. In Georgia, the Rioni is home to six sturgeon species, all Endangered or Critically Endangered, that are threatened by illegal bycatch, targeted fishing, habitat destruction and illegal sales of their meat at markets and restaurants. All species of sturgeon found in the Rioni are declining but there is a dearth of data on many of the Rioni's sturgeon. Fauna & Flora International are conducting the first baseline monitoring activities and studying the illegal fishing and trade of the sturgeon in Georgia to begin securing these critical populations. Fauna & Flora International are working with local fishers, environmental inspectors, community members and scientists to reduce poaching and deter illegal trade.

Source: *Fauna & Flora International* (2018) fauna-flora.org/news/saving-last-sturgeon

Wild falcons released in Kazakhstan

Peregrine and saker falcons were once a common sight in many areas of Kazakhstan

but both species are under increasing pressure from human and environmental factors. The United Arab Emirates (UAE) and Kazakhstan have been working together to reduce pressures on Kazakhstan's resident falcons and the UAE's Shaikh Zayed Falcon Release Programme and Kazakhstan's Ministry of Environment and Water Resources have now released 40 peregrine and 28 saker falcons in Kazakhstan. The falcons were rescued or donated and rehabilitated before release at carefully selected sites. Kazakhstan is within the birds' migration range and its topology of rugged mountains and wide plains suits the habitat preferences of the species. Twelve of the released falcons have been fitted with satellite tracking devices to enable researchers to monitor their flight paths and inform future conservation efforts.

Source: *Gulf News* (2018) gulfnews.com/news/uae/environment/68-wild-falcons-released-in-kazakhstan-1.2227565

New population of Critically Endangered pear tree confirmed in Kyrgyzstan

Following reports from a local villager, a team from Fauna & Flora International, accompanied by a botanist, have identified a new population of the Bukharan pear in the Bazar-Korgon region of Kyrgyzstan. The Critically Endangered Bukharan pear has virtually disappeared from most of Central Asia, with small, fragmented populations remaining only in Kyrgyzstan, Tajikistan and, potentially, Uzbekistan. Researchers discovered c. 100 mature trees in a single location and a further 29 trees were also recorded at other locations. The fruit-and-nut forests of Central Asia are vital for local livelihoods and provide a crucial genetic resource as many of today's cultivated varieties of apple and pear are thought to have originated from wild species found in these forests. Bukharan pears hybridize with other wild pears, and domestic pears are also illegally grafted onto wild Bukharan pears, making the pure form of the pear exceptionally rare.

Source: *Fauna & Flora International* (2018) fauna-flora.org/news/rare-pear-expedition-bears-fruit-kyrgyzstan

NORTH AFRICA AND MIDDLE EAST

Rare newt found in Iran for the first time

The Azerbaijan newt *Neurergus crocatus*, otherwise known as the Lake Urmia newt,

has been observed for the first time in Iran. The newt is categorized as Vulnerable on the IUCN Red List of Threatened Species and is protected by national legislation in Iran. The Azerbaijan newt can be found in temperate forests and rivers, but this rare species of salamander is threatened by a decline in habitat quality and extent across its range in Turkey, Iran and Iraq. In May 2018 12 Azerbaijan newts were recorded in the Oshnavieh border area of Iran, the first time the species has been seen in the country, at least in living memory. Very little is known about this yellow-spotted newt so the recent observation in Iran's West Azerbaijan province provides critical data on this striking salamander.

Source: *The Iran Project* (2018) theiranproject.com/blog/2018/05/04/azerbaijan-newts-spotted-in-nw-iran-for-first-time

SUB-SAHARAN AFRICA

Armed conflicts in the Sahara-Sahel region threaten local wildlife

The escalating armed conflicts in the Sahara-Sahel region are accelerating the population decline of species such as the African elephant and dorcas gazelle, according to a study led by the Research Centre in Biodiversity and Genetic Resources at the University of Porto. Conflicts in the region have been increasing since 2011 and now represent 5% of all global conflicts. The rise in the number of firearms available, the overexploitation of resources, and human intervention in previously remote areas have all contributed to the extinction or near-extinction of 12 of the 14 species of large vertebrates in the region. Oil drilling has led to a decline in numbers of the addax antelope and the report confirms theories that illegal hunting is more common in areas already affected by human trafficking, terrorism and organized crime. To begin tackling these issues researchers are stressing the need for a greater balance between environmental preservation and socio-economic development.

Source: *Phys.org* (2018) phys.org/news/2018-05-armed-conflicts-sahara-sahel-endangering.html

Climate change could spell trouble for Africa's ancient baobab trees

Researchers studying a sample of Africa's baobab trees *Adansonia digitata* have reported that nine of the 13 oldest and five of the six largest individuals have died, or at least their oldest parts have collapsed and died, over the past 12 years. The trunks

of the iconic baobab can be twice as large in circumference as the tree is tall and often include cavities. More than half of the oldest sampled trees, most of which were > 1,000 years old, had either died completely or lost their oldest or largest stems since 2005. No signs of infection or disease were identified and the findings, combined with reports of older baobabs also dying elsewhere, could suggest that the changing climate and more than a decade of drought in southern Africa could be preventing the trees from recovering after flowering or dropping their leaves. Further research is needed to confirm this hypothesis.

Source: *Mongabay* (2018) news.mongabay.com/2018/06/climate-change-could-be-killing-africas-giant-baobabs/, & *Nature* (2018) [nature.com/articles/s41477-018-0170-5](https://www.nature.com/articles/s41477-018-0170-5)

Numbers of Critically Endangered mountain gorilla on the rise

According to the most recent census in the Virunga Massif, one of the two remaining areas where mountain gorillas can still be found, numbers of this great ape are on the rise thanks to dedicated conservation efforts. Surveys of > 2,000 km of forested terrain revealed that numbers in the area have increased from an estimated 480 in 2010 to 604 in 2018. Combined with figures from Bwindi Impenetrable National Park, where the remainder of the subspecies can be found, the global wild population of mountain gorillas is now estimated at 1,004 individuals. This Critically Endangered species is the only great ape in the world considered to have an increasing population but climate change, infrastructure development, ongoing civil unrest, snares, and the spread of disease continue to threaten the species.

Source: *Fauna & Flora International* (2018) fauna-flora.org/news/mountain-gorilla-numbers-surpass-1000-despite-challenges

Historic attempt to collar and protect Tanzania's elephants

The Government of Tanzania, with support from WWF, has launched a 12-month project to collar 60 elephants in and around the Selous Game Reserve, Tanzania. Almost 90% of the elephants in the Selous Game Reserve, a World Heritage site, have been lost over the past 40 years, with numbers dropping from 110,000 to 15,200. Poaching for ivory has decimated elephant populations in the Reserve to such a degree that in 2014 it was placed on UNESCO's List of World Heritage in Danger. The new project aims to use satellite collars to monitor elephants' movements and allow reserve management and government rangers to

identify and act against threats in real time. Data from the collars will also enable rangers to predict locations where elephants and communities may come into conflict and reduce potential retaliatory killings. Two elephants have already been collared in what will be the country's largest ever elephant collaring effort.

Source: *WWF* (2018) worldwildlife.org/press-releases/unprecedented-collaring-effort-aims-to-protect-tanzania-s-threatened-elephants

SOUTH AND SOUTH-EAST ASIA

Online pet trade threatens otters in South-east Asia

A report from the TRAFFIC-IUCN Otter Specialist Group has revealed a high demand for juvenile live otters in South-east Asia, with over 70% of animals offered for sale online being < 1 year old. All four species of otter in South-east Asia are declining and not all are protected by national laws. A monitoring effort of only 1 hour per week in Indonesia, Malaysia, the Philippines and Thailand identified a minimum of 560 advertisements in which traders offered a minimum of 734 and a maximum of 1,189 otters for sale during January–April 2017. An average of 711 of all otters observed for sale were in Indonesia and 204 in Thailand. Further analysis of otter seizure records confirmed Indonesia and Thailand as the most active source and demand countries for otters in the region. The small-clawed otter was the species most frequently encountered and at least 700 individuals were observed for sale during the online survey period.

Source: *IUCN* (2018) iucn.org/news/species/201806/southeast-asias-appetite-pet-otters-supplied-online

Urban bushmeat consumption patterns uncovered in Cambodia

Escalating demand for bushmeat in urban centres is emptying Cambodia's forests, threatening the country's most endangered wildlife. A recent study focusing on uncovering the behaviours, influences and triggers of urban bushmeat consumption has been released by Fauna & Flora International in partnership with iDE Cambodia. The research identified six consumer profiles within two groups: occasional and regular consumers. It showed that consumption is not driven by the subsistence needs of rural communities, who eat bushmeat only occasionally, but is mainly

a recreational activity of regular consumers, associated with male-dominated gatherings in urban settings. Triggers prompting individuals to eat wild meat include curiosity, a desire to break the routine and social pressure. In urban bushmeat networks, individuals acquire social status by consuming bushmeat; familiarity with bushmeat leads to greater acceptance by peers. Fauna & Flora International will use this evidence to inform a behaviour change campaign to reduce demand.

Source: *Fauna & Flora International* (2018) fauna-flora.org/news/eating-extinction-urban-appetite-bushmeat-sparks-wildlife-crisis-cambodia, & live-fauna-flora-international.pantheonsite.io/wp-content/uploads/2018/05/FFI_2018_Exploring-Bushmeat-Consumption-Behaviours.pdf

Population of Critically Endangered Mekong river dolphin on the rise

According to results issued by WWF and the Government of Cambodia, the population of river dolphins in the Mekong has risen from 80 to 92 in the past 2 years—the first increase since records began > 20 years ago. The first official census in 1997 estimated there were 200 Irrawaddy dolphins in the Mekong but this decreased to just 80 in 2015 as a result of bycatch and habitat loss. River patrols and the confiscation of > 358 km of illegal gillnets in the past 2 years have been key to the recent increase in dolphin numbers. According to WWF Cambodia, tour boat operators now work closely with law enforcement to report poaching and help confiscate illegal gillnets. The recent surveys covered 190 km of the main channel of the Mekong River and photographed dolphins for comparison against a database of known individuals.

Source: *WWF* (2018) [wwf.panda.org/wwf_news/?326550](https://www.panda.org/wwf_news/?326550)

Lord of the Rings toad facing extinction

The future of a toad named after the character Gollum in the novel *Lord of the Rings* is threatened by the expansion of tourist resorts in Malaysia. *Ansonia smeagol* is categorized as Vulnerable on the IUCN Red List of Threatened Species and has only been found so far on the top of one mountain in mainland Malaysia. The species lives in the upland streams of this single mountain but conservationists are concerned that if steps are not taken to protect the water quality and habitat of this unusual toad, it could face extinction. The latest update to the IUCN Red List contained some good news however, as four species of amphibians thought to be extinct or near-extinct

have been sighted in Colombia and Ecuador. One such species is the Carchi Andes toad *Rhaebo colomai*, was last seen in Ecuador in September 1984 and had been feared extinct.

Source: *BBC News* (2018) [bbc.com/news/science-environment-44712039](https://www.bbc.com/news/science-environment-44712039)

EAST ASIA

World's largest amphibian in catastrophic decline

The Chinese giant salamander *Andrias davidianus* was once common across China but in recent years it has been regarded as a delicacy, despite its categorization as Critically Endangered. Although millions are bred in commercial farms, from where they are sold to high-end restaurants, field surveys conducted at 97 different sites in 16 of the country's 23 provinces have revealed the Chinese giant salamander has almost disappeared from its natural habitat. Giant salamanders were found in wild conditions at four sites, but genetic analysis suggested that they were not native to the local environment. It is illegal to harvest wild populations of giant salamander in China, but the Ministry of Agriculture supports widespread release of farmed animals as a conservation measure. Researchers have now found that there are at least five, rather than one, species of giant salamander and are concerned that uncontrolled releases may further threaten the unique genetic lineage of these ancient animals.

Source: *BBC News* (2018) [bbc.co.uk/news/science-environment-44190126](https://www.bbc.co.uk/news/science-environment-44190126)

Pet trade threatens Japan's reptiles and amphibians...

Parts of Japan's Nansei Islands have been proposed as the country's next natural World Heritage site but according to a recent report published by TRAFFIC, the exotic pet trade is threatening many of the islands' endemic reptiles and amphibians. Of the 67 species and subspecies endemic to the islands, 37 are traded as pets in domestic or international markets and, of these, 16 are considered nationally threatened on the Japanese Red List of Threatened Species. Species observed in online markets in Europe and/or the USA included Toyama's cave gecko *Goniurosaurus toyamai*, which has a range of just 60 km² on a single island. The study recommends that *Goniurosaurus* spp. and the endemic Miyako grass lizard *Takydromus toyamai* be listed in Appendix III of CITES. Illegal

wildlife trade from World Heritage sites is a growing concern and according to a 2017 WWF report, illegal harvesting of CITES-listed species occurs in 45% of natural World Heritage Sites worldwide.

Source: TRAFFIC (2018) [traffic.org/home/2018/5/23/reptiles-and-amphibians-endemic-to-japans-nansei-islands-thr.html](https://www.traffic.org/home/2018/5/23/reptiles-and-amphibians-endemic-to-japans-nansei-islands-thr.html)

... but strengthened law enforcement lowers availability of illicit red panda products in China

A recent study has confirmed a persistent low-level demand for Endangered red pandas *Ailurus fulgens* as pets, for pelts and for breeding purposes in China, but also praises China's strengthened law enforcement efforts. A 2017 study of markets close to red panda habitat in Sichuan and Yunnan provinces and an online market survey of Chinese websites found very few red panda products in either physical or online markets. Of 65 shops surveyed, red panda products were found in only one and the international trade of live red pandas or parts between 2005 and 2015 was minimal according to CITES trade data. Seizure data revealed that confiscated red pandas had been poached and traded for rearing as pets, captive breeding, use of their pelts in traditional clothing, commercial exhibitions and wild meat. The low availability of illicit red panda products in the market has been credited to China's improved law enforcement efforts.

Source: TRAFFIC (2018) [traffic.org/publications/reports/red-panda-market-research-findings-in-china/](https://www.traffic.org/publications/reports/red-panda-market-research-findings-in-china/)

NORTH AMERICA

Killer whales in trouble in the Pacific Northwest

Numbers of southern resident orcas in the Pacific Northwest are dwindling and the population is now at a 30-year low, with just 75 individuals recently recorded. Normally 4–5 calves are born each year among this population of killer whales but for the last 3 years there hasn't been a single birth recorded. There is further cause for concern as in the last 3 decades just two males have fathered half the calves in the population and only a third of the females are breeding, just once every decade instead of every 5 years. The drop in numbers could be due in part to the disappearance of their primary prey, the Chinook salmon, and noise from commercial vessel traffic in the area could be interfering with the whales'

echolocation, making it harder to find prey. Pollution from chemicals and pesticides can also weaken the whales' immune systems, impede reproduction and be passed from mothers to their young.

Source: *The New York Times* (2018) [nytimes.com/2018/07/09/science/orcas-whales-endangered.html](https://www.nytimes.com/2018/07/09/science/orcas-whales-endangered.html)

Kangaroo rat sighted after 30 years

The San Quintin kangaroo rat *Dipodomys gravipes* was declared Critically Endangered, possibly extinct, in 1994 by Mexican authorities but to the astonishment of researchers, four of these small mammals were found in survey traps in 2017. This kangaroo rat is named for its ability to leap c. 2 m and reach speeds of up to 10 km/h. Kangaroo rats are key species in the arid areas of western North America as they disperse seeds and are a food source for predators, including coyotes and foxes, but their numbers began to dwindle as agriculture intensified in the 1970s. The newly discovered individuals were compared with museum specimens and photographs to confirm their identity and more individuals have also appeared in a nearby nature reserve. Drought-related water shortages in the area have led to a decrease in farming over the past decade, which could have resulted in the kangaroo rat's comeback.

Source: *Science* (2018) [sciencemag.org/news/2018/04/supposedly-extinct-kangaroo-rat-resurfaces-after-30-years](https://www.sciencemag.org/news/2018/04/supposedly-extinct-kangaroo-rat-resurfaces-after-30-years)

CENTRAL AMERICA AND CARIBBEAN

A glimpse into the online trade in Caribbean island reptiles

A survey of all Lesser Antillean reptile species revealed that at least 39% are subject to online trade. Many of these are of conservation concern, including several categorized as threatened on the IUCN Red List. The majority of online sales occurred on websites in the USA and EU, largely facilitated by a few individuals sourcing reptiles illicitly. To examine the drivers of this trade, a social survey was conducted across three Lesser Antillean nation states. Interviewees included government wildlife officials, NGO representatives, academics, protected-area managers, poachers and a suspected reptile smuggler. The findings suggest that local-scale poaching is often driven by a lack of economic alternatives, but there is also evidence of a Caribbean-wide commercial trafficking network. The

results were used to develop a conceptual framework of optimal measures for the conservation of Caribbean island reptiles, with focus on strengthening domestic sovereignty over natural resources, providing economic incentives to conserve, and fostering national pride in native wildlife.

Source: *Oxford Martin Programme on the Illegal Wildlife Trade* (2018) illegalwildlifetrade.net/2018/07/27/the-online-trade-in-caribbean-island-reptiles/

UNESCO removes the Belize Barrier Reef from its endangered list

The Belize Barrier Reef is the largest barrier reef system in the northern hemisphere, extending c. 320 km. The system comprises coral reefs, cays and islands, many of which are covered with mangroves, and has been designated as a UNESCO World Heritage Site since 1996. In 2009, however, the reef was added to the List of World Heritage in Danger as mangrove cutting and excessive development threatened the site. United Nations officials also expressed concerns about oil exploration in the area. Following this decision, the Belize government imposed a moratorium on oil exploration around the reef and implemented protection for coastal mangrove forests. Although climate change remains a primary threat to the reef system, conservation action has meant that the site is no longer in immediate danger from development and has therefore been removed from UNESCO's list of threatened sites.

Source: *The New York Times* (2018) nytimes.com/2018/06/27/climate/belize-reef-unesco.html

Seabirds return to Desecheo Island 1 year after restoration...

Desecheo Island off the shore of Puerto Rico was once a major nesting area for thousands of seabirds, hovering over the island in dense clouds. But the introduction of invasive alien species since the early 1900s, including feral goats, cats and rats, has altered Desecheo's ecosystem. Further pressure came from people poaching and harvesting eggs and from military activity, leading to native birds disappearing from the island. A project to remove the invasive predators was carried out over 10 years by multiple conservation groups, culminating in 2017, when the effort to eradicate rats was declared a success. To encourage birds back, conservationists initiated a social attraction project in February 2018, using decoys (seabird models), mirrors and playback of recorded seabird calls to create the impression that birds were already inhabiting the island. When visiting the

island in June 2018, the team found encouraging signs of seabirds returning, including camera-trap footage of birds, and nests.

Source: *Island Conservation* (2018) island-conservation.org/seabirds-return-desecheo-island-one-year-after-restoration/

... and Redonda recovers rapidly after rodent and goat removal

Redonda, an isolated, uninhabited outpost of Antigua and Barbuda, has seen a remarkable recovery after the removal of feral goats and rats, which had devoured the island's vegetation and decimated the populations of native reptiles, birds and invertebrates. The black rats were eradicated with a brodifacoum-based bait, whereas the goats were captured and rehoused on Antigua. The populations of the Redonda ground dragon *Pholidoscelis atratus* and the Redonda tree lizard *Anolis nubilus*, both Critically Endangered and endemic to the island, have doubled and tripled, respectively, in the first 12 months since rats and goats were removed. Hundreds of new trees have sprung up, land birds have increased tenfold, and the island's globally important seabird colonies—including frigatebirds and several booby species—are having their best breeding year on record. Preparations for designating Redonda and the surrounding sea as a protected nature reserve are now under way.

Source: *Fauna & Flora International* (2018) fauna-flora.org/news/magical-transformation-spells-brighter-future-redondas-fantastic-beasts

Threatened category. Of the species identified in the study the Critically Endangered daggenose shark *Isogomphodon oxyrinchus* is of particular concern because it has a restricted range, making it particularly vulnerable to exploitation and extinction.

Source: *Scientific Reports* (2018) doi.org/10.1038/s41598-018-21683-5

National Park in Bolivia may be the most biologically diverse terrestrial protected area

A survey conducted by the Wildlife Conservation Society over two and a half years in the rainforests, mountains and grasslands of Madidi National Park has added 1,382 species and subspecies of plants and animals to the list of those living in the Park. Transects across 18,958 km² revealed a total of 124 species and subspecies of plants, butterflies, fish, amphibians, reptiles and mammals thought to be new to science, and > 200 that have never before been recorded in Bolivia. The results of the study known as Indentidad Madidi have prompted the Society to suggest that the Park is the world's most biologically diverse terrestrial protected area. The images and data collected on the expedition provide a baseline for future protection of the Park and have also been shared on social media channels to encourage the public to take an interest in Bolivia's unique biodiversity.

Source: *Mongabay* (2018) news.mongabay.com/2018/05/bolivias-madidi-national-park-home-to-worlds-largest-array-of-land-life-survey-finds

SOUTH AMERICA

DNA identification reveals threatened shark species overfished in Brazil

Brazil is one of the top seven consumers of shark meat and the industry is of commercial significance, yet data on shark fisheries remains scarce. The country's north coast is a shark conservation hotspot, with 19 species, and also an important fishing area. Although some sharks are protected under Brazilian law, specimens are commonly landed finned and headless at ports, making species identification and subsequent law enforcement problematic. Scientists have therefore utilized DNA-based techniques to identify sharks collected from fishing ports in northern Brazil. Of the 427 shark specimens analysed 82 (19.14%) were categorized as either Critically Endangered, Endangered or Vulnerable on the IUCN Red List. A further 125 (29.18%) were in the Near

PACIFIC

Overharvesting sea cucumbers could threaten Fiji's marine ecosystems...

Researchers examining the ecological implications of removing sea cucumbers from tropical coastal areas have found that overharvesting of these animals could limit the productivity of shallow water ecosystems. Sixteen plots with different densities of sea cucumbers *Holothuria scabra*, known as sandfish, were used to ascertain the implications of harvesting, and overharvesting, sea cucumbers in a wide flat reef along the coast of Vanua Levu, Fiji. In areas where all sea cucumbers were removed, the penetration of oxygen into surface sediments decreased by 63% whilst in plots with high densities of sea cucumbers, oxygen conditions within the sediment stayed relatively stable, even during elevated

sea surface temperatures in El Niño events. Sea cucumbers are vital to livelihoods in many tropical coastal communities but the ability of a reef to handle increases in organic matter from rainfall and flooding inland diminish once sea cucumbers are removed. *Source: WCS (2018) newsroom.wcs.org/News-Releases/articleType/ArticleView/articleId/11329*

... and the ban on turtle harvesting in Fiji set to end this year

The current 10-year moratorium on the sale and harvesting of sea turtles in Fiji will end in December 2018 when new conservation policies will come into force. According to the Director for Fisheries, the current fisheries regulations will continue to protect sea turtles during their nesting seasons from October to April 2018 but new conservation management regulations will be decided for 2019. The Ministry of Fisheries are aiming to create more strategic policies for protecting these endangered species but officials have indicated that the new management plans will allow some level of traditional and cultural harvest. Officials are emphasizing that until the new regulations come into force they will be continuing to prosecute those found to have harvested, illegally eaten or sold sea turtles.

Source: Fiji Sun Online (2018) fijisun.com.fj/2018/05/31/ten-year-ban-on-turtle-harvesting-ends-in-december

AUSTRALIA/ANTARCTICA/ NEW ZEALAND

7% of Australia's reptiles threatened with extinction

After a comprehensive survey of Australia's reptiles, the updated IUCN Red List includes 975 Australian reptile species, the majority of which are endemic to the continent. Invasive species are the primary threat to the survival of over half of these reptiles and 7% are now threatened with extinction. Feral cats have heavily preyed on the Endangered grassland earless dragon, and the toxic cane toad has caused population declines of up to 97% in some populations of the Critically Endangered Mitchell's water monitor. Many of the continent's reptiles are particularly vulnerable

to poisoning by the cane toad as there are no native toads or other species that produce the same toxins. Australia's reptiles evolved in isolation and represent almost 10% of the world's reptile fauna but invasive weeds, development and fire are compounding the threats posed by invasive alien species.

Source: IUCN (2018) iucn.org/news/species/201807/australia%E2%80%99s-reptiles-threatened-invasive-species-climate-change-%E2%80%93-iucn-red-list

Australia builds the world's longest cat-proof fence to protect native species

Cats were first introduced to Australia by British immigrants in the late 1700s as pets but now there are thought to be 10–20 million feral cats across Australia. Australia has the highest extinction rate in the world and feral cats are contributing to declining populations by preying on native wildlife. In response to the threat posed by feral cats, the Australian Wildlife Conservancy has constructed a 44 km-long electric fence around an area of almost 9,400 ha. Feral cats and other feral animals will be removed from the area before threatened native mammals, including the western quoll, numbat, bilby and central rock-rat, are reintroduced in 2019. What is thought to be the world's longest cat-proof fence has been funded by government and public donations and the enclosed predator-free area could extend to cover c. 100,000 ha in 2020.

Source: Phys.org (2018) phys.org/news/2018-05-australia-world-longest-cat-proof-wildlife.html

Complicated conservation of an Endangered marsupial

The northern quoll used to be widespread across northern Australia but the introduction of poisonous cane toads, which the quolls preyed on, decimated populations. In an attempt to conserve these small marsupials, conservationists relocated 64 individuals to Astell and Pobassoo islands where numbers have now reached the thousands because there are no predators or toads. Attempts in 2016 to reintroduce 29 quolls from Astell island to Kakadu National Park on the mainland however, have failed as dingoes decimated almost

the entire population within 21 weeks. Research comparing the reactions of quolls from Astell and those from mainland Australia found that Astell island quolls showed no aversion to the scent of cat or dingo fur whilst mainland quolls were far more cautious of the scent of predators. Offspring from the two populations, which had been raised in captivity, showed the same patterns of behaviour as their parents, suggesting a genetic basis to the animals' responses.

Source: Science (2018) sciencemag.org/news/2018/06/endangered-australian-marsupial-was-set-make-comeback-until-it-stopped-fearing-wild

Success as South Georgia declared rat-free

Following a decade-long project to eradicate rats and mice on South Georgia, the island has been declared rodent-free for the first time in nearly 250 years. It has been > 2.5 years since the last poisoned bait was dropped and since then a team of scientists accompanied by dogs have walked almost 2,000 km to monitor the area. In early May the South Georgia Heritage Trust who ran the project confirmed that the entire island, covering c. 350,000 ha, is now free of rats and mice, which had once devastated native bird populations. The project is the world's largest attempt to eradicate a dangerous invasive species and cost GBP 10 million. Almost 30 million birds including pipits and pintails are thought to nest on the island and 98% of the world's population of fur seals breed on this remote UK overseas territory.

Source: The Guardian (2018) theguardian.com/environment/2018/may/09/south-georgia-declared-rat-free-centuries-rodent-devastation

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