

SPOTLIGHT ON WILDLIFE TRADE

New measures to clamp down on the illegal wildlife trade

In an unprecedented demonstration of global commitment to combat the illegal wildlife trade, the financial intelligence units of Australia, Canada, New Zealand, South Africa, Singapore, the UK and the USA announced their joint support for international collaboration to detect and prevent financial activities that sustain wildlife crime, through the Statement of Principles for a Multilateral Approach to Combating Illegal Wildlife Trade. The proclamation was unveiled at the United for Wildlife Summit in November 2023. The Summit highlighted the formalization of the partnership between United for Wildlife and INTERPOL, through a Letter of Intent, pledging to combine their operational expertise and global networks to tackle illegal wildlife trade.

Source: *Royal Foundation* (2023)

royalfoundation.com/new-measures-to-clamp-down-on-the-illegal-wildlife-trade-announced-at-the-united-for-wildlife-global-summit

Wildlife traffickers plead guilty to illegally importing sea cucumbers

Wildlife traffickers pleaded guilty in federal court in California, USA, in September 2023 to illegal importing of Endangered sea cucumbers from Mexico, which are prized in China for food and medicine and as a reputed aphrodisiac. They were charged with conspiracy and illegal importing of brown sea cucumbers worth over USD 10,000 during 2017–2019. Sea cucumbers are part of the marine animal group Echinodermata, together with sea stars and sea urchins. They feed on the sea floor, breaking down particles that become part of the ocean's nutrient cycle. In China, they are considered a delicacy and are traditionally used dried or fresh. They are also sought to treat joint pain, prevent cancer, serve as anti-inflammatories and are thought to act as an aphrodisiac. The brown sea cucumber *Isostichopus fuscus* is overfished and regulations are required to limit its harvest.

Source: *The Guardian* (2023) theguardian.com/us-news/2023/sep/01/wildlife-traffickers-guilty-smuggling-sea-cucumbers

Battling Colombia's illegal wildlife trade

Colombia is one of a few so-called megadiverse countries, hosting close to 10% of the planet's biodiversity. But for decades, poachers have plundered the country's forests, mangroves and deserts largely unchallenged, against a backdrop of conflict between communist insurgencies, paramilitaries and the military. Now the police are increasing surveillance efforts and launching more counter-trafficking operations. Five years ago, Colombia's first intelligence unit dedicated to wildlife crime was founded, and in 2022 the government signed up to the Buckingham Palace declaration, a plan to strengthen measures against wildlife trafficking. The commitment is a pledge to share intelligence internationally and to train police in how to shut down the underground routes that traffickers use to export wildlife. Results are already evident: in August 2023, police shut down 40–50 warehouses near Bogotá airport, arresting 15 people and confiscating wildlife. By September 2023, c. 18,000 animals had been confiscated across Colombia.

Source: *The Guardian* (2023) theguardian.com/global-development/2023/sep/27/poached-caged-shipped-in-socks-on-patrol-with-the-police-battling-colombias-wildlife-trade

Online trade threatens hornbills

The illegal online pet trade is adding to the many threats facing hornbills in the Philippines. Online surveys conducted by TRAFFIC during 2018–2022 showed they are being sold on Facebook, despite the site's policy against the trade of live animals. Researchers found a total of 143 hornbills being offered for sale during the monitoring period. Prices ranged from PHP 1,500 (USD 26) for an endemic species to PHP 30,000 (USD 529) for a non-native species. The birds were likely poached from the wild, as it is difficult to breed and maintain them in captivity. Over half of the endemic Philippine hornbills being traded were nestlings or about to fledge. The illegal online trade peaked in June and July, when nest poaching is easier as the females and their young are still sealed inside tree cavities.

Sources: *TRAFFIC* (2023) traffic.org/site/assets/files/22297/ph_hornbill_briefing_paper_23.pdf & *Mongabay* (2023) news.mongabay.com/2023/08/online-trade-in-philippine-hornbills-threatens-birds-and-forests

Elephant ivory seizures in Gabon

Authorities in Gabon have dismantled a broad network of international traffickers smuggling elephant ivory from Gabon to lucrative Asian markets. Police arrested a man and woman after finding 19 tusks and four pieces of ivory, weighing a total of 120 kg, in their vehicle. Investigators then tracked down more traffickers, and 10 people were arrested in separate locations, nine of them being charged with involvement in international ivory trafficking. The ivory in this network was from elephants in Gabon, taken across the border to Cameroon, then on to Nigeria, and from there to the Asian market. In Gabon, trafficking ivory is punishable by up to 10 years in prison, but international ivory smuggling can lead to a penalty of up to 20 years. Collaboration between the NGO Conservation Justice, the Ministry of Water and Forests and the judicial police has led to the arrest of over 500 ivory traffickers and the seizure of 800 tusks weighing a total of 3.5 t. Gabon is home to c. 95,000 Critically Endangered forest elephants, making it the principal stronghold for the subspecies.

Source: *Animal Survival* (2023)

animalsurvival.org/trade-and-legislation/gabon-takes-down-international-ivory-trafficking-network

Half of tested caviar products from Europe are illegal

Wild caviar, a pricey delicacy made from sturgeon eggs, has been illegal for decades because poaching brought these fishes to the brink of extinction. Legal caviar that is tradeable internationally can now only be sourced from farmed sturgeons. However, when analysing caviar samples from nations bordering the remaining wild populations, researchers found evidence that these regulations are being broken. The researchers bought caviar from a wide variety of sources including online retailers, local markets, shops, restaurants and aquaculture facilities. Over one-fifth of the samples came from wild-caught sturgeons, 29% violated CITES regulations and trade laws and some did not even contain any trace of sturgeon. In Europe, there are four sturgeon species that are capable of producing caviar, with their last remaining wild populations in the Danube River and the Black Sea.

Sources: *Current Biology* (2023) doi.org/10.1016/j.cub.2023.11.011 & *Phys.org* (2023) phys.org/news/2023-11-caviar-products-europe-illegal.html

INTERNATIONAL

Think ahead! Project planning is key for long-term conservation

Do all conservation practitioners take responsibility for the sustainability of their projects and actions? Should this be a priority expectation within an organization's strategy or a grant application form? On top of addressing conservation priorities, many conservationists—especially those early in their careers—proposing or working on small grant projects, are often challenged to think longer-term about their work. Yet, given the limited time and funds available to protect biodiversity, the results and impacts of conservation projects should last beyond the timeline of a grant. A new analysis compares donor and practitioner expectations in the context of ecological, financial and institutional sustainability. During the second workshop at the International Congress of Conservation Biology (ICCB) in July 2023 (the first workshop having been at ICCB in 2021), key points were discussed around how good project design, programmatic planning and organizational management will contribute to the long-term sustainability of conservation work. Source: *Conservation Leadership Programme* (2023) conservationleadershipprogramme.org/think-ahead-how-to-make-small-grants-last-longer

Programme (2023) conservationleadershipprogramme.org/think-ahead-how-to-make-small-grants-last-longer

Rare dumbo octopus filmed in the deep sea

A dumbo octopus was spotted in the North Pacific Ocean at a depth of several thousand metres. Scientists aboard a research vessel used a remotely operated vehicle, allowing them to witness the octopus deep below. Dumbo octopuses belong to the genus *Grimpotentis* and live in the deep open ocean, particularly at depths of at least 4,000 m, the deepest waters inhabited by any octopuses. Their fin-like appendages resemble the large ears of the animated Disney character Dumbo the elephant. There are at least 15 species of *Grimpotentis*, but the number of individuals is unknown as their habitat remains largely unexplored. Dumbo octopuses move by slowly flapping their fins while using their arms to steer. They are foraging predators and eat pelagic invertebrates that swim above the sea floor. They are only very rarely captured in fishing nets and are probably not directly threatened by human activities.

Sources: *Nature World News* (2023) natureworldnews.com/articles/58592/20230925/dumbo-octopus-spotted-ev-nautilus-research-vessel-north-pacific-ocean.htm & *Oceana* (2023) oceana.org/marine-life/dumbo-octopus

Recognition for conservation work of botanic gardens, aquariums and zoos

The IUCN Species Survival Commission (SSC) has released a Position Statement applauding the significant contributions made by botanic gardens, aquariums and zoos in conserving wild animals, fungi and plants. The SSC acknowledged the pivotal role that these institutions play at the crossroads of ex situ and in situ conservation efforts. The diverse contributions span a spectrum of activities, including applied genetic, behavioural and veterinary science, wildlife reintroduction and translocation, research, education, community engagement, policy development, and fostering access to nature-based experiences. In a call to action, SSC encouraged all entities, including government agencies, to foster collaboration with botanic gardens, aquariums and zoos. This collective effort, under the umbrella of the One Plan Approach, exemplifies the commitment to a unified strategy for saving species from extinction. Razan Al Mubarak, IUCN President, welcomed the statement: 'It is never too late. Species can recover in the wild, if given a chance in well-managed captive populations such as those maintained by zoos, botanic gardens and aquaria'.

Source: *IUCN* (2023) iucn.org/news/202310/iucn-species-survival-commission-acknowledges-vital-contributions-botanic-gardens

Antarctic sea-ice alarmingly low

Satellite data has shown that sea-ice surrounding Antarctica is well below any previous recorded winter level, a worrying new benchmark for a region that once seemed resistant to global warming. Antarctica's huge ice expanse regulates the planet's temperature, as the white surface reflects the sun's energy back into the atmosphere and also cools the water beneath and near it. Without its ice cooling the planet, Antarctica could transform from Earth's refrigerator to a radiator, experts say. In October 2023, the ice that floats on the Antarctic Ocean's surface measured less than 17 million km², which is 1.5 million km² less than the September average and well below previous winter record lows. Sea-ice acts as a protective sleeve for the ice covering the land and prevents the ocean from heating up. As more sea-ice disappears, it exposes dark areas of ocean, which absorb sunlight instead of reflecting it, meaning that the heat energy is added into the water, which in turn melts more ice. Scientists call this feedback loop the ice-albedo effect.

Source: *BBC News* (2023) bbc.co.uk/news/science-environment-66724246

Global banks invest in remedies made with threatened wildlife

The Environmental Investigation Agency (EIA) has found body parts of threatened leopards and pangolins as ingredients in at least 88 traditional Chinese medicine products. Manufactured by 72 Chinese companies and licensed by the National Medical Products Administration of China, some samples also contained material derived from tigers and rhinoceroses, in contravention of CITES recommendations. EIA also identified 62 banks and financial institutions based in Australia, Canada, the EU, Japan, Switzerland, the UK and the USA that have invested in three publicly listed Chinese pharmaceutical groups manufacturing products stated to contain leopard and/or pangolin. Many of the investors are signatories to the Principles for Responsible Investment or are members of the International Corporate Governance Network, which has publicly expressed concerns about biodiversity loss and species extinctions. The EIA urges the Government of China to fulfill CITES recommendations and prohibit the use of the body parts of these animals for all commercial purposes.

Source: *EIA* (2023) eia-international.org/press-releases/revealed-the-global-banks-and-finance-houses-investing-in-traditional-chinese-medicine-made-with-endangered-wildlife

World Heritage sites are biodiversity havens

A report from UNESCO and IUCN has revealed that 20% of all mapped species reside within World Heritage sites; an impressive figure given that they cover only 1% of the Earth's surface. The sites are home to 75,000 species of plants and harbour more than half of all known mammal, bird and hard coral species. Using species range data from the IUCN Red List and BirdLife International, Conservation International researchers produced species-level statistics for each UNESCO site. The protections that come with UNESCO's designation have proven fundamental to preventing extinctions. For example, the last few remaining vaquitas, Javan rhinoceroses and pink iguanas all live in World Heritage sites. Experts hope that coupling the cultural significance of landmarks with the value they represent for nature will inspire future conservation initiatives. As a next step, UNESCO is calling for World Heritage sites to be included in formal biodiversity action plans.

Source: *Conservation International* (2023) conservation.org/blog/more-than-monuments-study-shows-world-heritage-sites-are-biodiversity-havens

EUROPE

Good news: beavers return to West London after 400 years . . .

In October 2023, a family of five beavers were reintroduced to a site in West London after a 400-year absence, as part of a project called Bringing Beavers Back to Ealing, supported by the Rewild London fund. By reintroducing beavers to the site, the project aims to transform the area into a flourishing wetland, helping to combat the impact of the climate crisis and create an improved ecosystem. Beavers were hunted to extinction in England c. 400 years ago but are now being reintroduced across the country, with beaver colonies now established in Kent, Cornwall, Devon, Derbyshire and Oxfordshire. Beavers are vital in helping other species thrive as they build dams, dig canals and generate deadwood. These activities create and maintain habitats for other wildlife such as water voles, dragonflies, amphibians, birds, reptiles and fish. Project partners, including the London Wildlife Trust, will study the beavers in their new environment and monitor the effects on water and flood levels and the biodiversity in the area. So far, the Mayor of London's Rewild London fund has provided GBP 2.3 million to projects across the UK capital and has helped to create or restore c. 350 ha of wildlife habitat.

Source: *The London Wildlife Trust* (2023) wildlondon.org.uk/news/beavers-have-been-returned-west-london-first-time-400-years

. . . record number of bearded vulture offspring in Switzerland . . .

In 2023, the number of bearded vulture *Gypaetus barbatus* offspring in Switzerland was higher than at any time since reintroduction began some 30 years ago. Around 25 bearded vulture pairs successfully raised an offspring last year, according to The Foundation Pro Bearded Vulture. According to the report, a total of 163 bearded vultures have fledged in Switzerland as part of the reintroduction programme. The first successful broods of reintroduced bearded vultures took place in 2007 in the cantons of Graubünden and Valais. Since 2019, a pair has also been breeding in the Bernese Oberland. The successful reintroduction of the species in Switzerland is also of great importance internationally, the Foundation said. In many regions in Eurasia and North Africa, the bearded vulture is Near Threatened, Endangered or Extinct.

Source: *SwissInfo* (2023) swissinfo.ch/english/business/record-number-of-bearded-vulture-offspring-in-switzerland/48880042

. . . one of Europe's most threatened birds is bouncing back . . .

The elusive Azores bullfinch is endemic to São Miguel Island in the Azores, and its population had been declining for a long time. In the 19th century the species was persecuted by farmers who considered it a pest in orange orchards. In addition, agriculture, commercial plantations of Japanese cedars and the spread of other introduced plants all combined to reduce food and habitat for the Azores bullfinch. In the 1990s, little was known about this bird's ecology, but it was estimated there were only c. 100 breeding pairs left. The species was categorized as Critically Endangered on the IUCN Red List in 2005. Since then, however, nearly 2 decades of conservation efforts focused on habitat restoration have helped the species make a promising recovery. Since 2003, a conservation programme has focused on habitat restoration, by planting native trees. The increased availability of food and nesting habitat led to a gradual increase of the bullfinch population, with c. 1,000 birds in 2010 and a current population size of c. 1,300 individuals. The species is now considered Vulnerable on the IUCN Red List.

Source: *Smithsonian Magazine* (2023) smithsonianmag.com/science-nature/one-of-europes-most-endangered-birds-is-bouncing-back-180982835

. . . and wildcats thriving in Scottish Highlands conservation project

Wildcats released in the UK are thriving. Nineteen were released into the wild in the summer of 2023 at Cairngorms National Park in the Scottish Highlands, the first ever release of wildcats in the UK. The Saving Wildcats project is tracking the cats using GPS radio collars. The project is a collaboration between the Royal Zoological Society of Scotland (RZSS), NatureScot, Forestry and Land Scotland and the Cairngorm National Park Authority. Another 13 kittens have been bred for the scheme, which has partners in Sweden and Spain. The new kittens, born at RZSS's Highland Wildlife Park, will be released into the wild in the summer of 2024, once they are aged 6–8 months. The cats, which are on the brink of extinction in Scotland, live in grassland and woodland where they hunt for mice and voles. Winter is expected to be hard for them because of the harsh weather and a lack of prey. The Saving Wildcats team is working closely with landowners who now have wildcats on their land, and have urged Highland visitors who come across them not to share their location.

Source: *BBC News* (2023) bbc.co.uk/news/uk-scotland-highlands-islands-67100886

EU examines wolf population after surge in livestock attacks

The future of Europe's grey wolf population is under scrutiny by the European Commission after a surge in wolf attacks on livestock across several countries. The European Commission asked communities, scientists and interested parties to submit proposals and up-to-date data on wolf populations in September 2023. The wolf population has been growing in Europe since conservation and reintroduction programmes started, with legal protection for the animals under the Habitats Directive. Wolf numbers in Europe were estimated to be 10,000 in 2012, rising to 19,000 in 2022, and it is believed that the wolf population has the potential to grow 30% per year. In its call for submissions, the European Commission said: 'The return of the wolf to EU regions where it has been absent for a long time is increasingly leading to conflicts with local farming and hunting communities, especially where measures to prevent attacks on livestock are not widely implemented.' Some believe culling wolves is necessary to reduce their numbers.

Source: *RTÉ* (2023) rte.ie/news/europe/2023/0913/1405090-wolves-europe/

New grants awarded for planning landscape and seascape restoration

The Endangered Landscapes & Seascapes Programme has announced awarding USD 850,000 to nine new planning projects in Europe, with funding from Arcadia. The announcement followed an open and competitive process that received over 100 applications. The selected landscape and seascape restoration initiatives are based in Kazakhstan, Georgia, Italy, the UK, Spain, Armenia, Slovakia, Ukraine and Romania, and cover a range of ecosystems including mountain ranges, coastal estuaries, river floodplains and grasslands. They involve a wide range of partners working together across many sectors including nature conservation, forestry, agriculture, water and energy, with a mixture of complex barriers to be overcome. The organizations implementing the projects are united by a vision to restore ecosystem processes at scale, so that nature and people can thrive in the long term. These new planning projects will join the programme's growing network of landscape and seascape restoration practitioners and benefit from lessons learnt by the first group of planning projects, which completed in 2022.

Source: *Endangered Landscapes & Seascapes Programme* (2023) endangeredlandscapes.org/nine-new-grants-awarded-for-planning-landscape-and-seascape-restoration

AFRICA

Wildlife infections: mystery deaths of African elephants explained...

Scientists may have found the reason behind the mysterious deaths of 350 elephants in Botswana's Okavango Delta and 35 elephants in Zimbabwe in 2020. Elephants of all ages and both sexes were affected, with many walking in circles before collapsing. At the time, officials attributed the deaths to an unspecified cyanobacterial toxin, and no further details were published. No traces of any poisons were found in the carcasses or near the waterholes and poaching was ruled out because the carcasses still had tusks. Other suggested causes were anthrax or toxins from algal blooms. But tests on six of the elephants in Zimbabwe have since shown that the cause was a little-known bacterium called Bisgaard taxon 45, an unnamed close relative of *Pasteurella multocida*, which resulted in septicaemia or blood poisoning. The bacterial infection was previously linked to the sudden death of c. 200,000 saiga antelopes in Kazakhstan in 2015.

Sources: *Nature Communications* (2023) doi.org/10.1038/s41467-023-4644-4 & *The Guardian* (2023) [theguardian.com/environment/2023/oct/25/scientists-discover-why-dozens-of-endangered-elephants-dropped-dead](https://www.theguardian.com/environment/2023/oct/25/scientists-discover-why-dozens-of-endangered-elephants-dropped-dead)

... and no evidence for widespread virus transmissions by African bats

Contrary to widely held beliefs, a study has found no evidence, outside of Marburg and Sosuga virus, that African bats serve as reservoirs or bridging hosts for viruses that spill over to humans and cause significant disease. The researchers reviewed 162 papers published during 1978–2020, specifically focusing on viruses detected in bats in Africa. Based on data from > 80,000 individual bats belonging to 167 species, there was no substantial evidence that any species other than the Egyptian rousette plays a central role in the transmission of viruses to humans in the region. Bat misidentifications and outdated species assignments were common in the published studies on viruses. Species identification is of great importance for follow-up investigations, especially when a particular bat is identified as hosting a virus of interest. The researchers hope that their work will contribute to a more accurate understanding of the complex dynamics between wildlife and human health.

Sources: *Biology Letters* (2023) doi.org/10.1098/rsbl.2023.0000 & *Phys.org* (2023) phys.org/news/2023-11-evidence-widespread-transmission-viruses-african.html

Kenyan government again evicts Ogiek communities from Mau Forest

The Maasai Mau Forest Reserve is part of the Mau Forest Complex, one of the largest forests in East Africa and home to the Indigenous forest-dwelling Ogiek community. In November 2023, the Kenyan government began demolishing houses and destroying property belonging to Ogiek living in the Forest. The Ogiek had won a landmark case in 2017 (see *Oryx*, 57, 3, 313–324), when the African Court of Human and Peoples' Rights recognized their rights to their ancestral land in the forest, but the Kenya Forest Service has said this did not extend to farming and building homes in the forest and have suggested that the Ogiek community were among those who had encroached into the forest. Daniel Kobei, executive director of the Ogiek Peoples' Development Program (OPDP), set up by Ogiek professionals and elders to defend Ogiek land rights and identity, and ensure environmental protection, called it a humanitarian crisis. According to OPDP, the evictions in November 2023 affected 700 families. Kobei acknowledged that there was ongoing deforestation, but said that the Ogiek were not responsible, instead citing poor enforcement of laws and corrupt officials as allowing other people to enter the forest to damage it.

Source: *Mongabay* (2023) news.mongabay.com/2023/11/kenyan-government-again-evicts-ogiek-communities-from-mau-forest

Artisanal fishing affects threatened species in East Africa

The shores and reefs of Eastern Africa are home to a diverse array of marine species that provide food and income for many coastal communities. However, the ecological and economic value of these fisheries could be wiped out if current unsustainable harvesting methods and lack of enforcement continue. TRAFFIC experts witnessed hauls from artisanal fisheries containing threatened species listed on the IUCN Red List and in CITES Appendices, including the Endangered humphead wrasse, which can grow to nearly 2 m long, and small reef species such as the Vulnerable spotted seahorse, just 17 cm long. The surveys also found CITES listed species that are Critically Endangered, locally protected and at high risk of extinction. TRAFFIC urges governments to address differences in fishing laws between neighbouring countries that may lead to illegal transboundary fishing, loopholes and a lack of consistent enforcement.

Source: TRAFFIC (2023) [traffic.org/publications/reports/artisanal-fishing-in-east-africa](https://www.traffic.org/publications/reports/artisanal-fishing-in-east-africa)

Rewilding Angola: giraffes reintroduced to Iona National Park

African Parks, in collaboration with the Government of Angola and the Giraffe Conservation Foundation, has reintroduced Angolan giraffes to Iona National Park after an extended absence. Fourteen giraffes made the journey from a private game farm in central Namibia to their historical range in Angola. The translocation reflects a commitment to restore the diverse array of species that once thrived in Iona National Park. Generous sponsorship from the Wyss Foundation and the Giraffe Conservation Foundation supported this endeavour. The giraffes endured a challenging journey, traveling over 1,300 km in a specially designed truck for 36 hours. The reintroduction of Angolan giraffes plays a vital role in restoring the Park's ecosystem functions and re-establishing essential ecological processes in the region. Giraffes, known for their selective feeding habits, shape vegetation through browsing and seed dispersal. Prior to the operation, the Giraffe Conservation Foundation conducted a comprehensive feasibility study, assessing factors such as source population, habitat suitability, human dimensions, risks during and after the operation, and financial feasibility.

Source: *African Conservation Foundation* (2023) africanconservation.org/wildlife-news/rewilding-angola-giraffe-reintroduced-to-iona-national-park

African dwarf crocodiles have a surprising vocal repertoire

Acoustic techniques are powerful tools for species monitoring and biodiversity assessments. They can be particularly appropriate to monitor forest-dwelling crocodiles that are difficult to survey visually. However, basic data on their vocal repertoire is lacking for many species. To fill this gap, researchers used passive acoustic recorders to capture spontaneous vocal signals from a pair of captive adult African dwarf crocodiles. They then compared these calls with recorded calls that were suspected to have been emitted by wild crocodiles. Captive and wild crocodiles produced the same four types of calls, described as short, low-frequency 'drums', longer, low-frequency 'rumbles', and higher-frequency 'moos' and 'gusts'. The results provide a reference for species identification and support the implementation of acoustic-based methods for monitoring African dwarf crocodiles.

Source: *African Journal of Herpetology* (2023) doi.org/10.1080/00215499.2023.2230000

AMERICAS

Nearly 1,000 birds die after striking Chicago building

Nearly 1,000 birds died after flying into McCormick Place Lakeside Center, a building in Chicago, USA, on a single day in October 2023. Experts believe that an unusually large migration, bad weather and a lack of bird-friendly features on buildings are to blame. The birds were collected by scientists and volunteers at the nearby Field Museum. Usually, 1,000–2,000 birds die per year after striking McCormick Place and previously the highest daily total of dead birds recovered at the centre was 200–300. Lighting at McCormick Place is normally turned off at night, but had been kept on for an event on the evening of the deadly collisions. Birdcast, a tracking project by three US universities, estimated that nearly 1.5 million birds were in flight above Cook County that night. Around the same time, a storm passed over the city, forcing birds to come down to the ground, where they face increased danger from lights and windows. A 2019 study from Cornell University's Lab of Ornithology estimated that c. 600 million birds die each year in collisions with buildings in the USA.

Source: BBC News (2023) [bbc.co.uk/news/world-us-canada-67070023](https://www.bbc.com/news/world-us-canada-67070023)

Deadly avian flu reaches Galápagos Islands

The avian flu strain that has devastated birds and marine mammals on five continents has reached Ecuador's Galápagos National Park, home to species that are found nowhere else. By September 2023, only a few individuals had tested positive for the H5N1 virus, which migratory birds can carry over long distances. But the highly contagious pathogen is likely to spread fast through the Galápagos Islands' dense colonies of seabirds, seals and sea lions. Warmer seas caused by the El Niño climate pattern could make animals even more vulnerable by depleting the ocean life that sustains them. Park authorities have restricted access to some areas to prevent accidental spread of the virus. The virus could have reached the Galápagos with a migrating bird, or when seabirds living there encountered infected birds while foraging close to the mainland. One concern is that the virus may be transmitted from species known to be susceptible, such as gulls, to others that have so far been less afflicted, like finches.

Source: Science (2023) [science.org/content/article/deadly-avian-flu-reaches-galapagos-islands](https://www.science.org/content/article/deadly-avian-flu-reaches-galapagos-islands)

Conservation status of the migratory monarch butterfly

In an unusual reversal, the IUCN has decided North America's migratory monarch butterfly *Danaus plexippus plexippus* should be categorized as Vulnerable, rather than Endangered, on the IUCN Red List. The decision followed a researcher's challenge to population models an IUCN team used to justify the Endangered designation in July 2022, and which apparently ignored data showing monarchs are doing well. Monarch butterflies are found worldwide, but the North American subspecies has become well known because of its ecology and migration. Migratory monarchs are split into two populations separated by the Rocky Mountains. Each autumn, butterflies in the larger eastern population make an epic migration of up to 4,000 km from Canada and the northern USA to a forest in central Mexico, where they overwinter. Their descendants then make a return to the north, taking up to four generations to complete the journey. Researchers generally agree that the number of monarchs wintering in Mexico began to decline in the 1990s but stabilized around 2014 at about 55 million individuals. Many blame the decline on logging in Mexico's forests and use of herbicides in the USA and Canada, which kill the milkweed that monarch caterpillars feed on.

Source: Science (2023) [science.org/content/article/monarch-butterfly-not-endangered-conservation-authority-decides](https://www.science.org/content/article/monarch-butterfly-not-endangered-conservation-authority-decides)

Warm seas lead to disappearance of 10 billion snow crabs

Since 2018, the snow crab *Chionoecetes opilio* population in the eastern Bering Sea has been declining rapidly, probably because of starvation as a result of a marine heatwave. Between 2018 and 2021, the population fell by 10 billion, which represents a c. 90% drop. A team at the National Oceanic and Atmospheric Administration analysed their annual surveys of the Bering Sea to uncover the reason behind the disappearance of the crabs and realized that the beginning of the drastic drop coincided with a marine heatwave in 2018 and 2019. Snow crabs require cold waters, and as the sea warms up, they expend more energy to regulate their body temperature by moving around. By modelling the crab population and their energy requirements under different conditions, the team found that there wasn't enough food to support this warmer, hungrier population.

Source: New Scientist (2023) [newscientist.com/article/2398608-warm-seas-blamed-for-the-disappearance-of-10-billion-snow-crabs](https://www.newscientist.com/article/2398608-warm-seas-blamed-for-the-disappearance-of-10-billion-snow-crabs)

Historic dam removal

The Klamath River in California and Oregon, USA, was once a fabled source of salmon, with as many as 1 million journeying up the 420-km waterway each year, providing sustenance to wildlife as well as Indigenous tribes of the area, such as the Yurok, Karuk and Klamath peoples. But in 1918, an energy company erected the first of now six dams in the river. With no provision for fish to get past, they wall off vast stretches of habitat for migratory fish on the main river and its tributaries. Those blockages—and the toxic algae and low-oxygen waters in the dams' reservoirs—led to severe declines in salmon populations, which are now < 5% of pre-dam levels. In the early 2000s, however, the federal license for many of the dams was nearing expiration. Under pressure from tribes, environmentalists and anglers, it was decided that the dams would need to be renovated to help fish get upstream. In 2010, the dams' owner PacifiCorp agreed to instead let the dams be demolished, setting in motion the world's largest dam removal project. The deal was celebrated as a victory by tribes and environmentalists. California's Iron Gate Reservoir will be the first dam to be removed, with the floodgates to be opened in early 2024. Three more dams will follow, and although two dams will remain farther upstream, the project will open up > 600 km of habitat to migratory salmon.

Source: Science (2023) [science.org/content/article/historic-dam-removal-poses-challenge-of-restoring-both-river-and-landscape](https://www.science.org/content/article/historic-dam-removal-poses-challenge-of-restoring-both-river-and-landscape)

Peru signs USD 20 million debt-for-nature swap

In September 2023, Peru signed a deal with the USA, redirecting millions of dollars of international debt to environmental efforts in the Amazon rainforest, which could help Peru meet long-term conservation goals and reduce pressure from creditors. The goal of the deal, which also included NGOs Conservation International, The Nature Conservancy, Wildlife Conservation Society and WWF, is to contribute to the effective management of protected areas and implement conservation measures in the Peruvian Amazon. This is the third debt-for-nature swap deal struck by Peru and the USA; the previous ones were made in 2002 and 2008 and have generated c. USD 36 million for the conservation of tropical forests. The new deal is a significant step towards long-term financial sustainability of Peruvian protected areas.

Source: Mongabay (2023) [news.mongabay.com/2023/09/peru-signs-20-million-debt-for-nature-swap-with-focus-on-amazon-rainforest/](https://www.mongabay.com/2023/09/peru-signs-20-million-debt-for-nature-swap-with-focus-on-amazon-rainforest/)

ASIA & OCEANIA

Brown bear cubs starving to death in Japan

Brown bear cubs are starving to death in a remote part of northern Japan because pink salmon numbers are down. As many as 80% of brown bear cubs born in Japan's Shiretoko area died in 2022, with experts blaming rising sea temperatures for the dwindling salmon numbers. Brown bears typically wait at estuaries for pink salmon migrating upstream to lay eggs during August–October, but in 2022 it was reported they had been swimming in the sea trying to find fish. Around 500 brown bears live in Hokkaido's Shiretoko area and pink salmon are an essential food source in late summer. Bears start to fatten up on the fish before going to the mountains and preparing for hibernation. The shortage of salmon was compounded by a poor acorn harvest, which bears also use to fatten up before the winter. Brown bear attacks on humans in Japan are at their highest level since records began in 2007, with authorities warning the acorn shortage could drive more attacks.

Source: *Sky News* (2023) news.sky.com/story/brown-bear-cubs-starving-to-death-in-japan-due-to-salmon-shortage-12970423

Critically Endangered deer caught on camera in Cambodia

A new camera-trap survey in Cambodia's Virachey National Park has helped pinpoint crucial habitat conservation areas for the Critically Endangered large-antlered muntjac, as well as other species including the Sunda pangolin, red-shanked douc langur, sun bear, clouded leopard, green peafowl and Asian golden cat. The Park harbours Cambodia's only known population of the large-antlered muntjac, a species unknown to science until 1994. The survey results indicate the preferred locations of the species, which will now be prioritized for targeted studies. The 66 cameras deployed in the survey, led by Fauna & Flora's Cambodia team and Cambodia's Ministry of Environment, captured almost 2,500 separate images of wildlife, including records of 36 mammal, 21 bird and two reptile species. Of the 59 species detected, three are categorized as Critically Endangered, two as Endangered and 11 as Vulnerable on the IUCN Red List. Virachey is a vital haven for endemic flora and fauna, despite high levels of historical logging.

Source: *Fauna & Flora* (2023) fauna-flora.org/news/critically-endangered-deer-caught-on-camera-in-crucial-cambodia-wildlife-hotspot

Wildlife Photographer of the Year: horseshoe crab wins gold

French underwater photographer and marine biologist Laurent Ballesta was awarded Wildlife Photographer of the Year 2023 for "The golden horseshoe", an otherworldly image of a tri-spine horseshoe crab accompanied by a trio of golden trevallies. Tri-spine horseshoe crabs have been around for > 100 million years but now face threats such as habitat destruction and overfishing for food and for their blue blood, which is used in the development of vaccines. But in the protected waters of Pangatalan Island in the Philippines, there is hope for their survival. Chair of the jury and editor Kathy Moran says, "To see a horseshoe crab so vibrantly alive in its natural habitat, in such a hauntingly beautiful way, was astonishing. We are looking at an ancient species, highly endangered, and also critical to human health. This photo is luminescent." Laurent is the second photographer in the competition's 59-year history to be awarded the Grand Title award twice. He was first awarded the title for his image of camouflage groupers exiting a cloud of eggs and sperm in French Polynesia.

Source: *Natural History Museum* (2023) nhm.ac.uk/press-office/Wildlife-Photographer-of-the-Year/the-golden-horseshoe--laurent-ballesta-wins-wildlife-photographer.html

Caracals in India inch towards extinction

With only c. 50 individuals remaining across India, concentrated in small clusters in the states of Rajasthan and Gujarat, the caracal *Caracal caracal schmitzi* is on the brink of extinction in the country. Wildlife experts fear that it will become the second cat species to be wiped out from the country, following the Asiatic cheetah, which was declared extinct in 1952. The caracal is native to Africa, the Middle East, Central Asia and arid areas of Pakistan and north-western India. Although the species is categorized globally as Least Concern on the IUCN Red List, it is categorized as Near Threatened in India. Factors leading to the decline in the population are yet to be identified. Initially, large-scale hunting and illegal trade were the two main causes of the decline, but poaching of caracals has not been reported for many decades. Experts think the recent declines may have been caused by a species-specific disease, but more data is needed to back these speculations.

Source: *Mongabay* (2023) india.mongabay.com/2023/10/as-caracals-inch-towards-extinction-path-to-conserving-the-wild-cat-remains-unclear

A new rhinoceros calf in Sumatra

On 30 September 2023, the Government of Indonesia's Ministry of Environment and Forestry announced that a new Sumatran rhinoceros calf had been born. The female calf is the fourth rhinoceros to be born at the Sumatran Rhino Sanctuary in Way Kambas National Park, the third baby for her mum, Ratu, and only the seventh of the species to be conceived and born in captivity. There are fewer than 80 Sumatran rhinoceroses left, all living in small, isolated populations on the Indonesian islands of Sumatra and Borneo. Keeping individuals safe and bringing them together to breed is therefore vital for the species' future, and this birth brings new hope for its conservation. Source: *Save The Rhino International* (2023) savetherhino.org/rhino-species/sumatran-rhino/theres-a-new-female-rhino-calf-in-sumatra

Large Pacific bat roost discovered

The largest known cave roost of bats in the Pacific region has been discovered on the island of Vanua Balavu on the remote Lau archipelago in Fiji. The roost houses a population of the Pacific sheath-tailed bat *Emballonura semicaudata semicaudata*, and an assessment led by Conservation International in Fiji in April 2023 estimated 2,000–3,000 of these bats in the newly discovered cave. The Pacific sheath-tailed bat was assessed for the IUCN Red List in 2019, with the subspecies *E. semicaudata semicaudata* being categorized as Critically Endangered. The unexpected discovery has renewed conservation focus on the bat, with the Lau archipelago now the most significant concentration of the subspecies in the Pacific. Conservation International acknowledged the indispensable role of the Indigenous community of Lau, explaining that 'their profound understanding of the land, shaped by generations of traditional practices and wisdom, will be instrumental in safeguarding the newly discovered . . . population'.

Source: *Conservation International* (2023) conservation.org/singapore/stories/largest-known-pacific-bat-roost-revealed-with-thousands-of-endangered-bats-in-fiji

All internet addresses were up to date at the time of writing. The Briefly section in this issue was written and compiled by Emma Sinnott, Julia Hochbach and Martin Fisher, with additional contributions from Maaiké Mantén, Henry Rees and Stuart Paterson. Contributions from authoritative published sources (including websites) are always welcome. Please send contributions by e-mail to oryx@fauna-flora.org.