

Briefly

SPOTLIGHT ON MARINE ENVIRONMENTS

Scientists freeze coral to restore Australia's Great Barrier Reef

Coral reefs are among the most productive ecosystems and provide essential services. They cover only 0.2% of the seafloor, but support at least 25% of marine species and underpin the well-being of 450 million people in over 100 countries. However, coral reefs are vulnerable to pollution and changes in temperature. In the last 7 years, Australia's Great Barrier Reef has suffered four bleaching events, and > 200 coral species are at risk of extinction. In 2022, for the first time, Australian researchers have been able to freeze and store coral with a new, lightweight so-called cryomesh, which is cheaper and more efficient than previous methods. In a trial, scientists used the cryomesh to freeze coral that had been collected from the reef during the brief annual spawning window. The technology will allow conservationists to store coral larvae at -196°C , at a scale that can support aquaculture and restoration interventions aiming to save the Great Barrier Reef.

Source: *E&T Magazine* (2022) eandt.theiet.org/content/articles/2022/12/scientists-freeze-coral-to-restore-australias-great-barrier-reef

Wandering walrus visits the UK

A restless walrus who delighted northern England in December 2022 returned to the water in January 2023, hopefully to head north to his natural habitat in the Arctic. The animal, nicknamed Thor, was seen around the coasts of Hampshire and Northumberland, and rested in Scarborough harbour on 30 December 2022, prompting officials in the seaside resort to cancel its New Year's Eve fireworks display to avoid agitating or harming the walrus. Up to 500 people were watching the animal at any one time, with thousands visiting the scene. The walrus did not appear to be sick or injured. Walrus are protected under the UK Wildlife and Countryside Act, so disturbing the animal may have constituted an offence. Walrus have previously been known to explore UK waters, but this is quite rare.

Source: *The Huffington Post* (2023) huffingtonpost.co.uk/entry/thor-walrus-spotted-scarborough-blyth_uk_63b45785e4b0cbfd5e43b90

Whales ingest millions of plastic particles per day

A new study has found that filter-feeding whales ingest millions of plastic particles per day, highlighting the need for strategies to manage microplastic pollution. A single whale could consume up to 4 t of plastic over one feeding season in particularly polluted waters, which is up to 150 million pieces of plastic daily. The study, undertaken in the coastal waters off California, is the first to estimate microplastic consumption for baleen whales such as humpback, fin and blue whales. The microplastic particles ingested were primarily inside the fish and krill that the whales consumed, and the study predicts that fish-feeding whales are less exposed to microplastic ingestion than krill-feeding whales. The research team noted that areas such as the North Sea or waters around South Asia have been subject to more plastic pollution than the study site, and whales in these regions could ingest even more plastic particles than recorded in the study.

Source: *Oceanographic Magazine* (2022) oceanographicmagazine.com/news/blue-whales-off-california-ingest-microplastic-particles

Wild octopuses throw debris

Researchers have recorded gloomy octopuses *Octopus tetricus* deliberately throwing debris. The behaviour, recorded in Jervis Bay, Australia, was observed using underwater video cameras. The researchers identified over 100 instances of debris throwing in a group of c. 10 octopuses. The octopuses gathered material such as silt or shells and released it while using a jet of water from their siphon to propel it through the water, often throwing material several body lengths away. To perform the throws, octopuses had to move their siphon into an unusual position, suggesting the behaviour was deliberate. Both sexes were observed throwing and around half of the throws occurred around the time of interactions with other octopuses, with c. 17% of throws hitting another octopus. Octopuses can change their skin colouration, with dark colours generally associated with aggression, and the researchers found that dark-coloured individuals tended to throw more forcefully and were more likely to hit another octopus. This is the first time that throwing behaviour has been reported in octopuses.

Source: *Eurek Alert* (2022) eurekalert.org/news-releases/97013

Shark conservation: electric pulses reduce bycatch...

A new technology called SharkGuard could enable fishers to harvest target species such as tuna while limiting unintentional bycatch of sharks. The small, battery-powered device attaches to fishing hooks and emits a pulsing electric charge that creates an electromagnetic field. The electrosensory organs in the skin of sharks and rays detect subtle changes in electric fields, and the pulsing device aims to overstimulate these senses. The technology was tested on two fishing vessels off the coastline of southern France during the summer of 2021. Each vessel was equipped with 22 longlines with > 9,000 hooks, half of which were secured with a SharkGuard device. SharkGuard was found to reduce the bycatch of blue sharks *Prionace glauca* by 91% and of pelagic stingrays *Pteroplatytrygon violacea* by 71%. Bluefin tuna *Thunnus thynnus*, which lack electrosensory organs, appeared unaffected. However, the device may vary in effectiveness between different shark or ray species, as each has a unique configuration of electrosensory organs. Further research will aim to establish the thresholds required to deter different species.

Source: *New Scientist* (2022) [newscientist.com/article/2347826-electric-pulses-dramatically-cut-number-of-sharks-caught-by-accident](https://www.newscientist.com/article/2347826-electric-pulses-dramatically-cut-number-of-sharks-caught-by-accident)

... and CITES CoP19 achieved protection for sharks

The 19th Conference of the Parties (CoP19) of CITES has achieved progress for the conservation of 54 shark species. At the conference in Panama City in November 2022, governments voted in favour of listing all species belonging to the requiem shark (Carcharhinidae) and hammerhead shark (Sphyrnidae) families on CITES Appendix II. This means that shipment of shark products of these species will require a special permit that shows legal and sustainability requirements are being met. Requiem sharks include migratory, live-bearing sharks such as the blue shark, tiger shark and bull shark, all of which are targeted for their fins. Requiem sharks account for > 50% of the shark fin trade, and c. 70% are threatened with extinction.

Source: *Oceanographic Magazine* (2022) oceanographicmagazine.com/news/cop19-protection-for-sharks-achieved

INTERNATIONAL

Illegal imports of Endangered macaques for research in the USA

Two Cambodian wildlife officials and several members of a primate supply company based in Hong Kong have been charged by the U.S. Department of Justice with illegally exporting hundreds (and potentially more than 2,000) Endangered long-tailed macaques *Macaca fascicularis* to the USA for research. The animals were reportedly captured in the wild in Cambodia and falsely labelled as captive-bred. It is unclear how many of these animals have been used in research, but one of the companies that received them is the largest private supplier of monkeys to research laboratories in the USA. Nearly 30,000 long-tailed macaques were imported to the USA in 2021. Most are used by pharmaceutical and biotechnology companies for drug testing and vaccine research. *Macaca fascicularis* was recategorized from Vulnerable to Endangered on the IUCN Red List in 2022, with growing demand from the research industry cited as a factor that could incentivize illegal trade. Source: *Science* (2022) [science.org/content/article/indictment-monkey-importers-could-disrupt-u-s-drug-and-vaccine-research](https://www.science.org/content/article/indictment-monkey-importers-could-disrupt-u-s-drug-and-vaccine-research)

Transforming conservation with evidence-based decision-making

Across conservation science and practice, there are severe problems with the decision-making processes currently widely used. This leads to ineffective use of evidence, misguided decisions, wasting of resources and the erosion of public and political support. In a new, open access book entitled *Transforming Conservation: A Practical Guide to Evidence and Decision Making*, an international team of experts provide solutions. The transformation envisioned by the authors includes rethinking how evidence is assessed, combined, communicated and used; using effective methods when soliciting experts' opinions; implementing a structured process for making decisions that incorporates available evidence; and putting in place effective processes for learning from conservation actions. In each case, the specific problem with decision-making is described with a range of practical solutions. Adopting this approach to decision-making requires societal change, and detailed recommendations are made for transforming organizations, governments, businesses, funders and philanthropists. Source: *Open Book Publishers* (2022) openbookpublishers.com/books/10.11647/obp.0321

Most carbon offsets by biggest provider are ineffective

A new investigation suggests that the forest carbon offsets approved by Verra, the world's leading provider, are largely worthless and could make global heating worse. The research has found that, based on an analysis of a broad selection of Verra's projects, more than 90% of their rainforest offset credits do not represent genuine carbon emission reductions. The analysis raises questions over the credits bought by a number of internationally renowned companies, some of which have labelled their products as carbon neutral, or have assured their consumers they can travel, buy new items or eat certain foods without worsening the climate crisis. The investigation has drawn on dozens of interviews and on-the-ground reporting with scientists, industry insiders and Indigenous communities. Human rights issues are a serious concern in at least one of the offsetting projects, in Peru. The findings are likely to pose serious questions for companies that are depending on offsets as part of their net zero strategies. Source: *The Guardian* (2023) [theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoc](https://www.theguardian.com/environment/2023/jan/18/revealed-forest-carbon-offsets-biggest-provider-worthless-verra-aoc)

New satellite offers view into nearly all of Earth's waters

The US American and French space agencies NASA and CNES recently launched the Surface Water and Ocean Topography (SWOT) satellite into orbit to begin a 3-year mission dedicated to scanning oceans and freshwater. During its time in space, SWOT will use radar technology to monitor 90% of all waterways, including seas, lakes, rivers and reservoirs. The solar-powered satellite will regularly produce high-resolution maps of 2 million km of rivers and any body of water larger than 6 ha. Some of these waterways are in areas that are difficult to access (e.g. within the Amazon or on the slopes of Mount Everest). The maps based on the new satellite data will help scientists better understand water trends around the world, which is essential to predicting the potential impacts of climate change and assessing effective responses to those threats. It is estimated that between one-quarter and one-third of humanity's annual carbon emissions are absorbed by the oceans alone, more than by any other type of ecosystem. Changes in ocean temperatures affect sea levels and currents and can alter climate patterns globally. Source: *Conservation International* (2023) [conservation.org/blog/news-spotlight-new-satellite-offers-view-into-nearly-all-of-earths-waters](https://www.conservation.org/blog/news-spotlight-new-satellite-offers-view-into-nearly-all-of-earths-waters)

Tree-dwelling primates may adapt to life on the ground

Deforestation and climate change are threatening the habitats of tree-dwelling primates. A study that analysed > 150,000 hours of observations from 20 sites in Madagascar and 48 sites in the Americas over 34 years has reported that habitat loss has some arboreal monkey and lemur species spending more time on the ground, exposing them to a higher risk of predation. The study showed that species with certain social and physical traits may have an advantage. For example, primates with diverse diets and larger group sizes may adapt more easily to terrestrial life, as may those with lower body masses. The research included 47 species, from brown howler monkeys in Brazil to southern bamboo lemurs in Madagascar. The findings offer some hope as tree-dwelling primates may be able to use the ground more as their original habitat disappears. But although the study suggests some species may be able to adapt, deforestation and climate change are taking a huge toll on a wide range of animals. Source: *Mongabay* (2022) news.mongabay.com/2022/12/some-tree-dwelling-primates-may-adapt-more-easily-to-life-on-the-ground-massive-study-shows

Transparent assessments needed to improve sustainability of palm oil

More than half of the world's most significant palm oil companies do not publicly assess their suppliers on commitments to sustainability and zero deforestation, according to an assessment by the Zoological Society of London (ZSL). The Society's annual ranking of palm oil producers, processors and traders found that 39% of companies report a clear process to assess suppliers, but the remaining 61% have limited or no public commitments for evaluating the risk of their suppliers being associated with habitat destruction and biodiversity loss. Only 58% of companies have a public zero-deforestation commitment that applies to all their suppliers, and just 12% have a time-bound action plan for suppliers to become compliant with sustainable palm oil sourcing commitments. As demand for palm oil continues to increase, ZSL is calling for the industry to provide stronger transparency on its assessment of and support for suppliers at all levels of the supply chain. This is vital to guarantee that they are complying with key legal requirements as well as social and environmental commitments that are needed to address the biodiversity and climate crises. Source: *Zoological Society of London* (2022) [zsl.org/conservation/news/mind-the-gap-palm-oil-buyers-fail-to-hold-suppliers-to-account-on-zero](https://www.zsl.org/conservation/news/mind-the-gap-palm-oil-buyers-fail-to-hold-suppliers-to-account-on-zero)

EUROPE

Plans for Norwegian whale sanctuary

An entrepreneur is trying to raise funds to create the world's first open-water whale sanctuary in the Norwegian fjords, to care for and protect whales that have been kept in captivity and trained to perform for an audience. Adam Thorpe set up the charity OneWhale, which currently funds the monitoring and protection of Hvaldimir, a beluga whale living in the area. Hvaldimir has apparently been trained by people and is not well adapted to life in the wild. However, videos of his interactions with people have become a viral online sensation. OneWhale has been working with the local government and community to create the reserve, which would be big enough to take a number of whales that are used to captivity, with the hopes of enabling them to hunt for themselves, interact with each other and be released back into the wild. Scientists, veterinarians and conservationists are now working to create the sanctuary, and the project has attracted the interest of filmmakers who are keen to document the journey of Hvaldimir from captivity to danger at sea and finally a safe sanctuary. Source: *The Guardian* (2022) [theguardian.com/environment/2022/nov/06/norway-plans-sanctuary-for-spy-whale-hvaldimir-who-came-in-from-cold](https://www.theguardian.com/environment/2022/nov/06/norway-plans-sanctuary-for-spy-whale-hvaldimir-who-came-in-from-cold)

Tracking European eels all the way to the Sargasso Sea

The Critically Endangered European eel *Anguilla anguilla* is an enigmatic species with a fascinating life cycle, the details of which have only recently been discovered. It has long been speculated that adult eels spawn in the Sargasso Sea, a region of the Atlantic Ocean bounded by four currents forming an ocean gyre, but direct evidence has been lacking. In 2022, after generations of speculation, scientists have finally managed to track European eels the entire way back to their breeding grounds in the Sargasso Sea, following their movements thousands of kilometers along what is considered one of the most impressive animal migrations. Using satellite tags, the researchers obtained tracking data from 21 female eels as they navigated the last leg of their epic journey, southwest from the Azores, a volcanic archipelago in the North Atlantic Ocean. The longest recorded straight-line distance was 2,275 km. It is still unclear how the eels find their way to the Sargasso Sea and how long their spawning season extends. Source: *ScienceAlert* (2022) [sciencealert.com/scientists-track-eels-to-their-ocean-breeding-grounds-in-world-first](https://www.sciencealert.com/scientists-track-eels-to-their-ocean-breeding-grounds-in-world-first)

EU demand for frog legs raises risks of local extinctions

The EU imports an estimated 4,000 t of frogs' legs per year, equivalent of c. 200 million frogs killed, the majority of which are caught in the wild. This makes the EU the largest importer of frogs' legs originating from wild-caught species. Amid a global decline of biodiversity, many populations of amphibians are already under pressure from habitat loss, diseases and increasing uses of pesticides. A new study demonstrates that the trade in frogs for consumption in the EU is unregulated and unsustainable. According to the scientists, this trade increases the risk of local and regional frog extinctions in the main source countries for the EU market, such as Indonesia, Vietnam, Turkey and Albania. Because the most traded species are not currently listed on CITES Appendices, there is little information on the species traded, their origins or the environmental impact. This lack of transparent data hampers conservation efforts, and researchers are urging the EU to start a listing initiative at CITES to ensure data on this trade are collected at the species level. Source: *Mongabay* (2023) [news.mongabay.com/2023/01/eu-demand-for-frogs-legs-raises-risks-of-local-extinctions-experts-warn](https://www.mongabay.com/2023/01/eu-demand-for-frogs-legs-raises-risks-of-local-extinctions-experts-warn)

Good news: pine martens breed successfully in New Forest. . .

Rare pine martens are now believed to be well-established and successfully breeding in the New Forest in Hampshire, UK. The elusive cat-sized member of the weasel family was previously thought to have survived largely in the north of England, but trail cameras placed as part of a long-term study have shown young pine martens exploring and playing together. The study began after several sightings of the protected species in the New Forest, with conservationists aiming to determine if and how pine martens were recolonizing the area. More than 100 video clips were captured during 2022, with footage of young pine martens providing further evidence of successful breeding. The recordings also confirm initial findings that pine martens prefer to use fallen trees and branches to navigate across the forest floor and to cross streams and wet areas. They sleep and make dens high up in the trees and usually only come out at night to hunt. The pine marten study is being carried out by Wild New Forest along with Forestry England, The New Forest Study Group, Hampshire and Isle of Wight Wildlife Trust. Source: *BBC* (2022) [bbc.co.uk/news/uk-england-hampshire-63821752](https://www.bbc.co.uk/news/uk-england-hampshire-63821752)

. . . baby seals spotted in record numbers on Norfolk coast. . .

A record number of baby seals have been spotted along a stretch of the coast of Norfolk, UK. Almost 4,000 seal pups have been born this winter and over 1,000 adults have been spotted by volunteers, almost doubling the count obtained during the winter of 2019–2020. Every year between November and January, grey seals *Halichoerus grypus* come ashore to breed in Norfolk. The seal pups feed on their mothers' milk on the beach for 3 weeks and grow at a rapid pace. Once the lactation period ends, the mothers leave and the baby seals stay behind on the beach until they have shed their distinctive white fur, which normally takes another 3 weeks. Approximately half of the global population of grey seals live around the British coastline, with Norfolk being an important breeding area. The seal population between Waxham and Winterton attracts thousands of visitors each winter. Local charity Friends of Horsey Seals, which protects the colony from disturbance, say that the significant number of pups is a sign of a healthy colony. Source: *The Guardian* (2023) [theguardian.com/uk-news/2023/jan/15/baby-seals-spotted-in-record-numbers-on-norfolk-coast](https://www.theguardian.com/uk-news/2023/jan/15/baby-seals-spotted-in-record-numbers-on-norfolk-coast)

.. and European hamsters return to the Tarutino Steppe

A family of three European hamsters has been released on to the Tarutino Steppe, in the Danube Delta rewilding landscape in Ukraine. This is the first release in a reintroduction programme aiming to help restore local food webs, enhance biodiversity, boost nature-based tourism and create a wilder steppe landscape. The European hamster once inhabited steppes and forest-steppes across Europe, and was resident in most of Ukraine, but has almost disappeared in the wild as a result of habitat destruction, environmental pollution and targeted extermination as an agricultural pest. In 2009, it was listed in the Red Book of Ukraine. On the Tarutino Steppe, the growing hamster population will benefit from environmental protection and an increasingly wild and healthy landscape, to which they will contribute by spreading plant seeds and improving soil fertility. Their dens will create habitats for other wildlife, and they will form an important part of local food chains as prey for a range of birds and mammals. Other native mammals returned to the Tarutino Steppe include kulan (Asiatic ass), fallow deer and steppe marmot. Source: *Rewilding Europe* (2022) rewildingeurope.com/european-hamsters-return-to-the-tarutino-steppe

AFRICA

Drought in Kenya wreaks havoc on wildlife

Kenya's worst drought in 4 decades continues to wreak havoc on wildlife. A report presented in November 2022, entitled *The Impacts of the Current Drought on Wildlife in Kenya*, shows that the crisis has affected nearly half of the East African nation's eight provinces, drastically reducing food resources for both people and wildlife. The report stated that the drought has caused the death of at least 512 wildebeest, 381 plains zebras, 49 Grevy's zebras, 51 buffalos and 205 African elephants, amongst others. The Amboseli and Laikipia-Samburu ecosystems are the worst affected by the drought, recording the deaths of more than 70 elephants. The depletion of food resources alongside water shortages has caused the mortality of many herbivore species despite an ongoing feeding programme that has been set up to help. Fortunately, it is reported that the rhinoceros population has not been seriously affected by the drought, with only one individual having died, within Tsavo West National Park.

Source: *Africa News* (2022) africanews.com/2022/11/04/kenyas-drought-wreaks-havoc-on-wildlife-kills-over-200-elephants

New campaign against consumption of wildlife launched in Kinshasa

Wildlife hunting is accelerating at an alarming rate in Central Africa. According to experts from the Wildlife Conservation Society (WCS), more than six million tonnes of wild meat are extracted from the forests of the Congo Basin every year. This level of harvesting of wild animals is unsustainable, especially as it is driven by trade for profit. In the Democratic Republic of the Congo, the authorities have decided to respond to this problem. The Ministry of the Environment and Sustainable Development, in collaboration with a coalition of local organizations in the capital city Kinshasa, including the WCS, launched the second phase of a campaign entitled 'Celebrate Congolese cuisine without bushmeat – Yoka Pimbo' in December 2022. The first phase of this campaign had been launched in March 2021, and this new second phase features the broadcasting of a video clip of the campaign song entitled 'Yoka-pimbo!', as well as a Facebook competition for the best recipes for Congolese cuisine without bushmeat. The authors of the best recipes will be rewarded with various prizes.

Source: *Afrik21* (2023) afrik21.africa/en/drc-a-campaign-against-the-consumption-of-wildlife-in-kinshasa

At least half of Africa's rhinoceroses are in private hands

Until recently, the largest population of rhinoceroses was found in the state-run Kruger National Park in South Africa, but numbers of white and black rhinoceroses there have dwindled by 76% and 68%, respectively, over the past decade. During the same period, the number of white rhinoceroses on private land has steadily increased, particularly in South Africa. Private owners now conserve at least half of the continent's remaining rhinoceroses, and communal lands conserve a growing proportion. In a new study, scientists have compiled publicly available rhinoceros population data for African range countries, disaggregated by state, private, and communal lands where possible. Private and communal land owners can generate revenue from wildlife tourism, trophy hunting and trade in live animals, making it financially viable to conserve wildlife rather than farming livestock. But higher investments are now needed for security measures to combat increasing levels of poaching, making conservation less feasible for many land owners. The study's authors highlight the importance of future policies that enable new incentives that compensate for rising security costs, encouraging rhino conservation on private and communal land.

Source: *Science Daily* (2023) sciencedaily.com/releases/2023/01/230119112755.htm

First global Red List assessment of South African abalone

An update to the IUCN Red List, presented during the 15th meeting of the Conference of the Parties to the Convention on Biological Diversity, revealed that as many as 44% of all abalone shellfish species are threatened with extinction. The primary threat to *Haliotis midae*, a newly assessed species that occurs in South Africa, is illegal fishing, mainly for international trade. In 2018, a TRAFFIC report estimated that 36,958 t of abalone were illegally harvested during 2000–2016; approximately double the quantity that was legally produced over the same period. Recent analysis indicates that this trend has continued, suggesting poaching pressure remains high. The illegal trade of *H. midae* is made easier by the fact that it is currently not regulated by any international trading agreements. Its new listing as Endangered on the IUCN Red List reinforces the need to continue the ongoing efforts to prevent and combat the illegal trade in South African abalone.

Source: *TRAFFIC* (2022) traffic.org/news/first-ever-global-red-list-assessment-of-abalone-underlines-urgency-of-combatting-illegal-trade

Shipping noise and food scarcity threaten Africa's only penguin

The African penguin *Spheniscus demersus* is expected to become extinct in the wild in just over a decade, given its current population decline. The main reason is a lack of sardines, its primary food source, caused by the commercial fishing industry and changing ocean conditions from global heating. There is a possible additional cause that may further inhibit the penguins from finding food: noise pollution from marine vessels in Algoa Bay, which is one of the noisiest shipping hubs globally. In 2016, a new shipping practice started there: ship-to-ship refuelling for vessels anchored offshore, known as ship-to-ship bunkering, which saves in-port docking time. Since then, marine traffic in the bay has doubled, and the number of bulk carriers pulling into the bay has increased tenfold. These large vessels have the biggest engines and emit the highest noise levels. Penguins hunt in groups and vocalize to each other while at sea, and scientists are investigating whether the noise pollution interferes with their ability to find food.

Source: *Mongabay* (2022) news.mongabay.com/2022/11/will-shipping-noise-nudge-africas-only-penguin-toward-extinction

Dam construction degrades hippopotamus habitat in Ghana

The resources of the Black Volta River and an abundance of grasses make Bui National Park one of the few areas where the common hippopotamus occurs in Ghana. However, in an attempt to solve the electricity crisis the country faced in 2007, the government constructed a hydroelectric dam in the heart of the species' habitat. In a new study, researchers spent 2 days per month for 12 months at the Park to estimate the number of hippopotamuses, study local migratory activities and assess changes in land cover after the dam was constructed. They compared this information with historical data and spoke to local people familiar with the reserve before and after the dam construction. The results indicated a 70% decline in hippopotamus numbers, from 209 individuals in 2003 to only 64 in 2021. Forest cover and riparian grasses declined after the dam construction, and increasing water levels flooded the areas where the animals used to live, forcing them to disperse to other areas. As they dispersed, the hippopotamuses became vulnerable to poaching, which, combined with habitat loss, led to a decline in their numbers.

Source: *Pensoft* (2022) blog.pensoft.net/2022/12/21/human-activities-degrade-hippopotamus-homes-at-bui-national-park-ghana

AMERICAS

Good news for Union Island gecko

A tiny, Critically Endangered Caribbean lizard has taken a step back from the brink of extinction. Thanks to the hard work and commitment of the local community, regional government and a coalition of local and international conservation organizations, the Union Island gecko is making a comeback. Its population has grown from 10,000 in 2018 to c. 18,000. The entire population is confined to a single 50-ha fragment of old-growth forest, making it vulnerable to human disturbance and natural disasters such as hurricanes. Having quickly become coveted as an exotic pet after being described by science in 2005, by 2017 the Union Island gecko was the most trafficked reptile in the region, and its fragile habitat was being destroyed by those searching for more specimens to sell. A species recovery plan, developed with local residents in 2016, has since guided a range of conservation efforts including expansion and closer management of the gecko's protected forest habitat, anti-poaching patrols and camera surveillance.

Source: *Fauna & Flora* (2022) fauna-flora.org/news/gecko-good-news-treasure-island-celebrates-recovery-of-precious-caribbean-jewel

Glass frogs become see-through by hiding their blood

Scientists have discovered how some glass frogs, which live in tropical forests throughout Central and South America, keep their skin so clear: by diverting blood into their livers. Researchers have used highly calibrated cameras to capture the transparency of Fleischmann's glass frogs *Hyalinobatrachium fleischmanni*, which congregate near streams throughout Central America. At night, when the amphibians breed and feed, they are opaque. But during the day, when they sleep on leaves, most of their body turns transparent. This helps the frogs to blend in with their surroundings, protecting them from predators. The increased transparency of sleeping frogs appeared to be linked with a lack of red blood cells in their veins; when the frogs woke up, their blood started pumping again, reducing their transparency. The researchers also found that during the day, blood vessels in the frogs' livers were full of red blood cells. Compared with other tree frogs, which can only store c. 12% of their red blood cells in their livers, glass frogs can hide away 89% of their red blood cells in this way.

Source: *Science* (2022) science.org/content/article/glass-frogs-become-see-through-hiding-their-blood

New study documents coalitions of male jaguars

A study has found novel evidence of wild male jaguars forming coalitions and collaborating with each other to secure prey, improve chances of mating and defend or expand their territories. Jaguars have long been regarded as a solitary species but these findings suggest the large felid is more social than previously believed. The project involved data analysis from five studies that used camera trapping, GPS telemetry and direct jaguar observations in the Venezuelan Llanos and Brazilian Pantanal. Out of > 7,000 records, the team recorded 105 interactions between males, 70 of which were classified as cooperation or forming of a coalition, nine were classified as social tolerance and only 18 were considered aggressive. Some male jaguar coalitions were long-lasting: in two studies, pairs of male jaguars formed stable partnerships that endured > 7 years. In one of these, the two males patrolled territories together, communicated vocally with each other, shared a tapir kill and even rested side by side. The jaguar coalitions never involved more than two unrelated males, unlike those observed in cheetahs and lions.

Source: *Phys.org* (2022) phys.org/news/2022-12-documents-male-jaguar-coalitions-idea.html

Protection of Peninsula Mitre to preserve vital carbon sink

Legislators of Tierra del Fuego Province in Argentina have passed a law to permanently protect Peninsula Mitre, the extreme tip of the continent. The 486,000-ha peninsula is home to intact kelp forests and one of the largest peat reserves of South America. Both kelp forests and peat bogs are ecosystems crucial to climate stability. A grassroots campaign spanning 3 decades has resulted in the new law. The new protected area will comprise 300,000 ha of land and 186,000 ha of ocean, encompassing 30% of Argentina's kelp forests. The giant kelp found in these coastal waters grows particularly fast and captures 10 times more carbon than tropical forests. The peninsula is also home to 84% of the country's peatlands. Peatlands are the largest terrestrial organic carbon sink on the planet. They store twice as much carbon as all the world's forests and also support biodiversity, including many threatened species. Peninsula Mitre is a key refuge for the southern river otter, the Andean condor, steamer duck, guanaco and red fox.

Source: *Tompkins Conservation* (2022) tompkinsconservation.org/news/2022/12/23/peninsula-mitre-a-rare-global-climate-win

Action against totoaba trafficking helps vaquita conservation

Mexico's navy confirmed in a press conference in January 2023 that members of cartels dedicated to the trafficking of the Vulnerable totoaba *Totoaba macdonaldi* have been arrested and put in prison, effectively dismantling some of the main organized crime groups contributing to declining fish populations in the Gulf of California. Since 2019, officials have arrested seven members of the Totoaba Cartel and the leader of the Cartel of the Sea, both of whom targeted the large fish species for its treasured swim bladder, considered a delicacy when dried and sold at markets in China. Mexico's Gulf of California, where the illegal fishing of totoaba takes place, is also home to the vaquita, a porpoise c. 1.5 m long that often gets caught in the fishing nets. There may be as few as nine vaquita left, and the government and conservation groups have set up patrols and monitoring systems to try and protect them. As such, it is hoped that the recent arrests of totoaba traffickers will also benefit vaquita conservation.

Source: *Hakai Magazine* (2023) hakaimagazine.com/news/taking-down-mexicos-totoaba-cartel-helps-with-vaquita-conservation

The flat-headed bat: a species back from the dead

The flat-headed bat *Myotis planiceps* is found exclusively in the Chihuahua Desert of north-east Mexico in an area of < 500 km², which is the smallest distribution of any mammal. The IUCN declared the species Extinct in 1996, after there had not been any scientific documentation of the bat for 21 years. Only three individuals had been collected since it was first documented in 1953. In 2004, however, a research team set out to the localities of Los Pinos, Las Armenias and Lontananza, based on the areas where the bat was first found, and discovered eight individuals, confirming that the species was still alive and offering new hope that it could be saved. In 2021, another group of researchers ventured to a new location, the Sierra de Zapalinamé Nature Reserve, and captured five flat-headed bats during their first night of mist-net surveys. Some individuals were subsequently tagged with radio transmitters, which helped the researchers to locate their summer roosts. Much is still unknown, however, such as the bats' diet and where and how they hibernate in winter, which is one of the priorities for forming a conservation plan for the species.

Source: *Re:wild* (2022) rewild.org/news/the-flat-headed-bat-a-species-back-from-the-dead

ASIA & OCEANIA

New Caledonian dugongs now listed as Endangered

The global population of the dugong *Dugong dugon* is categorized as Vulnerable on the IUCN Red List, but in 2022 the New Caledonian subpopulation was listed as Endangered as it is particularly fragile and shows a low resilience potential. The subpopulation is small, with less than 900 mature individuals, is geographically and genetically isolated and has the lowest level of genetic diversity amongst dugong populations globally. The primary threats to dugongs in New Caledonia are poaching and injuries from collisions with boats. The degradation and loss of seagrasses is also a major problem, resulting from agricultural run-off, pollution from nickel mining and coastal development, and damage from boat anchors. The impacts of climate change present a threat throughout the species' wide range. This new listing highlights the precarious conservation state of the New Caledonian subpopulation and its high risk of local extinction, calling for urgent action.

Source: *The IUCN Red List of Threatened Species* (2023) iucnredlist.org/species/218582754/218589361

Rare bird rediscovered in Papua New Guinea after 140 years

The black-naped pheasant pigeon *Otidiphaps insularis*, last spotted 140 years ago, has recently been sighted in Papua New Guinea. Local hunters have reported occasional sightings since it was last documented by scientists in 1882, but in recent decades there have been fears that it may have become extinct. However, new footage captured by scientists on a month-long expedition proved that the bird, which is only found on Fergusson Island, still exists in the wild. The island is mountainous with thick forest, making the search difficult. A research team previously tried and failed to find the bird in 2019. But thanks to a local hunter who reported hearing the bird's distinctive call, 12 camera traps were placed in a remote location and an image of the bird was captured. The expedition was supported by American Bird Conservancy and the Search for Lost Birds, a collaboration between BirdLife International, American Bird Conservancy and Re:wild that was formed in an effort to find 10 bird species that have not had confirmed sightings in over a decade.

Source: *Euronews* (2022) euronews.com/green/2022/11/22/like-finding-a-unicorn-rare-bird-lost-to-science-for-140-years-rediscovered-in-papua-new-guinea/

Unsustainable fishing to be banned in Irrawaddy dolphin sanctuary

A threatened population of Irrawaddy dolphins *Orcaella brevirostris* in Indonesia is set to benefit from a ban on unsustainable fishing gear in a key stretch of river. The Bornean population of the species is found in the Mahakam River, of which an upstream watershed spanning 42,668 ha has now been declared a conservation area. This will limit shipping traffic, but will allow some fishing. The fisheries ministry is working with conservationists to draw up a management plan for sustainable fishing, prohibiting destructive practices that have been identified as a threat to the dolphins and other wildlife. This includes seeking to ban using a particularly damaging type of gill net known as *rengge*, electrofishing, poison fishing and monopolizing fisheries. The Mahakam population of Irrawaddy dolphins is estimated to comprise just 80 individuals and is considered Critically Endangered. NGOs working on the project have emphasized that fishers support the establishment of the conservation area and the proposed ban on the destructive gear, but will need assistance to switch to more sustainable fishing devices, such as traps, cages and longlines.

Source: *Mongabay* (2022) news.mongabay.com/2022/12/unsustainable-fishing-to-be-banned-in-irrawaddy-dolphins-bornean-sanctuary

Good news for Javan rhinoceroses as two new calves are born

New images and videos captured by camera traps in Ujung Kulon National Park confirm the new arrival of two Javan rhinoceros calves in Indonesia. With fewer than 80 individuals left, every birth is of huge importance. All remaining individuals live within this one park, protected and monitored by dedicated teams. Rhino Protection Units patrol the Park and its coastal waters to support the conservation of the rhinoceros and other threatened species. Javan rhinoceroses are notoriously difficult to observe, but the Rhino Protection Units are trained in finding their tracks and signs, and record all information gathered on their patrols. Between January and June 2022, they discovered more than 70 footprints, 20 wallows, eight piles of faeces and 18 feeding sites within the Park. These signs, alongside 140 cameras placed in strategic positions around the Park, have helped teams to gain knowledge about the species' behaviour, and also enabled them to find out about the two new arrivals.

Source: *Save the Rhino International* (2023) savetherhino.org/asia/indonesia/good-news-for-2023-two-more-javan-rhinos

Quolls released in Australian sanctuary

Ten Endangered eastern quolls *Dasyurus viverrinus* have been released into the 400-ha Barrington Wildlife Sanctuary in New South Wales, Australia. The species was once common across eastern Australia, but was decimated by feral cats and foxes and declared extinct in mainland Australia in 1963, with the only extant wild population being found in Tasmania. Aussie Ark, an Australian conservation charity, has successfully bred and rewilded the eastern quoll for over 5 years. A thorough health check was carried out on each individual before release, including weighing, assessment of body condition and medication to protect the animals from parasites and disease. The newly released individuals add vital genetic diversity to the population already living in the Sanctuary.

Source: *Aussie Ark* (2022) aussieark.org.au/quoll-releasebws

Critically Endangered langurs threatened by motor traffic

In December 2022, two male Raffles' banded langurs ended up as roadkill along the Seletar Expressway in Singapore. The carcasses were found less than 24 hours apart, reducing the population of the Critically Endangered species to only 73 individuals. According to researchers, these deaths are particularly concerning because it means that the population's gene pool has become even smaller and less diverse, resulting in more inbreeding. The smaller gene pool could result in reduced fertility, greater vulnerability to diseases, genetic disorders and higher infant mortality. A post-mortem examination suggests the langurs were attempting to cross the road from forested areas in Lentor to Springleaf, possibly in search for females or because of disturbances to their habitat. Conservationists say more mitigation measures are needed, such as road signs reminding drivers to drive carefully near forests, noting that it was not always feasible to install rope bridges or other habitat links.

Source: *The Straits Times* (2022) straitstimes.com/singapore/environment/2-critically-endangered-raffles-banded-langurs-found-dead-along-sle-population-here-drops-to-73

All internet addresses were up to date at the time of writing. The Briefly section in this issue was written and compiled by Emma Sinnett, Julia Hochbach and Martin Fisher, with additional contributions from Claire Garrigue and Andie Ang. Contributions from authoritative published sources are always welcome. Please send contributions to oryx@fauna-flora.org.