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European bison recovering, 31 species declared Extinct – IUCN Red List

Gland, Switzerland, 10 December 2020 (IUCN) – The European bison (*Bison bonasus*), Europe's largest land mammal, has moved from Vulnerable to Near Threatened thanks to continued conservation efforts, according to today's update of the [IUCN Red List of Threatened Species™](#). With this update, 31 species also move into the Extinct category, and all of the world's freshwater dolphin species are now threatened with extinction.

There are now 128,918 species on the IUCN Red List, of which 35,765 are threatened with extinction.

“The European bison and twenty-five other species recoveries documented in today's IUCN Red List update demonstrate the power of conservation,” said **Dr Bruno Oberle, IUCN Director General**. *“Yet the growing list of Extinct species is a stark reminder that conservation efforts must urgently expand. To tackle global threats such as unsustainable fisheries, land clearing for agriculture, and invasive species, conservation needs to happen around the world and be incorporated into all sectors of the economy.”*

“The conservation successes in today's Red List update provide living proof that the world can set, and meet, ambitious biodiversity targets. They further highlight the need for real, measurable commitments as we formulate and implement the post-2020 global biodiversity framework,” said **Dr Jane Smart, Global Director of IUCN's Biodiversity Conservation Group**.

Conservation drives European bison recovery

As a result of long-term conservation management, the wild population of **European bison** (*Bison bonasus*) has grown from around 1,800 in 2003 to over 6,200 in 2019, justifying the move from Vulnerable to **Near Threatened**. The species survived only in captivity in the early 20th century, and was reintroduced to the wild in the 1950s. The largest subpopulations are now found in Poland, Belarus and Russia. There are currently 47 free-ranging European bison herds. However, herds are largely isolated from one another and confined to non-optimal forest habitats, and only eight of them are large enough to be genetically viable in the long term. The species remains dependent on ongoing conservation measures such as translocations of bison to more optimal open habitats and reduction of human-bison conflicts.

“Historically, European bison were reintroduced mostly to forest habitats, where they don't find enough food in winter. However, when they move out of the forest into agricultural areas, they often find themselves in conflict with people. To reduce the conflict risk and the bison's dependence on supplementary feeding, it will be important to create protected areas that include open meadows for them to graze,” said **Dr Rafał Kowalczyk, co-author of the new assessment and member of the IUCN SSC Bison Specialist Group**.

All of the world's freshwater dolphins now threatened

With the **tucuxi** (*Sotalia fluviatilis*) moving from Data Deficient to **Endangered**, all of the world's freshwater dolphin species are now listed as threatened on the IUCN Red List. This small grey



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dolphin species found in the Amazon river system has been severely depleted by incidental mortality in fishing gear, damming of rivers and pollution. Eliminating the use of gillnets – curtains of fishing net that hang in the water – and reducing the number of dams in tucuxi habitat are priorities to enable numbers to recover. Enforcing the ban on the deliberate killing of tucuxis is also essential.

Extinctions

The **lost shark** (*Carcharhinus obsoletus*), which was only formally described last year, enters the Red List as **Critically Endangered (Possibly Extinct)**. The species was last recorded in 1934. Its habitat in the South China Sea has been extensively fished for more than a century and remains one of the most overexploited marine regions in the world. As it is unlikely that the species could have persisted under this heavy pressure, the lost shark may already be extinct.

All of the **17 freshwater fish species** endemic to Lake Lanao and its outlet in the Philippines are now Extinct (15 species) or Critically Endangered (Possibly Extinct) (two species). The extinctions were caused by predatory introduced species, compounded by overharvesting and destructive fishing methods.

Three Central American **frog species** have been newly declared **Extinct**. Additionally, twenty-two frog species across Central and South America were listed as Critically Endangered (Possibly Extinct). The main driver of these drastic declines is chytridiomycosis disease. Conservation efforts to protect critical habitat are helping populations of several other amphibian species to recover. Among them is the **Oaxaca Treefrog** (*Sarcohyla celata*), which **moved from Critically Endangered to Near Threatened** thanks to actions by local communities in Mexico.

Plants: proteas and oaks under pressure

The protea family has been comprehensively assessed with this update, revealing that 45% (637 of 1,464 species) of these striking flowering plants that grow mainly across the Southern Hemisphere are Vulnerable, Endangered or Critically Endangered. Many of the species have highly restricted ranges, making them more vulnerable to the spread of invasive alien species, changes to natural fire cycles caused by humans and linked with climate change, and loss of habitat to agriculture. The protea family includes three **Macadamia** species – the same species that produce the farmed macadamia nut crop – which have entered the IUCN Red List as threatened with extinction in the wild. The macadamia nut (*Macadamia integrifolia*) is listed as Vulnerable, while *M. ternifolia* and *M. tetraphylla* are listed as Endangered.

Oak trees have been comprehensively assessed, revealing that almost one third (31%, 113 of 430 species) are threatened with extinction. Nine Asian oaks enter the IUCN Red List already Critically Endangered (Possibly Extinct or Possibly Extinct in the Wild). The highest numbers of threatened species are in China and Mexico, followed by Viet Nam, the United States and Malaysia. Land clearance for agriculture and logging are the most common threats in China, Mexico and Southeast Asia. Invasive alien species and diseases and climate change are the key threats to oaks in the United States.

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Supporting quotes:

"We are proud to have supported the advances in knowledge reflected in this IUCN Red List update, including the assessments of over 1,400 species in the protea plant family. This has revealed significant threats to these plants on multiple continents, and serves as a baseline for monitoring future changes in their extinction risk. The power of this knowledge is essential for guiding conservation policy and action," said **Masako Yamato, General Manager, Environmental Affairs Division of Toyota Motor Corporation.**

*"In addition to documenting both recoveries and extinctions, this update to the Red List includes several species of heavily traded medicinal plants including Nagchatri (*Trillium govanianum*), and Oshá (*Ligusticum porteri*). As we continue to grapple with a global pandemic, these assessments are a testament both to the importance of monitoring trends in a changing environment, and to the critical role of zoos, aquariums, and botanic gardens who contributed to hundreds of species assessments even while under deep financial strain,"* said **Clayton Meredith, Species Survival Officer for Plants, ABQ BioPark.**

"Oaks are amongst the most charismatic of trees, and they are also keystone species in the habitats they occupy. More than 2,300 species of bird, mosses, fungi, insects, lichens and mammals are recorded as using native oaks for food and shelter in the UK, and the same will be true for the 113 species of oak now threatened with extinction. The loss of just one of these tree species has catastrophic consequences for hundreds of other species," said **Paul Smith, Secretary General of BGC.**

"It's fantastic that 17 new assessments in this update, of threatened plant species at Ebo Forest, Cameroon, have already helped the Cameroon government reach a decision to cancel the logging concession for this vast forest. Ebo Forest is crucial for biodiversity," said **Dr Martin Cheek, Senior Research Leader of the Africa team at Royal Botanic Gardens, Kew.** *"We teach our students that an IUCN Red List assessment can help change the fate of a species, but this is the quickest example I've ever seen, and also the most impactful in terms of area of forest saved,"* said **Dr Eimear Nic Lughadha, Senior Research Leader in Conservation Assessment and Analysis at Kew.**

"As a conservationist, the most emotionally impactful news to present is the confirmation of extinction. The causes range from overexploiting to disease, with some threats easier to mitigate than others. The impact of chytrid fungus on amphibian populations has been particularly vexing, challenging conservationists worldwide. There have been successes and recoveries, as noted in the update, and we need to redouble our efforts to address this and other emerging disease threats to biodiversity," said **Dr Thomas E Lacher, Jr., Texas A&M University.**

"Seeing so many species joining the Extinct category, many of which have only just been discovered, is heart-breaking. The Red List is a vital tool that helps us understand the pressures facing the diversity of life and therefore the conservation responses needed. A healthy natural world is vital to our wellbeing - we now need to see a clear focus placed on the recovery of species and the maintenance of diversity within the new Global Biodiversity Framework," said **Dr Andrew Terry, Director of Conservation and Policy at ZSL.**

Editor's notes

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IUCN–Toyota Partnership: The five-year partnership between IUCN and Toyota Motor Corporation announced in May 2016 has been significantly increasing knowledge on the extinction risk of more than 28,000 species, including many that are key



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food sources for a significant portion of the global population. This partnership is driven by the Toyota Environmental Challenge 2050, which aims to reduce the negative impacts associated with automobiles to zero, whilst simultaneously making positive impacts on society.

The IUCN Red List

Global figures for the 2020-3 IUCN Red List of Threatened Species:

TOTAL SPECIES ASSESSED = 128,918

(Total threatened species = 35,765)

Extinct = 902

Extinct in the Wild = 80

Critically Endangered = 7,762

Endangered = 13,285

Vulnerable = 14,718

Near Threatened = 7,644

Lower Risk/conservation dependent = 180 (this is an old category that is gradually being phased out of The IUCN Red List)

Least Concern = 66,469

Data Deficient = 17,878

The figures presented above are only for those species that have been assessed for The IUCN Red List to date. Although not all of the world's species have been assessed, The IUCN Red List provides a useful snapshot of what is happening to species today and highlights the urgent need for conservation action. Relative percentages for threatened species cannot be provided for many taxonomic groups on The IUCN Red List because they have not been comprehensively assessed. For many of these groups, assessment efforts have focused on threatened species; therefore, the percentage of threatened species for these groups would be heavily biased.

For those groups that have been comprehensively assessed, the percentage of threatened species can be calculated, but the actual number of threatened species is often uncertain because it is not known whether Data Deficient (DD) species are actually threatened or not. Therefore, the percentages presented above provide the best estimate of extinction risk for those groups that have been comprehensively assessed (excluding Extinct species), based on the assumption that Data Deficient species are equally threatened as data sufficient species. In other words, this is a mid-point figure within a range from x% threatened species (if all DD species are not threatened) to y% threatened species (if all DD species are threatened). Available evidence indicates that this is a best estimate.

The IUCN Red List threat categories are as follows, in descending order of threat:

Extinct or Extinct in the Wild

Critically Endangered, Endangered and Vulnerable: species threatened with global extinction.

Near Threatened: species close to the threatened thresholds or that would be threatened without ongoing conservation measures.

Least Concern: species evaluated with a lower risk of extinction.

Data Deficient: no assessment because of insufficient data.

Critically Endangered (Possibly Extinct) or Critically Endangered (Possibly Extinct in the Wild): these are not IUCN Red List Categories, but are tags developed to identify those Critically Endangered species that are in all probability already extinct but for which confirmation is required; for example, through more extensive surveys being carried out and failing to find any individuals

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About The IUCN Red List of Threatened Species™

The IUCN Red List of Threatened Species™ (or The IUCN Red List) is an invaluable resource to guide conservation action and policy decisions. It is a health check for our planet – a Barometer of Life. It is the world's most comprehensive information source on the global conservation status of plant, animal and fungi species. It is based on an objective system for assessing the risk of extinction of a species should no conservation action be taken.

Species are assigned to one of eight categories of threat based on whether they meet criteria linked to population trend, population size and structure and geographic range. Species listed as Critically Endangered, Endangered or Vulnerable are collectively described as 'threatened'.

The IUCN Red List is not just a register of names and associated threat categories. It is a rich compendium of information on the threats to the species, their ecological requirements, where they live, and information on conservation actions that can be used to reduce or prevent extinctions. When an animal, fungus or plant changes Red List Category for genuine reasons, this reflects a change in the extinction risk for that species. It is therefore a key indicator for tracking conservation successes and failures. The IUCN Red List is a joint effort between IUCN and its Species Survival Commission, working with its IUCN Red List partners – ABQ BioPark; Arizona State University; BirdLife International; Botanic Gardens Conservation International;



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Conservation International; Global Wildlife Conservation, Missouri Botanical Garden, NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; and Zoological Society of London. This work has been made possible with the essential contribution of the Red List Partners. www.iucnredlist.org [Facebook](#) [Twitter](#).

About IUCN

IUCN is a membership Union uniquely composed of both government and civil society organisations. It provides public, private and non-governmental organisations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together.

Created in 1948, IUCN is now the world's largest and most diverse environmental network, harnessing the knowledge, resources and reach of more than 1,400 Member organisations and some 15,000 experts. It is a leading provider of conservation data, assessments and analysis. Its broad membership enables IUCN to fill the role of incubator and trusted repository of best practices, tools and international standards.

IUCN provides a neutral space in which diverse stakeholders including governments, NGOs, scientists, businesses, local communities, indigenous peoples organisations and others can work together to forge and implement solutions to environmental challenges and achieve sustainable development.

Working with many partners and supporters, IUCN implements a large and diverse portfolio of conservation projects worldwide. Combining the latest science with the traditional knowledge of local communities, these projects work to reverse habitat loss, restore ecosystems and improve people's well-being. www.iucn.org.

About the Species Survival Commission (SSC)

With nearly 10,000 members in 174 countries, the Species Survival Commission (SSC) is the largest of the six expert commissions of IUCN and enables IUCN to influence, encourage and assist societies to conserve biodiversity by building knowledge on the status and threats to species, providing advice, developing policies and guidelines, facilitating conservation planning, and catalysing conservation action. [Learn more](#).

About ABQ BioPark

Located along the Rio Grande River near downtown Albuquerque, New Mexico the ABQ BioPark consists of: The ABQ BioPark Zoo, Botanic Garden, Aquarium and Tingley Beach. Welcoming more than 1.3 million visitors per year, we are the top tourist destination in the state of New Mexico and a critical resource for education and conservation in the US Southwest. Through captive breeding programs, large-scale freshwater fish rearing and reintroduction, habitat restoration initiatives, and seed banking, ABQ BioPark is committed to building sustainable conservation initiatives that benefit New Mexico and the world. ABQ BioPark supports conservation measures through the Assess, Plan, Act model by contributing directly to research, providing technical and logistical support for the IUCN SSC, and engaging in direct conservation. Find out more from their [website](#), or follow them on [Twitter](#), [Facebook](#), or [Instagram](#).

About Arizona State University (ASU)

Ranked #1 in the U.S. for innovation, Arizona State University (ASU) is a new model for American higher education, combining academic excellence, entrepreneurial energy and broad access. It serves more than 70,000 students in metropolitan Phoenix, AZ. ASU champions intellectual and cultural diversity, and welcomes students from all fifty states and more than one hundred nations across the globe. ASU's Center for Biodiversity Outcomes (CBO) is a partnership between the Julie Ann Wrigley Global Institute of Sustainability (GIOS) and the School of Life Sciences (SoLS) via partnerships with NGO's, companies, and governmental organisations. Follow CBO's work on [Twitter](#).

About BirdLife International

BirdLife International is the world's largest nature conservation partnership, uniting over 100 national partners worldwide. Through our unique local-to-global approach, we deliver high impact and long-term conservation for the benefit of nature and people. As the official authority for birds for the IUCN Red List, BirdLife coordinates the process of evaluating all of the world's bird species against the Red List categories and criteria. Find out more at: www.birdlife.org.

About Botanic Gardens Conservation International (BGCI)

BGCI is an international organisation that exists to ensure the world-wide conservation of threatened plants, the continued existence of which are intrinsically linked to global issues including poverty, human well-being and climate change. BGCI represents over 700 members - mostly botanic gardens - in 118 countries. We aim to support and empower our members and the wider conservation community so that their knowledge and expertise can be applied to reversing the threat of extinction crisis facing one third of all plants. www.bgci.org.

BGCI is a founding partner of the Global Conservation Consortium for Oaks, comprising botanic gardens and arboreta in the global centres of oak diversity has been established with the aim of protecting all threatened oak species in situ, and building ex situ arboretum collections as an insurance policy against their extinction in the wild. Learn more [here](#).

About Conservation International (CI)

Building upon a strong foundation of science, partnership and field demonstration, CI empowers societies to responsibly and sustainably care for nature, our global biodiversity, for the long term well-being of people. Founded in 1987 and marking its 25th anniversary in 2012, CI has headquarters in the Washington DC area, and 900 employees working in nearly 30 countries on



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four continents, plus 1,000+ partners around the world. For more information, please visit www.conservation.org, or follow us on [Facebook](#) or [Twitter](#).

About Global Wildlife Conservation (GWC)

GWC conserves the diversity of life on Earth by safeguarding wildlands, protecting wildlife and supporting guardians. We maximize our impact through scientific research, biodiversity exploration, habitat conservation, protected area management, wildlife crime prevention, endangered species recovery, and conservation leadership cultivation. Learn more at www.globalwildlife.org.

About Missouri Botanical Garden

Founded in 1859, the Missouri Botanical Garden is the oldest continuously operating botanical garden in the USA and a National Historic Landmark. MBG is a center for botanical research, conservation, and science education. The information contained in the MBG herbarium, one of the world's largest, and in the TROPICOS® database, coupled with broad staff expertise in systematics and ecology, support a wide array of conservation activities conducted by members of the Science & Conservation Division, including basic and applied research, conservation of important groups such as orchids, the management of a dozen community-based conservation sites in Madagascar, and risk of extinction assessments, all of which form part of MBG's contribution to the IUCN Red List Partnership. www.missouribotanicalgarden.org.

About NatureServe

NatureServe is a nonprofit organization with more than 40 years' experience monitoring biodiversity throughout the Western Hemisphere and harmonizing biodiversity data for its use in public policy. To protect threatened biodiversity, NatureServe works with nearly 100 network organizations and over 1,000 conservation scientists to collect, aggregate, and standardize biodiversity statistics, providing comprehensive data to the public for strategic conservation efforts. NatureServe and its network partners develop and manage the most comprehensive data for over 100,000 species and ecosystems, answering fundamental questions about what exists, where it is found, and how it is doing. www.natureserve.org.

About the Royal Botanic Gardens, Kew

The Royal Botanic Gardens, Kew is a world-famous scientific organisation, internationally respected for its outstanding collections as well as its scientific expertise in plant diversity, conservation and sustainable development in the UK and around the world. Kew Gardens is a major international and a top London visitor attraction. Kew Gardens' 132 hectares of landscaped gardens, and Wakehurst, Kew's Wild Botanic Garden, attract over 2.5 million visits every year. Kew Gardens was made a UNESCO World Heritage Site in July 2003 and celebrates its 260th anniversary in 2019. Wakehurst is home to Kew's Millennium Seed Bank, the largest wild plant seed bank in the world. RBG Kew receives approximately one third of its funding from Government through the Department for the Environment, Food and Rural Affairs (Defra) and research councils. Further funding needed to support RBG Kew's vital work comes from donors, membership and commercial activity including ticket sales. www.kew.org.

Among their contribution to the assessments in this IUCN Red List update, scientists at the Royal Botanic Gardens, Kew assessed 17 species from the Ebo Forest in Cameroon.

About Sapienza University of Rome

With over 700 years of history and 113,000 students, Sapienza is the largest University in Europe, the second in the world after El Cairo: a city within the city. The University includes 11 faculties and 58 departments. In Sapienza there are over 3,311 professors, and 4,000 administrative and technical staff. Sapienza offers a wide choice of courses including 281 degree programs. There are 9,234 foreign students. Sapienza plans and carries out important scientific investigations in almost all disciplines, achieving high-standard results both on a national and on an international level. Eugenio Gaudio has been the Rector of Sapienza University since November 2014. www.uniroma1.it.

About Texas A&M University

From humble beginnings in 1876 as Texas' first public institution of higher learning, to a bustling 5,200-acre campus with a nationally recognised faculty, Texas A&M University is one of a select few universities with land-grant, sea-grant and space-grant designations. With an enrolment of about half men and half women, 25 percent of the freshman class are the first in their family to attend college. Here, 39,000-plus undergraduates and more than 9,400 graduate students have access to world-class research programs and award-winning faculty. Texas A&M has two branch campuses, one in Galveston, Texas, and one in the Middle Eastern country of Qatar. This research-intensive flagship university with 10 colleges was recently ranked first in the nation by Smart Money magazine for "pay-back ratio" (what graduates earn compared to the cost of their education). The 2011 U.S. News and World Report ranked Texas A&M second nationally in their "Great Schools, Great Prices" category among public universities and 22nd overall. Many degree programs are ranked among the top 10 in the country. www.tamu.edu.

About ZSL

ZSL (Zoological Society of London) is an international conservation charity working to create a world where wildlife thrives. From investigating the health threats facing animals to helping people and wildlife live alongside each other, ZSL is committed to bringing wildlife back from the brink of extinction. Our work is realised through our ground-breaking science, our field conservation around the world and engaging millions of people through our two zoos, ZSL London Zoo and ZSL Whipsnade Zoo. For more information, visit www.zsl.org.