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Securing the web of life

Gland, Switzerland and Rio de Janeiro, Brazil 19th June, 2012 (IUCN) – The source of our food, medicines and clean water, as well the livelihoods of millions of people may be at risk with the rapid decline of the world's animal and plant species. The latest update of the IUCN Red List of Threatened Species™, released today on the eve of the UN Conference on Sustainable Development in Rio de Janeiro, Brazil, shows that of the 63,837 species assessed, 19,817 are threatened with extinction, including 41% of amphibians, 33% of reef building corals, 25% of mammals, 13% of birds, and 30% of conifers. The IUCN Red List is a critical indicator of the health of the world's biodiversity.

“Sustainability is a matter of life and death for people on the planet,” says **Julia Marton-Lefèvre, Director General, IUCN (International Union for Conservation of Nature)**. *“A sustainable future cannot be achieved without conserving biological diversity—animal and plant species, their habitats and their genes—not only for nature itself, but also for all 7 billion people who depend on it. The latest IUCN Red List is a clarion call to world leaders gathering in Rio to secure the web of life on this planet.”*

While most people in wealthy countries depend primarily on domesticated species for their dietary needs, millions of other people are dependent on wild species. Freshwater ecosystems are under substantial pressure from expanding human populations and exploitation of water resources. An important food source, freshwater fish are facing threats from unsustainable fishing practices and habitat destruction caused by pollution and the construction of dams. A quarter of the world's inland fisheries are located on the African continent, yet 27% of freshwater fish in Africa are threatened including the *Oreochromis karongae*, an extremely important source of food in the Lake Malawi region that has been severely overfished. Further studies are being carried out in other regions and in the latest IUCN Red List update the Mekong Herring (*Tenuulosa thibaudeaudi*), an important commercial fish endemic to the lower Mekong River in the Indo-Burma region, has been listed as Vulnerable as a result of overfishing and habitat degradation.

In some parts of the world up to 90% of coastal populations obtain much of their food and earn their primary income through fishing; yet over-fishing has reduced some commercial fish stocks by over 90%. 36% of skates and rays are threatened with extinction including the commercially valuable Leopard Ray (*Himantura leoparda*), which is listed as Vulnerable due to extensive habitat degradation and heavy fishing pressures. More than 275 million people are dependent on coral reefs for food, coastal protection and livelihoods. Globally, coral reef fisheries are worth US\$ 6.8 billion annually. Overfishing affects 55% of the world's reefs and according to The IUCN Red List, 18% of groupers, an economically important family of large reef fish, are threatened. Coral reefs must be managed sustainably to ensure they continue to provide the essential food that millions of people rely on as a source of protein.

“The services and economic value that species provide are irreplaceable and essential to our wellbeing,” says **Jon Paul Rodríguez, Deputy Chair, IUCN Species Survival Commission (SSC)**. *“Unless we live within the limits set by nature, and manage our natural resources sustainably, more and more species will be driven towards extinction. If we ignore our responsibility we will compromise our own survival.”*

Crop wild relatives, such as the Critically Endangered *Beta patula*, a primary wild relative of cultivated beets, are of vital importance for food security and agriculture as they can be used to produce new crop varieties. It is estimated that crop wild relatives contribute more than US\$100 billion worldwide towards increased crop yields. Production of at least one third of the world's food, including 87 of the 113 leading food crops, depends on pollination carried out by insects, bats and birds. This ecosystem service is worth over US\$ 200 billion per year. According to the IUCN Red List 16% of Europe's endemic butterflies are threatened. Bats, which are also important pollinators, are also at risk with 18% threatened globally. The latest IUCN Red List update shows that four members of the hummingbird family, which is known for

its pollination services, are now at greater risk of extinction with the Pink-throated Brilliant (*Heliodoxa gularis*) listed as Vulnerable. In addition to their important pollination roles, bats and birds also aid in controlling insect populations that may otherwise destroy economically important agricultural plants.

Invasive alien species are one of the leading and most rapidly growing threats to food security, human and animal health and biodiversity. A recent analysis of IUCN Red List data highlighted invasive alien species as the fifth most severe threat to amphibians, and the third most severe threat to birds and mammals. Together with climate change, they have become one of the most difficult threats to reverse. For example, Water Hyacinth (*Eichornia crassipes*) is an aquatic plant native to the Amazon basin, but in Africa its rapid spread poses a significant threat to water supplies and the use of inland waters for fishing or transportation. The economic impacts may be as much as US\$ 100 million annually across all of Africa. Solutions incorporating awareness and prevention measures, as well as early warning and rapid response systems that include containment, control and eradication programmes, need to be implemented on both a regional and global scale in order to reduce the negative effects of alien species.

Moving to a 'green economy' demands recognition of the role that biodiversity and ecosystems play in economic affairs," says Dr Jane Smart, Global Director, IUCN Biodiversity Conservation Group. "Biodiversity is the foundation of 'green' in green economy. A truly sustainable future will only be possible if the leaders in Rio seek solutions that conserve biodiversity whilst supporting livelihoods and providing investment opportunities for business."

The latest IUCN Red List shows that 10% of snakes endemic to China and South East Asia are threatened with extinction. Snakes are used in traditional medicines and anti-venom serum, as food, and as a source of income from the sale of skins. Nearly 43% of the endemic snake species in South East Asia in the Endangered and Vulnerable categories are threatened by unsustainable use. The world's largest venomous snake, the King Cobra (*Ophiophagus hannah*), is listed as Vulnerable due to loss of habitat and over-exploitation for medicinal purposes. The Burmese Python (*Python bivittatus*), best-known in the West as an invasive species in the Florida Everglades, is also listed as Vulnerable in its native range, with trade and over-exploitation for food and skins, especially in China and Vietnam, being the main threats to the species. Despite its designation as a protected species in China, populations there show no evidence of recovery, and illegal harvesting continues.

In some countries, medicinal plants and animals form the basis of most of the medicinal drugs people use, and even in technologically-advanced countries like the USA, half of the 100 most-prescribed drugs originate from wild species. Amphibians play a vital role in the search for new medicines as important chemical compounds can be found on the skin of many frogs. Yet 41% of amphibian species are threatened with extinction, including the recently described frog, *Anodonthyla hutchisoni*, from Madagascar, which is now considered Endangered. More than 70,000 different plant species are used in traditional and modern medicine. Today's IUCN Red List update includes a number of South East Asian plants which are used for food and medicine. The Tsao-ko Cardamom (*Amomum tsao-ko*) is listed as Near Threatened because its edible fruits have been over-harvested for trading. In several cases the over-exploitation combined with loss of habitat due to deforestation and other threats has resulted in species being listed in a threatened category. Two relatives of turmeric – *Curcuma candida* and *Curcuma rhabdota* (Candy Cane Ginger) are both listed as Vulnerable, and the *Zingiber monophyllum*, a wild species of ginger is listed as Endangered.

Other important services supplied by species include improvement and control of air quality by plants and trees. A mature leafy tree produces as much oxygen in a season as 10 people inhale in a year. They clean the soil, act as carbon sinks, and clean the air. Bivalve molluscs and many wetland plants carry out water filtration services to provide clean water, whilst snails help control algae. In Africa 42% of all freshwater molluscs are globally threatened and in Europe 68% of endemic freshwater molluscs are globally threatened by habitat loss, pollution and the development of dams

"Most of the drivers of biodiversity loss, including species extinctions, are economic in nature," says Dr Simon Stuart, Chair, IUCN Species Survival Commission. "An economy can only be described as 'green' if it promotes the achievement of the 20 Aichi Biodiversity Targets that governments agreed on in 2010."

Issues involving species survival and conservation will be discussed at the IUCN World Conservation Congress in Jeju, Republic of Korea, from 6 to 15 September 2012.

Quotes from IUCN Red List partner organizations

“Recent work on plant assessments suggests that around 1 in 5 plants are threatened with extinction. Three quarters of the world’s population depends directly on plants for their primary health care. Eighty percent of our calorie intake comes from 12 plant species,” says Professor Stephen Hopper, Director (CEO and Chief Scientist), Royal Botanic Gardens, Kew. “If we care about the food we eat, and the medicines we use, we must act to conserve our medicinal plants and our crop wild relatives. There are large gaps in our knowledge and much work needs to be done to secure the future of plants and fungi which are critical to our survival.”

“A green economy is one that values all species, whether they have market value or not,” says Prof Jonathan Baillie, Director of Conservation Programmes, Zoological Society of London. “To stop the rapid increase of threatened species and ecosystems the Rio + 20 Earth Summit must succeed in laying the foundation of a new development path that values all life.”

“Expanding both the number and diversity of species assessed on the IUCN Red List is imperative if we are to have a clear understanding of our impact on the natural world,” says Richard Edwards, Chief Executive of Wildscreen, who are working with IUCN to help raise the public profile of the world’s threatened species through the power of wildlife and environmental imagery. “The latest update to the IUCN Red List highlights the impacts we are having on the world’s biodiversity, even those species that so many of the human population rely on for food, medicine, clean water, etc. We need to successfully communicate the plight, significance, value and importance of all these species if we are to rescue them from the brink of extinction.”

“More than half of the snake species identified as threatened with extinction – 57% - are at most risk from habitat loss and degradation. The Malaysian island Pulau Tioman is home to three of the Critically Endangered reptile species – the Pulau Tioman ground snake, Boo-Liat’s kukri snake and a recently described reed snake, Oligodon booliati – that are under threat from development destroying the small area of remaining forest. This could result in their extinction within a decade,” says Dr Russell Mittermeier, IUCN Vice President and President of Conservation International. “In cases such as the Vulnerable King Cobra and Burmese Python, to which exploitation is the greatest threat, forest loss is an additional pressure. These two species may in fact be considerably more threatened, but research is urgently needed to confirm this. Ultimately, declines and losses of species are a symptom of broader human pressures on their habitats”

“With the spotlight shining on Brazil at the Rio+20 conference, it is worrying that almost 100 bird species from the Amazon have been moved to higher categories of threat in the 2012 IUCN Red List following an analysis by BirdLife International on the impacts of projected Amazonian deforestation,” says Dr Stuart Butchart, Global Research Coordinator, BirdLife International.

“We find cause for hope in the rediscovery of species even in the United States, like the Wicker Ancyliid from Alabama’s Coosa River valley,” says Mary Klein, president and CEO of NatureServe. “But by highlighting how many species still face ongoing local and global threats, the current update to the Red List underscores the fundamental need to continue and even expand efforts to assess extinction risks to species.”

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Notes to editors

The IUCN Red List contributes to the achievement of Target 12 of the 2011 to 2020 Strategic Plan for biodiversity. *Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.*

Global figures for the 2012.1 IUCN Red List of Threatened Species:

TOTAL SPECIES ASSESSED = 63,837

(Total threatened species = 19,817)

Extinct = 801

Extinct in the Wild = 63

Critically Endangered = 3,947

Endangered = 5,766

Vulnerable = 10,104

Near Threatened = 4,467

Lower Risk/conservation dependent = 255 (this is an old category that is gradually being phased out of the Red List)

Data Deficient = 10,497

Least Concern = 27,937

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.

Highlights from the 2012.1 update

Species moving into the Extinct category

MOLLUSC: Ovate Clubshell (*Pleurobema perovatum*) – EX

MOLLUSC: Fish Springs Marshsnail (*Stagnicola pilsbryi*) – EX

PLANT: *Acalypha dikuluwensis* – EX

PLANT: *Basananthe cupricola* – EX

Rediscovered species

AMPHIBIAN: Hula Painted Frog (*Discoglossus nigriventer*) – CR

FRESHWATER MOLLUSC: Wicker Ancyloid (*Rhodacmea filosa*) – CR

Genuine status changes

REPTILE: *Calamaria ingeri* – CR

The species has been uplisted from Endangered to Critically Endangered.

REPTILE: Black and White Spitting Cobra (*Naja siamensis*) – VU

Previously listed as Least Concern this species has been up listed to Vulnerable

AMPHIBIAN: *Anodonthyla hutchisoni* – EN

Previously assessed as Data Deficient, this amphibian has been uplisted to Endangered

FRESHWATER MOLLUSC: Naegele Springsnail (*Pyrgulopsis metcalfi*) – EN

Previously assessed as Vulnerable, this freshwater snail has been uplisted to Endangered.

MOLLUSC: Fat-Whorled Pondsnailed (*Stagnicola bonnevillensis*) – CR

Previously listed as Vulnerable it has been uplisted to Critically Endangered

MOLLUSC: Three-forks Springsnail (*Pyrgulopsis trivialis*) – CR

This species was previously listed as Data Deficient, it has been uplisted to Critically Endangered.

Some examples of the over 1900 species newly recorded on the 2012.1 IUCN Red List

MAMMAL: Caquetá Titi Monkey (*Callicebus caquetensis*) – CR

MAMMAL: Burmese Snub-nosed Monkey (*Rhinopithecus strykeri*) – CR

CUTTLEFISH: Giant Australian Cuttlefish (*Sepia apama*) – NT

SHARK/RAY: Leopard Ray (*Himantura leoparda*) – VU

CONE SNAIL: *Conus mercator* – EN

MOLLUSC: Hihwai (*Neritina granosa*) – VU

REPTILE: Burmese Python (*Python bivittatus*) – VU

REPTILE: Ruby-eyed Green Pit Viper (*Cryptelytrops rubeus*) – VU

REPTILE: Nolasco Spiny-tailed Iguana (*Ctenosaura nolasicensis*) – VU

Funding was kindly provided by the United States Fish and Wildlife Service for the IUCN Red Listing workshop of Asian snakes.

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals, and commitment to public service. For more information on our work and the people who make it happen, visit www.fws.gov. Connect with our Facebook page at www.facebook.com/usfws, follow our tweets at www.twitter.com/usfws, watch our YouTube Channel at <http://www.youtube.com/usfws> and download photos from our Flickr page at <http://www.flickr.com/photos/usfws>.

The IUCN Red List of Threatened Species™

The *IUCN Red List of Threatened Species*™ (or the IUCN Red List) is the world's most comprehensive information source on the global conservation status of plant and animal 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.

The IUCN Red List is a joint effort between IUCN and its Species Survival Commission, working with its Red List partners BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Royal Botanic Gardens, Kew; Sapienza University of Rome; Texas A&M University; Wildscreen; and Zoological Society of London. www.iucnredlist.org www.facebook.com/iucn.red.list [@amazingpecies](https://twitter.com/amazingpecies)

The IUCN Red List threat categories

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 specific conservation measures;

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

Data Deficient: no assessment because of insufficient data.

Critically Endangered (Possibly Extinct): this is not a new Red List category, but is a flag 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.

About IUCN

IUCN, the International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges by supporting scientific research; managing field projects all over the world; and bringing governments, NGOs, the UN, international conventions and companies together to develop policy, laws and best practice.

The world's oldest and largest global environmental network, IUCN is a democratic membership union with more than 1,000 government and NGO member organizations, and almost 11,000 volunteer scientists and experts in some 160 countries. IUCN's work is supported by over 1,000 professional staff in 60 offices and hundreds of partners in public, NGO and private sectors around the world. IUCN's headquarters are located in Gland, near Geneva, in Switzerland. www.iucn.org

About BirdLife International

BirdLife International is a partnership of 114 national conservation organizations and the world leader in bird conservation. BirdLife's unique local to global approach enables it to deliver high impact and long term conservation for the benefit of nature and people. www.birdlife.org

About Botanic Gardens Conservation International

BGCI is an international organization 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.

<http://www.bgci.org>

About Conservation International

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 well-being of humanity. With headquarters in Washington, DC, CI works in more than 40 countries on four continents.

www.conservation.org

About NatureServe

NatureServe is a nonprofit conservation organization dedicated to providing the scientific basis for effective conservation action. Through its network of 82 natural heritage programs and conservation data centers in the United States, Canada, and Latin America, NatureServe provides a unique body of detailed scientific information and conservation biodiversity expertise about the plants, animals, and ecosystems of the Americas. www.natureserve.org

About the Royal Botanic Gardens, Kew

The Royal Botanic Gardens, Kew is a world famous scientific organization, internationally respected for its outstanding living collection of plants and world-class Herbarium 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 visitor attraction. Its landscaped 132 hectares and Kew's country estate, Wakehurst Place, attract nearly 2 million visitors every year. Kew was made a UNESCO World Heritage Site in July 2003 and celebrated its 250th anniversary in 2009. Wakehurst Place is home to Kew's Millennium Seed Bank, the largest wild plant seed bank in the world. The Royal Botanic Gardens, Kew and its partners have collected and conserved seed from 10% of the world's wild flowering plant species (c.30, 000 species) and aim to conserve 25% by 2020. www.kew.org

About the Species Survival Commission

[The Species Survival Commission](http://www.iucn.org) (SSC) is the largest of IUCN's six volunteer commissions with a global membership of around 7500 experts. SSC advises IUCN and its members on the wide range of technical and scientific aspects of species conservation, and is dedicated to securing a future for biodiversity. SSC has significant input into the international agreements dealing with biodiversity conservation.

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 recognized 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 Wildscreen

Wildscreen is an international charity working to promote the public understanding and appreciation of the world's biodiversity and the need for its conservation through the power of wildlife imagery -www.wildscreen.org.uk Founded in 1982, Wildscreen is uniquely positioned at the heart of the global wildlife and environmental media industry, with a long standing international reputation for excellence and credibility in the fields of natural history media, communications and education. Wildscreen's ARKive project is a unique global initiative, gathering together the very best films and photographs of the world's species into one centralized digital library, to create a stunning audio-

visual record of life on Earth. ARKive's immediate priority is to compile and complete audio-visual profiles for the c. 19,000 animals, plants and fungi listed as threatened on the IUCN Red List of Threatened Species.

www.wildscreen.org.uk ; www.arkive.org

About the Zoological Society of London (ZSL)

Founded in 1826, the Zoological Society of London (ZSL) is an international scientific, conservation and educational charity: the key role is the conservation of animals and their habitats. The Society runs ZSL London Zoo and ZSL Whipsnade Zoo, carries out scientific research at the Institute of Zoology and is actively involved in field conservation in over 50 countries worldwide. www.zsl.org

About Sapienza University of Rome

With over 700 years of history and 145,000 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 67 departments. In Sapienza there are over 4,500 professors, and 5,000 administrative and technical staff. Sapienza offers a wide choice of courses including 300 degree programs and 200 specialized qualifications. Students coming from other regions are over 30,000 and the foreign students are over 7,000. 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. Professor Luigi Frati has been the Rector of Sapienza University since November 2008. <http://www.uniroma1.it/>