New assessment highlights climate change as most serious threat to polar bear survival - IUCN Red List

Gland, Switzerland, 19 November 2015 (IUCN) – A global re-assessment of polar bears highlights loss of sea ice habitat due to climate warming as the single most important threat to the long-term survival of the species, according to the latest update of The IUCN Red List of Threatened Species™ released today by IUCN, International Union for Conservation of Nature.

This update also highlights habitat degradation as a main threat to many fungus species and over-fishing as the key driver of decline in marine bony fish. The IUCN Red List now includes 79,837 assessed species, of which 23,250 are threatened with extinction.

The re-assessment of the polar bear (Ursus maritimus) used the most current sea ice and sub-population data, along with computer simulation and statistical models, to project potential changes in the size of polar bear sub-populations due to changes in sea ice. It is the most comprehensive assessment of this data to date. The results show that there is a high probability that the global polar bear population will decline by more than 30% over the next 35 to 40 years. The assessment supports the current Vulnerable status of the polar bear on The IUCN Red List.

"Based on the latest, most robust science, this assessment provides evidence that climate change will continue to seriously threaten polar bear survival in the future," says Inger Andersen, IUCN Director General. "Climate change impacts go far beyond this iconic species, and present a threat our planet has never faced before. Governments meeting at the climate summit in Paris later this month will need to go all out to strike a deal strong enough to confront this unprecedented challenge."

Recent studies show that the loss of Arctic sea ice has progressed faster than most climate models had predicted, with September sea ice extent declining at a linear rate of 14% per decade from 1979 through 2011. As polar bears rely on sea ice to access their prey, an annual ice-free period of five months or more will cause extended fasting for the species, which is likely to lead to increased reproductive failure and starvation in some areas. According to recent sea ice projections, large regions of the Canadian Arctic Archipelago will be ice free for more than five months by the late 21st century; and in other parts of the Arctic, the five-month ice-free threshold may be reached by the middle of the 21st century. Warming Arctic temperatures could also reduce habitat and increase the incidence of disease for prey species such as ice seals, placing the polar bear at further risk.

Polar bears are important to the livelihoods of Indigenous Peoples and, as apex predators, are essential to maintaining ecosystem balance in the Arctic region. Along with sea ice loss, other potential threats to the species include pollution, resource exploration and habitat change due to development. Oil development in the Arctic, for example, poses a wide range of threats, from oil spills to increased human-bear interaction.

"Whilst sea ice loss is the major threat to polar bears, the full range of current and potential threats must be considered in polar bear management plans," says Dag Vongraven, Chair of IUCN's Species Survival Commission's (SSC) Polar Bear Specialist Group. "It is encouraging that polar bear range states have recently agreed on a Circumpolar Action Plan – the first global conservation strategy to strive for the long-term persistence of polar bears in the wild. IUCN is actively working with those countries, providing scientific data and advice to help implement the agreed plan in the most efficient and cohesive way."
possible. We truly hope that the action plan will make a difference for polar bear conservation.”

Twenty-nine fungi have been assessed in this update, more than doubling the number of fungi on The IUCN Red List. The main threats affecting the species are habitat loss and degradation, mostly from changing land use practices. The colourful *Leptonia carnea*, which has been listed as Vulnerable, is confined to the coastal redwood forest of California, USA. Changes in the Californian climate – increased droughts and reduced occurrence of fog – are impacting the habitat. Continued logging of the redwood (*Sequoia sempervirens*) which is listed as Endangered, is another major threat to the fungus.

Fungi provide essential ecosystem services which support animals and plants. They have a symbiotic relationship with 80% of all plants and form a crucial part of the digestive system of ruminants such as sheep and cows. Fungi are also extremely important to humans as medicine and food. The antibiotic Penicillin was derived from the fungus Penicillium, and today most antibiotics and statins (commonly used to lower blood cholesterol), are fungal in origin. Fungi are also used to make bread, beer, wine, cheese and many other foods.

This IUCN Red List update also reveals that the degradation of sensitive coastal habitats, pollution, overexploitation and destructive fishing practices are putting many marine bony fishes at risk of extinction in the East Central Atlantic and Greater Caribbean regions with the invasive lionfish placing further pressure in the Caribbean. The global assessment of the 1,400 marine bony fishes including both nearshore fishes and deep-sea fishes of the Eastern Central Atlantic – covering the area from Mauritania to Angola – shows that 3% are threatened with extinction. The roundnose grenadier (*Coryphaenoides rupestris*), is listed as Critically Endangered due to overexploitation. In the Caribbean, 1,340 species were assessed, and of these 5% are threatened with extinction, including the golden tilefish (*Lopholatilus chamaeleonticeps*) which is listed as Endangered. An important commercial fishery species, it is the largest species of tilefish and can reach up to 1.25 metres in length. Its population has declined by 66% over the last 48 years due to overfishing.

Marine bony fishes are the largest group of fish and are both ecologically and economically important. The loss of these species would pose a serious threat to the food security and livelihoods of more than 340 million people in these regions. With the human population expected to double in the next 20 to 25 years, this new data will be used to guide fisheries management and conservation priorities in the regions, including the identification of priority sites for conservation action.

“These assessments are the first of their kind, providing comprehensive baseline information within a specified region, which is critical for the designation and improved management of marine protected areas and threatened marine species,” says Kent Carpenter, Manager of IUCN’s Marine Biodiversity Unit. “The data should also lead to the development of more effective initiatives to improve national and regional fisheries management to maximise conservation benefits.”

A total of 24 newly assessed Critically Endangered species are highlighted as being possibly extinct, primarily due to threats from invasive species and habitat destruction. Haha (*Cyanea kolekoleensis*), a plant species native to the island of Kauai, Hawai’i, is listed as Possibly Extinct. Its habitat is threatened by pigs and several invasive plant species, and there have been no recorded sightings since 1998. Eleven orchid species found only in Madagascar have been listed as Critically Endangered/(Possibly Extinct) including *Bulbophyllum tampoketsens*, which is threatened due to illegal collection and deforestation. Arico water frog (*Telmatobius pefauri*) is listed as Critically Endangered/(Possibly Extinct) because it has not been seen since 1976. This frog is threatened by water extraction for human use and for cattle ranching; it may also be affected by cattle trampling the stream habitats according to the experts.

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For more information or interviews please contact:
Ewa Magiera, IUCN Media Relations, m +41 76 505 33 78, e-mail ewa.magiera@iucn.org
Lynne Labanne, IUCN Global Species Programme, IUCN, m +41 79 527 7221, e-mail lynne.labanne@iucn.org

Notes to editors
The IUCN Red List of Threatened Species™ 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 2015-4 IUCN Red List of Threatened Species:

TOTAL SPECIES ASSESSED = 79,837
(Total threatened species = 23,250)
Extinct = 834
Extinct in the Wild = 69
Critically Endangered = 4,898
Endangered = 7,323
Vulnerable = 11,029
Near Threatened = 5,204
Lower Risk/conservation dependent = 238 (this is an old category that is gradually being phased out of The IUCN Red List)
Least Concern = 37,224
Data Deficient = 13,018

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 focussed 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 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 IUCN 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.

**Highlights from the 2015-4 update**
Below are a few examples of species that have been uplisted, downlisted or appear for the first time on The IUCN Red List.

**Examples of other species that have been added in this update**

Regional assessments of the Persian Gulf marine bony fishes
The extinction risk of 457 marine bony fishes in the Persian Gulf was regionally assessed using the IUCN Red List Categories and Criteria at the regional level. Results from these regional assessments indicate that 8.5% of marine bony fishes in the Persian Gulf are considered threatened. However, the proportion of threatened species is uncertain given the number of Data Deficient species, and could lie between 6.8% (if none of the Data Deficient species were threatened) to 26.7% (if all of the Data Deficient species were threatened). Anthropogenic and environmental extremes are constant threats to marine bony fishes in the Persian Gulf. The newly added regional assessments will transform the current level of knowledge on these species and provide scientists and conservation managers across the region with the information and tools they need to develop more effective marine conservation priorities. However, cross-boundary collaboration between Persian Gulf States is necessary in order for effective management and protection of the marine bony fishes and their associated habitats within this globally important region.

Regional assessments of marine bony shorefishes of the Gulf of Mexico
Regional extinction risk was assessed for 919 species of marine bony shorefishes in the Gulf of Mexico using the IUCN Red List Categories and Criteria at the Regional level. Results from this regional assessment show that 4.3% of these species are considered threatened in the Gulf of Mexico region, including a number of large-bodied commercial species (this is the best estimate within the range of 3.8 to 14.5% threatened, if the number if DD species is taken into consideration). Forty six of these shorefishes are endemic to this region, and 26% of these endemic species are listed as globally threatened. Besides threats from overexploitation and coastal development, the potential for catastrophic events such as oil spills haunts the Gulf of Mexico marine ecoregion. This new data now establishes a baseline of the region-wide conservation status of species and thus will improve the effectiveness of restoration and management efforts.

Freshwater fishes
Kissing loach (Parabotia curtus), a freshwater fish from Japan, is under extreme threat from a development for a football stadium that is due to start soon.

Fungi
Agaricus pattersoniae, listed as Vulnerable, is endemic to coastal central California (USA). It lives alongside the occurring in Monterey cypress (Cupressus macrocarpa) which is also listed as Vulnerable. The fungus needs an undisturbed layer of old pine needles to survive. Habitat destruction for urban development and increasing fire frequency are the main threats.
Plants for People

_Ulterra salicifolia_, a medicinal plant, has been listed as Vulnerable. It is used for treating asthma and skin diseases. Threatened by unregulated collection, artificial forest fire and habitat degradation.

Atlas daisy (_Anacyclus pyrethrum_) listed as Vulnerable is found in Morocco. It is used to treat many diseases and conditions including speech disorders, laryngitis, sickle cell anaemia, epilepsy and depression. Premature exploitation and bad collection practices of the wild species often destroy the entire plant, preventing it from growing again.

_Quecus acutifolia_, listed as Vulnerable, is a species of oak which is used locally as firewood and charcoal, as well as for tools, fence posts, and small-scale building and construction materials. The bark can be used medicinally for the treatment of burns. Climate change poses a major threat. A recent study (Gomez-Mendoza and Arriaga 2007) identified the species as highly vulnerable to range contractions under multiple climate scenarios, projecting declines in distribution of up to 41% under projections by 2050.

**Rediscovered species**

Mahé Boulder Cricket (_Phalangacris alluaudi_) was previously listed as a Possibly Extinct species. However, it was rediscovered in 2014 and is now listed as Critically Endangered.

**Examples of other species that have been uplisted (conservation status is worse)**

Atacama toad (_Rhinella atacamensis_) has been uplisted from Least Concern to Vulnerable. Endemic to Chile, this toad has undergone an estimated 35 to 40% decline over the past 10 years due to habitat loss and degradation, which has increased in recent years. Extensive droughts and water pollution in rivers threaten the future of this species. Abstraction of surface water (both for human consumption and for agricultural use), mining, agriculture, livestock farming and timber plantations are also affecting it.

Spotted fanaloka (_Fossa fossana_) has been uplisted from Near Threatened to Vulnerable. Endemic to Madagascar, this is a nocturnal species, which is restricted to primary forest areas. It is threatened by deforestation for cultivated land, and by forest degradation through selective logging and charcoal production. It is also threatened by hunting.

Geometric tortoise (_Psammobates geometricus_) has been uplisted from Endangered to Critically Endangered. Endemic to the Western Cape, South Africa, this tortoise’s range has reduced dramatically. It has also undergone massive population declines: in 1992, the largest subpopulation was estimated to contain between 1,500 and 3,400 tortoises, but in 2012, the entire global population was estimated to be between 700 and 800. Over 90% of its original habitat has been irresponsibly converted to agriculture, and populations in remaining habitat have suffered catastrophic declines from fire-induced mortality, with little indication of population recovery.

**Examples of other species that have been downlisted (conservation status is better)**

Hamilton’s Frog (_Leiopus hamiltoni_) has been downlisted from Endangered to Vulnerable. The only naturally occurring population is confined to a single rock tumble on Stephens Island (New Zealand). The total population size was previously estimated to be less than 300 mature animals. Since then, a translocated subpopulation has been successfully established on Nukuwaiata Island site. Therefore, the total population size is now estimated to be between 300 to 800 individuals, including the subpopulation in its original natural range and the translocated subpopulation, and appears to be increasing.

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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. The IUCN Red List is a joint effort between IUCN and its Species Survival Commission, working with its IUCN Red List partners BirdLife International; Botanic Gardens Conservation International; Conservation International; NatureServe; Microsoft; Royal Botanic Gardens, Kew; Sapinienza University of Rome; Texas A&M University; Wildscreen; and Zoological Society of London.


**About IUCN**

IUCN, International Union for Conservation of Nature, helps the world find pragmatic solutions to our most pressing environment and development challenges. IUCN's work focusses on valuing and conserving nature, ensuring effective and equitable governance of its use, and deploying nature-based solutions to global challenges in climate, food and development. IUCN supports scientific research, manages field projects all over the world, and brings governments, NGOs, the UN and companies together to develop policy, laws and best practice. IUCN is the world’s oldest and largest global environmental organisation, with almost 1,300 government and NGO Members and more than 15,000 volunteer experts in 185 countries. IUCN’s work is supported by almost 1,000 staff in 45 offices and hundreds of partners in public, NGO and private sectors around the world. [www.iucn.org](http://www.iucn.org)

**About the Species Survival Commission**

The Species Survival Commission (SSC) is the largest of IUCN’s six volunteer commissions with a global membership of around 7,500 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 BirdLife
BirdLife International is the world’s largest nature conservation Partnership. Together we are 120 BirdLife Partners worldwide – one per country – and growing, with almost 11 million supporters, 7,000 local conservation groups and 7,400 staff. Find out more at www.birdlife.org / www.facebook.com/BirdLifeInternational

About Botanic Gardens Conservation International
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. http://www.bgci.org

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

About Microsoft
Founded in 1975, Microsoft (Nasdaq “MSFT”) is the worldwide leader in software, services and solutions that help people and businesses realize their full potential. http://www.microsoft.com

About NatureServe
NatureServe is a non-profit conservation organisation dedicated to providing the scientific basis for effective conservation action. Through its network of 82 natural heritage programmes and conservation data centres 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 organisation, 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 323 hectares and RBG Kew’s country estate, Wakehurst Place, attract nearly two 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. RBG Kew and its partners have collected and conserved seed from 10 percent of the world’s wild flowering plant species (c.30,000 species). The aim is to conserve 25 percent by 2020, and its enormous potential for future conservation can only be fulfilled with the support of the public and other funders. www.kew.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 programmes 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/

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 programmes are ranked among the top 10 in the country. www.tamu.edu

About Wildscreen
Wildscreen is an award-winning wildlife conservation charity that shares awe-inspiring images of life on Earth to empower conservation around the world. It achieves its mission through its four interconnected initiatives - Wildscreen Arkive, Wildscreen Exchange, Wildscreen Festivals and Wildscreen Outreach. Founded in 1982, Wildscreen inspires photographers and filmmakers to take the most vital images, uses those images to inspire the next generation of conservationists online and in their communities, and arms conservation organisations around the world with them — so their all-important stories have the best chance of being seen and heard. http://www.wildscreen.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