Environment Commission

Implementing measures to protect
endangered species

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Forum:	Environment Commission
Issue:	Implementing measures to protect endangered species
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Introduction

In decline
Rhino population

Start of 20th century
500,000

1970
70,000

Today
29,000

SOURCE: INTERNATIONAL RHINO FOUNDATION
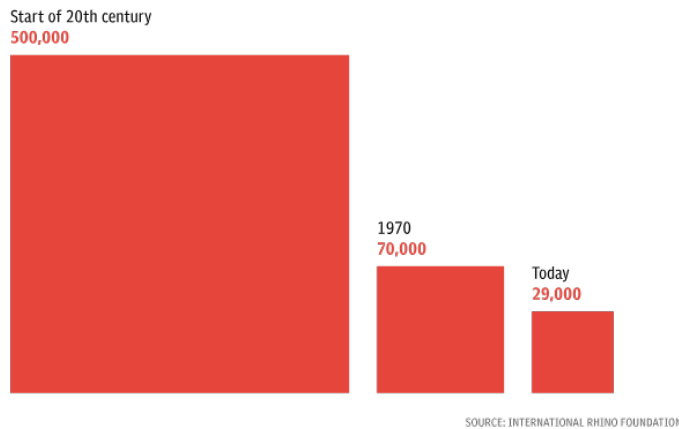
Earlier in 2018, the world's last male northern white rhino died. With only two descendants, both female, the northern white rhino is likely to disappear in the coming years. Its only hope would be in vitro fertilization, but the survival of this species seems unlikely. 19 other species can be found on the World Wildlife Fund list of critically endangered species (WWF). There are well over 5 000 species officially considered as Endangered or Threatened.

Whilst it is known that animals cannot survive indefinitely, human activities have hugely impacted thousands of species and their survival. Animals can naturally become extinct due to natural selection, environmental changes or competition for resources. Yet, human activities such as extreme hunting, habitat destruction, pollution, climate change and international trade have caused the number of endangered animals to soar. The World Wildlife Fund and the Zoological Society of London has indicated that these factors cause global populations of fish, birds, mammals, amphibians and reptiles to decline by 58% since 1970. The average annual decreases has now reached 2%, with no sign that this rate will slow down in the near future (WWF).

Animals form a vital part of our ecosystem, and are crucial for our food, clothing, medicine and transport. Their importance should not be undermined. Many initiatives have previously been implemented to protect endangered species. Nonetheless, the death of the last northern white rhino has further illustrated that we must do more.

Definition of Key Terms

Endangered species

An endangered species is a species which has been categorized as very likely to become extinct. As categorized by the International Union for Conservation of Nature (IUCN) Red List, endangered (EN) is the second most severe conservation status for populations after Critically Endangered (CR) (IUCN).

Threatened species

A threatened species is any species that is likely to become an endangered species within the foreseeable future (Oxford Living Dictionaries).

Wildlife

Animals living in their natural habitat and not within the possession or control of humans.

Wildlife Conservation

The practice of protecting wild plant and animal species and their habitat to ensure that endangered and threatened species survive. Many nations have government agencies and NGO are dedicated to wildlife conservation, in order to help implement policies designed to protect wildlife ("Wildlife Conservation").

Wildlife illegal trade

Wildlife trade is whenever people sell or exchange wild animal and plant resources. Illegal wildlife trade is run by dangerous international networks, wildlife and animal parts are trafficked much like illegal drugs. This trade is unauthorized and unsustainable (CITES).

Biodiversity

The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable (Hance, Jeremy).

General Overview

A Pressing Problem

In 2012, the International Union for Conservation of Nature (IUCN) Red List featured 3079 animals as endangered (EN) worldwide (IUCN). The figure for 1998 was 1102. Human activities has largely contributed to tripling the number in 15 years. The global populations of birds, mammals, fish reptiles and amphibians have declined by 58% since 1970. As a result, wildlife conservation has become an increasingly important practice. Therefore, in 1948, the International Union for Conservation of Nature, an international organization working in for wildlife and nature conservation was founded with a goal to "influence, encourage and assist societies throughout the world to conserve nature and to ensure that any use of natural resources is equitable and ecologically sustainable". In 1975, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) officially entered in force. It is an international agreement between governments whose aim is to ensure that international trade in wild species does not threaten their survival. Hence, governments and NGOs are increasingly aware of the threat posed by endangered species and have enhanced efforts to protect endangered species. Indeed, they are not only aware of the responsibility of humans in the protection of wildlife but also of the fact that animals are a vital part of our civilization.

The Role of Animals and Biodiversity

It is hard to imagine a world without animals. Yet, their role and importance is not always clear. Most people tend not to realize the threat of one particular species becoming extinct. However, animals and wildlife play a vital role in our civilization. Firstly, animals are usually a considerable part of our diet. Though people are increasingly turning to vegetarian and vegan diets, food of animal origin is highly nutritious and beneficial to man. We also use animals to satisfy our needs in clothing. Animal hair is used to make woolen clothing and the fur and skin of animals can be used to make aesthetic and warm clothing. Work and transport are two other activities in which animals are useful. Even if their use is decreasing with new technology, elephants and camels are still used in certain parts of the world.

Agriculture is another area where animals are largely used. They were the sole source of cultivation before machinery equipment was invented. In developing countries still they are used in large numbers for farming. Therefore, wildlife has a considerable economic importance, as it impacts the clothing, food, and leisure industry, as well as agriculture. As a result, the increasing number of endangered animals threatens every industry in which animals are valuable.

Hence, it is clear the extinction of a species can have dramatic effects, sometimes without people realizing. Bradley Cardinale, ecologist, states, "Loss of biological diversity due to species extinctions is going to have major impacts on our planet, and we better prepare ourselves to deal with them. These extinctions may well rank as one of the top five drivers of global change". The loss of species can lead to the decrease of plant growth, the decrease of water quality and plant biomass.
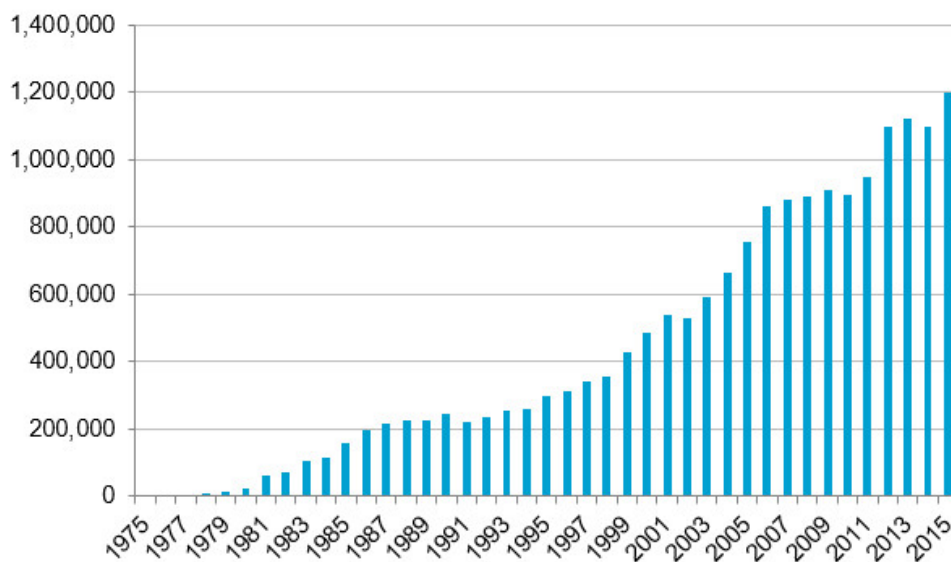
Why Species Become Endangered

Sky News. "Brazil Warned to Cut Amazon Rainforest Deforestation or Lose Funding." *Sky News*, 23 June 2017, www.news.sky.com/story/brazil-warned-to-cut-amazon-rainforest-deforestation-or-lose-funding-10925167.

The climbing number of endangered species is due to numerous factors. Excessive and illegal hunting is one of the main reasons. On average, hunting leads to an 83% reduction in mammal populations within 25 miles of hunter access points like roads and towns. The Passenger Pigeon is an example of how humans hunted a species, leading to the extinction of the entire species. The Great White shark is one of the 8 most endangered

species, and a number of nations have declared them illegal to hunt, except for self-defense. Nevertheless, Great White Shark sightings have become increasingly rare. Humans continue to kill a large number of white sharks every year to trade their teeth and jaws to eat their meat and to use their fins as remedies. The polar bear is the 5h most endangered species, and its conservation is the center of debate between the nations of the Arctic circle. Their conservation was even agreed upon during the Cold War between the Soviet Union and the United States. However four nations of the Arctic Nations allow indigenous communities to hunt them. Hunting along with climate warming means there are only 20 000 polar bears left. Overfishing also causes extinction, such as the the bluefin tuna, whose population has decreased by 85% because of intensive fishing. Moreover, endangered species are highly marketable due to their exclusivity and high demand. This often leads to over exploitation which is the over use of wildlife by people for food, pets, clothing, medicine, sports and many other purposes. Indeed, products such as skins, furs and traditional medicines are traded commercially in large quantities ("10 Reasons Why Species Become Endangered.").

The international trade in animals

"Trade Data Dashboard." *CITES* Trade Data Dashboards, http://cites-dashboards.unep-wcmc.org/

Furthermore, many species in our world today are becoming endangered as a result of a loss of their primary habitat. Most are not able to adapt well to changing conditions, making habitat loss a great challenge to their survival. For instance, in Brazil, home to one of the richest biodiversities in the world, forest cleansing is expected to make 38 species become regionally extinct in the coming years. Not only do humans destroy habitats to build

cities but intensive agriculture takes up entire regions of countries, often depriving animals of their habitat.

Pollution is another threat posed to the survival of species, for example to case of the Peregrine Falcon. This species almost became extinct in Canada because of DDT, a pollutant, used in Canada before becoming banned.

A species can also become endangered as a result of a disease. This was the case with the native American Chestnut tree, wiped out because of a chestnut blight fungus.

Concerning marine species, de-oxygenation, acidification and the warming of the ocean have colossal consequences for marine biology. All these factors are linked to climate change, and demonstrate the role it has in the loss of biodiversity.

The Necessity for Action

With human population and economic and industrial activity set to increase over the next decades, the threats facing wild animals will become even greater. Fish, mammals and reptiles are currently being pushed towards extinction. Conservationists can claim successes, however there is still a vast amount that needs to be done.

Protecting endangered animals is a costly issue, and governments must seriously commit to it as it would cost around $80 billion to achieve a significant improvement in the state of the world's wildlife

Major Parties Involved
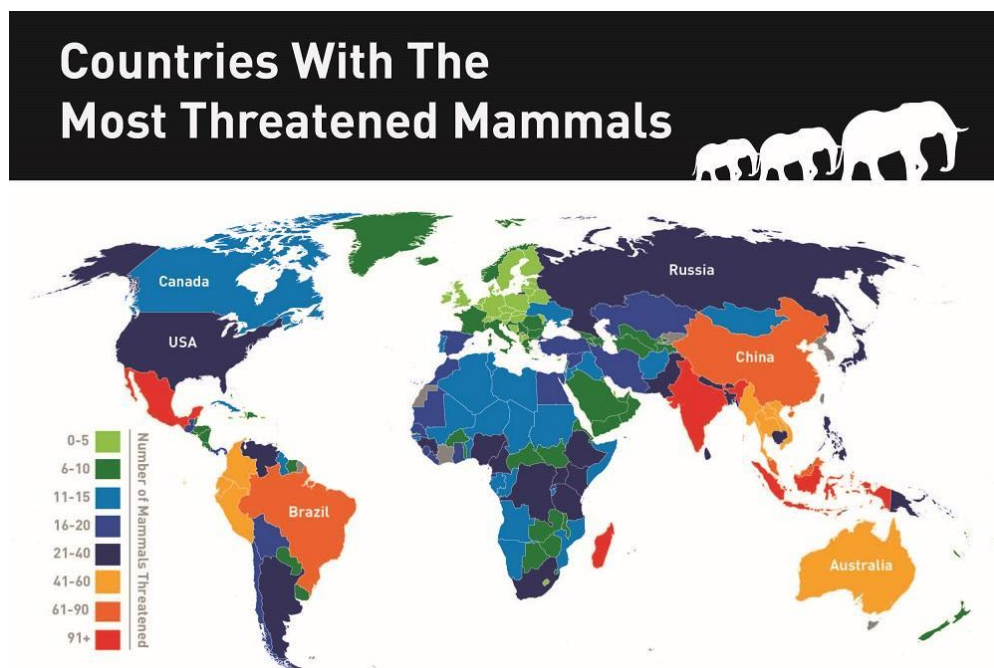
Kincaid, Ellie. "This Map of Countries with the Most Threatened Mammals Is Heartbreaking." *Business Insider Australia*, Business Insider Australia, 13 Apr. 2015, www.businessinsider.com.au/where-most-threatened-mammals-live-map-2015-4.

The World Wildlife Fund (WWF)

The World Wildlife Fund (WWF) is the leading organization in the field of protecting wildlife. It links high-level policy action to on-the-ground work and particularly stops wildlife crime. The WWF has many goals it aims to achieve such as doubling the number of tigers before 2022, empowering people to protect wildlife.

The United States

The United States is known for The Endangered Species Act (ESA), as 99% of species listed on it have avoided extinction. The Endangered Species Act is one of America's most effective and important environmental laws as it represents a commitment by the United States to work together to protect and restore endangered species. It is considered by many as a successful safety net for protecting wildlife, plants, insects, and fish from extinction ("the Endangered Species Act").

Brazil

An alarming number of Brazilian animal species are endangered or threatened. Whilst governments are trying to protect charismatic species such as monkeys, turtles and whales, other less-known species are quickly disappearing. Deforestation plays a great role in the issue in Brazil and accounts for more than 35% of the loss. Indeed, the Amazon rainforest is being destroyed at a staggering rate of 24,00 km per year. However, hunting and the introduction of competing species also largely contributes to extinction of Brazilian animal

Ecuador

Ecuador is the country with the highest number of species at risk of extinction with 2, 301 species on the IUCN Red List. Ecuador has more species of animals per square metre than anywhere else in the world. It therefore has a large number of species that are endangered. Clearing of forests in the country is the primary threat facing many already endangered mammals.

Madagascar, the Democratic Republic of Congo, South Africa, Ethiopia

Whilst all continents are affected by the loss of biodiversity, the African continent hosts many endangered animals. Not only is there illegal poaching, but the is also a legal business of exporting endangered animals. For example, South Africa sold 1.4 billion worth of animal products in 2015. The African Wildlife Foundation fights for Wildlife Conservation, land and habitat protection. Nevertheless, it struggles to dismantle the illegal wildlife trade networks that stretch across the countries as the international trade in illicit wildlife products particularly values products such as ivory and rhino horn. Wildlife criminals can often escape through weak legislation and enforcement laws. An example is Madagascar, one of the four countries with over 90 threatened mammals, with 114 in total ("Endangered Species Population Numbers").

Timeline of Key Events

Date	Description of Event
April 2002	The Parties of the Convention on Biological Diversity (CBD) committed to significantly reduce the loss of biodiversity loss by 2010.
1992	The Convention on Biological Diversity (CBD) is born during the UN Conference on Environment and Development (the Earth Summit). 192 are now part of the convention.
1981	The Association of Zoos and Aquariums (AZA) created a Species Survival Plan (SSP) in order to help preserve specific endangered and threatened species through captive breeding.
1973	The Endangered Species Act (ESA) is passed in the United States and permits organizations and individuals to petition to have a species listed as threatened and endangered. Then follows the protection of its habitat and a recovery plan ("What is The ESA").
1973	The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is adopted. Concerned by the overexploitation of many vulnerable species because of unregulated international trade, 183 partiez adopted the CITES. CITES now regulates international trade in over 36,000 species of

plants and animals to ensure their survival (CITES).

1969

The International Fund for Animal Welfare (IFAW) is founded. Since then it protects entire animal populations and works to stop the illegal killing and trading of species such as elephants.

Previous Attempts to Resolve the Issue

To save currently endangered species, conservationists can study previous failures and failure to understand which techniques work the best.

Tyakht, Victor. "Femelle Antilope Saiga.", Shutterstock https://www.especes-menacees.fr/wp-content/uploads/2016/10/femelle-antilope-saiga-642x300.jpg

"The Panda, a saved endangered species.", http://s1.ibtimes.com/sites/www.ibtimes.com/files/styles/embed/public/2017/12/22/black-white-17110011920.jpg

The Saiga is a species which was on the brink of extinction twice but was successfully saved. It is a great example to be reminded that the protection of endangered animals is not impossible. Once widespread on the lands of Russia, the Saiga survived twice thanks to the endeavours of conservationists. Indeed after the Soviet Union's collapse, authority and policing crashed while saiga horn became more and more popular as a traditional medicine in China. As a result the was a sudden wave of uncontrolled hunting and poaching which caused the Saiga's population to plummet. Conservationists therefore lobbied to have the species labelled as critically endangered by the IUCN and NGOs started to fund projects aiming to save the saiga. Governments also began to take protective measures. For instance, large areas were marked as conservation zones. This caused saiga numbers to slowly recover. Nonetheless, in 2014, a mysterious bacterium killed more than

200 000 saigas in a few weeks. However, since governments and NGOs were now aware of the saiga and committed to save them conservationists were able to halt the disease (McKie, Robin).

The giant panda is one of the best known of all the planet's threatened species and was even adopted as the symbol of the WWF. It is also a conservation success story as it was officially moved off the red list of "endangered species" and put on the "vulnerable species" list after being brought back from the brink of extinction by a the Chinese government. Indeed, after agriculture had wrecked the panda's bamboo food source, protected reserves were established. As a result, by 2014 the giant panda's population had increased by 17% in a decade to reach 1,864 animals in the wild (WWF).

An example of a previous failure is the northern white rhino which used to be common, as many as 2250 still remained in five African countries in 1960. However, poaching reduced the sub-species to just 10 animals by February 2005, making it the most endangered large mammal on the planet. About 40 animals still remained as recently as 2003, but the Garumba National Park in the DRC was not been able to offer these animals the protection they need. NGOs tried in vain to extract the last remaining rhinos and to breed them but it was too late and the last rhinos are dying one by one. The fact that conservationists failed to act quickly enough and the lack of regulation contributed to the sure extinction of this subspecies ("The Northern White Rhino").

Possible Solutions

Many techniques have been found to protect endangered animals. The first way to save a species from extinction is to lobby to have the species labelled as endangered or critically endangered by the International Union for the Conservation of Nature and NGOs. This enables NGOs to have more funds for further action (McKie, Robin).

Another evident answer to the issue of the trade of animals would first be to declare a species illegal to fish, hunt or trade. However, illegal trade in wildlife is estimated to be worth billions of dollars annually and to involve more than 350 million species every year. Therefore, despite being a good start declaring a species as illegal often isn't enough and it is necessary to find other solutions to tackle the issue of the plummeting number of a species (CITES).

In order to protect endangered species conservation solutions such as captive breeding and private farming must be put in place. Captive breeding means breeding an endangered species in a human controlled area such as zoos and wildlife reserves. This technique is known to be effective, but if the species is critically endangered, can be unsuccessful as it implies having at least a few male and female species and uniting them, which can prove to be extremely difficult for highly mobile species such as birds and fishes ("Endangered Species.").

Private farming is a conservation technique that has efficiently increased the populations of the southern rhinoceros. Private farming allows a legal, for-profit farming where animals are privately owned. Therefore, there is a solid economic incentive attached to protecting animals such as Eco-tourism.

Diseases such as bovine tuberculosis and canine distemper move easily between wild and domestic animals and therefore threaten a whole species. If a disease threatens the existence of a species, scientists must work in order to find a vaccine, as they would do for a disease affecting humans. This measure demands time and money, and NGOs have to find effective ways to lobby for the necessary funds. The funds must then be correctly used in order to quickly find a vaccine or medicine

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There are countless other solutions to protect endangered species, some have already been proven to be efficient, such as declaring entire regions as reserves or protecting species which are threatened before they can become endangered. However, the number of endangered species is continually rising, and new innovative solutions must be rapidly put in place.

Appendices

Appendix A

This is a list of all the critically endangered species. You can research one of them and study conservation efforts.

www.worldwildlife.org/species/directory?direction=desc.

Appendix B

This is the Endangered Species Act (ESA) of 1973 passed during the 108th Congress. The Endangered Species Act is a model for other countries. It is a effective law and could be studied in order to adopt similar laws in other countries (the Endangered Species Act"). http://www.nmfs.noaa.gov/pr/pdfs/laws/esa.pdf

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