

# Term Paper BEE

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Problems faced by wild animals

## 1 Introduction

My term paper topic is all about the problems faced by wild animals in current time.

### 1.1 Wildlife is suffering

Wildlife on planet Earth is under siege from all sides, facing down habitat loss and the impact of climate change. Some of the biggest threats to wildlife include illegal wildlife trade, habitat destruction, invasive species, pollution, and climate change.

#### 1.1.1 Illegal Wildlife Trade

The illegal wildlife trade is the fourth largest criminal industry in the world, after drugs, arms, and human trafficking. Gathering in over 20 billion a year, it is also one of the biggest threats to some of the most iconic species on the planet, like the rhino and the elephant.

#### 1.1.2 Habitat Destruction

The fires that swept across the Amazon and Australia rightly drew attention to just how fragile the most important ecosystems are. Half of the world's original forests are gone, and what remains is being cut down ten times faster than it can be replaced.

#### 1.1.3 Invasive Species

Whether accidentally or intentionally introduced, the non-native species grow and reproduce rapidly, then spread across ecosystems aggressively. They are one of the leading threats to native wildlife, putting 42 percent of threatened or endangered species at risk.

#### **1.1.4 Pollution**

There are 500 times more pieces of micro plastic in the sea than there are stars in our galaxy. Eight hundred million tonnes of plastic are dumped into the ocean each year, washing up on previously pristine parts of the planet and is a threat to the survival of more than 600 species of marine wildlife.

#### **1.1.5 Climate Change**

From more regular and fiercer storms to more prolonged and more intense droughts, the impact of climate change is rising ocean temperatures and diminishing Arctic sea ice affecting marine biodiversity, shifting vegetation zones and forcing species to adapt to new conditions.

The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our economies, livelihoods, food security, health, and quality of life worldwide.

## **2 What is needed?**

Public awareness and education must play an essential part in teaching an environment of compassion in protecting animals with sustainable solutions to address these issues. And all these need to be discussed collectively at a global scale to make a positive impact. In addition to this, we need to be mindful of tackling increased urbanization, rising temperatures, and ecotourism, which are negatively contributing and fueling to affect wildlife.

Dramatic urbanization has led species living in urban environments to develop differently from their non-urban counterparts. In the last 50 years, the global average temperature has risen at 170 times, having dangerous effects on wildlife populations. Although ecotourism can help to raise awareness of wildlife, it has severe adverse effects like chronic stress and decreased immune systems. The scale of the problem is multifaceted; as individuals, we can strive to lower the carbon footprint and urge governments to help make our countries greener.

## **3 Threats to Wildlife**

There are few places left on the planet where the impact of people has not been felt. We have explored and left our footprint on nearly every corner of the globe. As our population and needs grow, we are leaving less and less room for wildlife.

Wildlife are under threat from many different kinds of human activities, from directly destroying habitat to spreading invasive species and disease. Most ecosystems are facing multiple threats. Each new threat puts additional stress on already weakened ecosystems and their wildlife.

## 4 Why are species disappearing?

Global biodiversity is being lost much faster than natural extinction due to changes in land use, unsustainable use of natural resources, invasive alien species, climate change and pollution among others.

Land conversion by humans, resulting in natural habitat loss, is most evident in tropical forests and is less intensive in temperate, boreal and arctic regions. Pollution from atmospheric nitrogen deposition is most severe in northern temperate areas close to urban centres; and the introduction of damaging alien species is usually brought about through patterns of human activity.

Species loss is also compounded by:

- the ongoing growth of human populations and unsustainable consumer lifestyles.
- increasing production of waste and pollutants.
- urban development
- international conflict.

## 5 What are the wildlife problems in India?

Deforestation. Deforestation or removal of a forest for urban use and plantation is the biggest threat to the wildlife of India, India is one of the top 10 countries in the world in the amount of forest loss in 2009, affected the wild animals and birds.

What is the reason why the animals is no longer existing today? The current extinction is most likely the result of human activity, especially over the past century. Scientists estimate that 100 to 10,000 species — from microscopic organisms to large plants and animals — go extinct each year. This is 100 to 1,000 times faster than historic extinction rates.

What is the present condition of wildlife? As of 2020-21, there are 981 protected areas including 106 National Parks, 566 Wildlife Sanctuaries, 97 Conservation Reserves and 214 Community Reserves. In addition there are 51 Tiger Reserves, 18 Biosphere Reserves and 32 Elephant Reserves.

Grand Challenges in Animal Conservation Climate change, habitat loss, degradation and fragmentation, invasive species, novel pathogens, noise disturbance, light pollution, giant floating islands of trash, anthropogenic alteration of the microbiome, ecological traps, inbreeding depression, road-kill, microplastics, stressors, subsidized predators, bushmeat crisis, wildlife trade, bird-window collisions, trophic cascades. The list could be greatly extended, but such is the litany of threats facing animal species today. We see growing consensus that we are living through Earth's sixth mass extinction event (Barnosky et al., 2011; Ceballos et al., 2020). Even for

species not facing imminent extinction, numbers are plummeting (Dirzo et al., 2014): 3 billion birds lost in North America over the past five decades (Rosenberg et al., 2019). Further, the factors underlying biodiversity collapse are often intractable (Tittensor et al., 2014). We can view this crisis through the lens of inevitability, or we can see it as a rallying cry to do something to turn the tide. Indeed, many audacious plans to address the biodiversity crisis have had prominent advocacy (Wilson, 2016).

## 6 The Biggest Issues for Wildlife and Endangered Species in 2019

Wildlife didn't have an easy go of it in 2018. We lost the last male northern white rhino, the vaquita porpoise continued its slide toward extinction, poachers kept targeting pangolins and other rare creatures, and through it all the Trump administration kept trying to whittle away at key protections for endangered species. Climate Chaos

Of course, climate change will continue to threaten species around the world in 2019.

"The impacts of climate change aren't showing signs of slowing, and this administration refuses to recognize it," says Charise Johnson of the Union of Concerned Scientists. "Water temperatures are rising, increased flooding, deforestation, fires, storms—these are all things that affect a species' existence."

And new threats continue to emerge. "There's been a lot of discussion about how global climate change affects ocean acidification, and now there's emerging evidence that the even greater threat is reduced oxygen levels," says noted conservationist William Laurance of James Cook University. A study published last month found that ocean deoxygenation could have a major impact on zooplankton, one of the building blocks for the ocean food web. Deoxygenation also causes increased algal growth, like the red tides that choked the coasts of Florida this past year and killed hundreds of manatees and tens of thousands of fish.

"Changes in ocean composition will be a large-scale driver of mortality," Laurance says. "Some people are calling this 'the great dying.' "

A related issue in the Arctic also appears to be another emerging threat. According to the just-released "Horizon Scan of Emerging Issues for Global Conservation in 2019" (the tenth annual edition of this study), climate-change induced release of carbon from polar ice will further worsen global warming, while the release of mercury from thawing permafrost will create a toxic threat for animals, plants and soil.

Meanwhile, on top of the obvious weather-related changes, climate change could create an additional unexpected threat to some species: wildlife

trafficking.

“Some species will undoubtedly decline as a result of climate change, making them rarer and thus potentially even more desirable by those who trade in them,” explains Richard Thomas, global communications coordinator for TRAFFIC, the anti-wildlife-trafficking organization. “Addressing wildlife trade issues and promoting sustainable harvesting are likely to become more important than ever,” he says.

The (tiny) bit of good news related to climate change? Because so many scientists are studying it, we’re learning more and more about its effects.

## **7 UN Report: Nature’s Dangerous Decline ‘Unprecedented’; Species Extinction Rates ‘Accelerating’**

Nature is declining globally at rates unprecedented in human history – and the rate of species extinctions is accelerating, with grave impacts on people around the world now likely, warns a landmark new report from the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the summary of which was approved at the 7th session of the IPBES Plenary, meeting last week (29 April – 4 May) in Paris.

“The overwhelming evidence of the IPBES Global Assessment, from a wide range of different fields of knowledge, presents an ominous picture,” said IPBES Chair, Sir Robert Watson. “The health of ecosystems on which we and all other species depend is deteriorating more rapidly than ever. We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide.”

“The Report also tells us that it is not too late to make a difference, but only if we start now at every level from local to global,” he said. “Through ‘transformative change’, nature can still be conserved, restored and used sustainably – this is also key to meeting most other global goals. By transformative change, we mean a fundamental, system-wide reorganization across technological, economic and social factors, including paradigms, goals and values.”

“The member States of IPBES Plenary have now acknowledged that, by its very nature, transformative change can expect opposition from those with interests vested in the status quo, but also that such opposition can be overcome for the broader public good,” Watson said.

The IPBES Global Assessment Report on Biodiversity and Ecosystem Services is the most comprehensive ever completed. It is the first inter-governmental Report of its kind and builds on the landmark Millennium Ecosystem Assessment of 2005, introducing innovative ways of evaluating evidence.

Compiled by 145 expert authors from 50 countries over the past three years, with inputs from another 310 contributing authors, the Report assesses changes over the past five decades, providing a comprehensive picture of the relationship between economic development pathways and their impacts on nature. It also offers a range of possible scenarios for the coming decades.

Based on the systematic review of about 15,000 scientific and government sources, the Report also draws (for the first time ever at this scale) on indigenous and local knowledge, particularly addressing issues relevant to Indigenous Peoples and Local Communities.

“Biodiversity and nature’s contributions to people are our common heritage and humanity’s most important life-supporting ‘safety net’. But our safety net is stretched almost to breaking point,” said Prof. Sandra Díaz (Argentina), who co-chaired the Assessment with Prof. Josef Settele (Germany) and Prof. Eduardo S. Brondízio (Brazil and USA).

“The diversity within species, between species and of ecosystems, as well as many fundamental contributions we derive from nature, are declining fast, although we still have the means to ensure a sustainable future for people and the planet.” To increase the policy-relevance of the Report, the assessment’s authors have ranked, for the first time at this scale and based on a thorough analysis of the available evidence, the five direct drivers of change in nature with the largest relative global impacts so far. These culprits are, in descending order: (1) changes in land and sea use; (2) direct exploitation of organisms; (3) climate change; (4) pollution and (5) invasive alien species.

The Report notes that, since 1980, greenhouse gas emissions have doubled, raising average global temperatures by at least 0.7 degrees Celsius – with climate change already impacting nature from the level of ecosystems to that of genetics – impacts expected to increase over the coming decades, in some cases surpassing the impact of land and sea use change and other drivers.

Despite progress to conserve nature and implement policies, the Report also finds that global goals for conserving and sustainably using nature and achieving sustainability cannot be met by current trajectories, and goals for 2030 and beyond may only be achieved through transformative changes across economic, social, political and technological factors. With good progress on components of only four of the 20 Aichi Biodiversity Targets, it is likely that most will be missed by the 2020 deadline. Current negative trends in biodiversity and ecosystems will undermine progress towards 80

“To better understand and, more importantly, to address the main causes of damage to biodiversity and nature’s contributions to people, we need to understand the history and global interconnection of complex demographic and economic indirect drivers of change, as well as the social values that underpin them,” said Prof. Brondízio. “Key indirect drivers include in-

creased population and per capita consumption; technological innovation, which in some cases has lowered and in other cases increased the damage to nature; and, critically, issues of governance and accountability. A pattern that emerges is one of global interconnectivity and ‘telecoupling’ – with resource extraction and production often occurring in one part of the world to satisfy the needs of distant consumers in other regions.”

Other notable findings of the Report include:

Three-quarters of the land-based environment and about 66% More than a third of the world’s land surface and nearly 75% The value of agricultural crop production has increased by about 300% Land degradation has reduced the productivity of 23% In 2015, 33% Urban areas have more than doubled since 1992. Plastic pollution has increased tenfold since 1980, 300-400 million tons of heavy metals, solvents, toxic sludge and other wastes from industrial facilities are dumped annually into the world’s waters, and fertilizers entering coastal ecosystems have produced more than 400 ocean ‘dead zones’, totalling more than 245,000 km<sup>2</sup> (591-595) – a combined area greater than that of the United Kingdom. Negative trends in nature will continue to 2050 and beyond in all of the policy scenarios explored in the Report, except those that include transformative change – due to the projected impacts of increasing land-use change, exploitation of organisms and climate change, although with significant differences between regions. The Report also presents a wide range of illustrative actions for sustainability and pathways for achieving them across and between sectors such as agriculture, forestry, marine systems, freshwater systems, urban areas, energy, finance and many others. It highlights the importance of, among others, adopting integrated management and cross-sectoral approaches that take into account the trade-offs of food and energy production, infrastructure, freshwater and coastal management, and biodiversity conservation.

Also identified as a key element of more sustainable future policies is the evolution of global financial and economic systems to build a global sustainable economy, steering away from the current limited paradigm of economic growth.

“IPBES presents the authoritative science, knowledge and the policy options to decision-makers for their consideration,” said IPBES Executive Secretary, Dr. Anne Larigauderie. “We thank the hundreds of experts, from around the world, who have volunteered their time and knowledge to help address the loss of species, ecosystems and genetic diversity – a truly global and generational threat to human well-being.”

## 8 Scale of Loss of Nature

Gains from societal and policy responses, while important, have not stopped massive losses. Since 1970, trends in agricultural production, fish harvest,

bioenergy production and harvest of materials have increased, in response to population growth, rising demand and technological development, this has come at a steep price, which has been unequally distributed within and across countries. Many other key indicators of nature's contributions to people however, such as soil organic carbon and pollinator diversity, have declined, indicating that gains in material contributions are often not sustainable . The pace of agricultural expansion into intact ecosystems has varied from country to country. Losses of intact ecosystems have occurred primarily in the tropics, home to the highest levels of biodiversity on the planet. For example, 100 million hectares of tropical forest were lost from 1980 to 2000, resulting mainly from cattle ranching in Latin America (about 42 million hectares) and plantations in South-East Asia (about 7.5 million hectares, of which 80% Since 1970 the global human population has more than doubled (from 3.7 to 7.6 billion), rising unevenly across countries and regions; and per capita gross domestic product is four times higher – with ever-more distant consumers shifting the environmental burden of consumption and production across regions. The average abundance of native species in most major land-based habitats has fallen by at least 20% The numbers of invasive alien species per country have risen by about 70% The distributions of almost half (47

## 9 Indigenous Peoples, Local Communities and Nature

At least a quarter of the global land area is traditionally owned, managed, used or occupied by Indigenous Peoples. These areas include approximately 35% Nature managed by Indigenous Peoples and Local Communities is under increasing pressure but is generally declining less rapidly than in other lands – although 72% The areas of the world projected to experience significant negative effects from global changes in climate, biodiversity, ecosystem functions and nature's contributions to people are also areas in which large concentrations of Indigenous Peoples and many of the world's poorest communities reside. Regional and global scenarios currently lack and would benefit from an explicit consideration of the views, perspectives and rights of Indigenous Peoples and Local Communities, their knowledge and understanding of large regions and ecosystems, and their desired future development pathways. Recognition of the knowledge, innovations and practices, institutions and values of Indigenous Peoples and Local Communities and their inclusion and participation in environmental governance often enhances their quality of life, as well as nature conservation, restoration and sustainable use. Their positive contributions to sustainability can be facilitated through national recognition of land tenure, access and resource rights in accordance with national legislation, the application of free, prior and informed consent, and improved collaboration, fair



and equitable sharing of benefits arising from the use, and co-management arrangements with local communities.

## 10 Global Targets and Policy Scenarios

Past and ongoing rapid declines in biodiversity, ecosystem functions and many of nature's contributions to people mean that most international societal and environmental goals, such as those embodied in the Aichi Biodiversity Targets and the 2030 Agenda for Sustainable Development will not be achieved based on current trajectories. The authors of the Report examined six policy scenarios – very different 'baskets' of clustered policy options and approaches, including 'Regional Competition', 'Business as Usual' and 'Global Sustainability' – projecting the likely impacts on biodiversity and nature's contributions to people of these pathways by 2050. They concluded that, except in scenarios that include transformative change, the negative trends in nature, ecosystem functions and in many of nature's contributions to people will continue to 2050 and beyond due to the projected impacts of increasing land and sea use change, exploitation of organisms and climate change.

## 11 Policy Tools, Options and Exemplary Practices

Policy actions and societal initiatives are helping to raise awareness about the impact of consumption on nature, protecting local environments, promoting sustainable local economies and restoring degraded areas. Together with initiatives at various levels these have contributed to expanding and strengthening the current network of ecologically representative and well-connected protected area networks and other effective area-based conservation measures, the protection of watersheds and incentives and sanctions to reduce pollution . The Report presents an illustrative list of possible actions and pathways for achieving them across locations, systems and scales, which will be most likely to support sustainability. Taking an integrated approach: In agriculture, the Report emphasizes, among others: promoting good agricultural and agroecological practices; multifunctional landscape planning (which simultaneously provides food security, livelihood opportunities, maintenance of species and ecological functions) and cross-sectoral integrated management. It also points to the importance of deeper engagement of all actors throughout the food system (including producers, the public sector, civil society and consumers) and more integrated landscape and watershed management; conservation of the diversity of genes, varieties, cultivars, breeds, landraces and species; as well as approaches that empower consumers and producers through

market transparency, improved distribution and localization (that revitalizes local economies), reformed supply chains and reduced food waste. In marine systems, the Report highlights, among others: ecosystem-based approaches to fisheries management; spatial planning; effective quotas; marine protected areas; protecting and managing key marine biodiversity areas; reducing run-off pollution into oceans and working closely with producers and consumers. In freshwater systems, policy options and actions include, among others: more inclusive water governance for collaborative water management and greater equity; better integration of water resource management and landscape planning across scales; promoting practices to reduce soil erosion, sedimentation and pollution run-off; increasing water storage; promoting investment in water projects with clear sustainability criteria; as well as addressing the fragmentation of many freshwater policies. In urban areas, the Report highlights, among others: promotion of nature-based solutions; increasing access to urban services and a healthy urban environment for low-income communities; improving access to green spaces; sustainable production and consumption and ecological connectivity within urban spaces, particularly with native species. Across all examples, the Report recognises the importance of including different value systems and diverse interests and worldviews in formulating policies and actions. This includes the full and effective participation of Indigenous Peoples and Local Communities in governance, the reform and development of incentive structures and ensuring that biodiversity considerations are prioritised across all key sector planning. “We have already seen the first stirrings of actions and initiatives for transformative change, such as innovative policies by many countries, local authorities and businesses, but especially by young people worldwide,” said Sir Robert Watson. “From the young global shapers behind the VoiceforthePlanet movement, to school strikes for climate, there is a groundswell of understanding that urgent action is needed if we are to secure anything approaching a sustainable future. The IPBES Global Assessment Report offers the best available expert evidence to help inform these decisions, policies and actions – and provides the scientific basis for the biodiversity framework and new decadal targets for biodiversity, to be decided in late 2020 in China, under the auspices of the UN Convention on Biological Diversity.”

## 12 HALTING THE EXTINCTION CRISIS

Our planet now faces a global extinction crisis never witnessed by humankind. Scientists predict that more than 1 million species are on track for extinction in the coming decades.

But there’s still time to halt this crisis — and we need your help. By taking part in our Saving Life on Earth campaign, you can help build a

coast-to-coast network to ensure the United States is a leader in saving the world's biodiversity.

You can also read our plan to confront this emergency. It's full of bold, life-changing initiatives including a call for a 100-billion investment in endangered species and protection of 30 percent of our lands and ocean waters by 2030 and 50 percent by 2050.

## **12.1 Why Is This So Important?**

Each time a species goes extinct, the world around us unravels a bit. The consequences are profound, not just in those places and for those species but for all of us. These are tangible consequential losses, such as crop pollination and water purification, but also spiritual and cultural ones.

Although often obscured by the noise and rush of modern life, people retain deep emotional connections to the wild world. Wildlife and plants have inspired our histories, mythologies, languages and how we view the world. The presence of wildlife brings joy and enriches us all — and each extinction makes our home a lonelier and colder place for us and future generations.

The current extinction crisis is entirely of our own making. More than a century of habitat destruction, pollution, the spread of invasive species, over harvest from the wild, climate change, population growth and other human activities have pushed nature to the brink. Addressing the extinction crisis will require leadership — especially from the United States — alongside bold, courageous, far-reaching initiatives that attack this emergency at its root.

Among the most critical steps is the 30x30 campaign, which will protect wildlife places and wildlife habitat, including oceans, rivers, forests, deserts and swamps.

## **12.2 Every Taxon Is in Trouble**

### **12.2.1 AMPHIBIANS**

No group of animals has a higher rate of endangerment than amphibians. Scientists estimate that a third or more of all the roughly 6,300 known species of amphibians are at risk of extinction.

Frogs, toads, and salamanders are disappearing because of habitat loss, water and air pollution, climate change, ultraviolet light exposure, introduced exotic species, and disease. Because of their sensitivity to environmental changes, vanishing amphibians should be viewed as the canary in the global coal mine, signaling subtle yet radical ecosystem changes that could ultimately claim many other species, including humans.

### **12.2.2 BIRDS**

Birds occur in nearly every habitat on the planet and are often the most visible and familiar wildlife to people across the globe. As such, they provide an important bellwether for tracking changes to the biosphere. Declining bird populations across most to all habitats confirm that profound changes are occurring on our planet in response to human activities.

A 2009 report on the state of birds in the United States found that 251 (31 percent) of the 800 species in the country are of conservation concern. Globally, Bird-Life International estimates that 12 percent of known 9,865 bird species are now considered threatened, with 192 species, or 2 percent, facing an “extremely high risk” of extinction in the wild — two more species than in 2008. Habitat loss and degradation have caused most of the bird declines, but the impacts of invasive species and capture by collectors play a big role, too.

### **12.2.3 FISH**

Increasing demand for water, the damming of rivers throughout the world, the dumping and accumulation of various pollutants, and invasive species make aquatic ecosystems some of the most threatened on the planet; thus, it’s not surprising that there are many fish species that are endangered in both freshwater and marine habitats.

The American Fisheries Society identified 700 species of freshwater or anadromous fish in North America as being imperiled, amounting to 39 percent of all such fish on the continent [8]. In North American marine waters, at least 82 fish species are imperiled. Across the globe, 1,851 species of fish — 21 percent of all fish species evaluated — were deemed at risk of extinction by the IUCN in 2010, including more than a third of sharks and rays.

### **12.2.4 INVERTEBRATES**

Invertebrates, from butterflies to mollusks to earthworms to corals, are vastly diverse — and though no one knows just how many invertebrate species exist, they’re estimated to account for about 97 percent of the total species of animals on Earth [9]. Of the 1.3 million known invertebrate species, the IUCN has evaluated about 9,526 species, with about 30 percent of the species evaluated at risk of extinction. Freshwater invertebrates are severely threatened by water pollution, groundwater withdrawal, and water projects, while a large number of invertebrates of notable scientific significance have become either endangered or extinct due to deforestation, especially because of the rapid destruction of tropical rainforests. In the ocean, reef-building corals are declining at an alarming rate: 2008’s

first-ever comprehensive global assessment of these animals revealed that a third of reef-building corals are threatened.

#### **12.2.5 MAMMALS**

Perhaps one of the most striking elements of the present extinction crisis is the fact that the majority of our closest relatives — the primates — are severely endangered. About 90 percent of primates — the group that contains monkeys, lemurs, lorids, galagos, tarsiers, and apes (as well as humans) — live in tropical forests, which are fast disappearing. The IUCN estimates that almost 50 percent of the world’s primate species are at risk of extinction. Overall, the IUCN estimates that half the globe’s 5,491 known mammals are declining in population and a fifth are clearly at risk of disappearing forever with no less than 1,131 mammals across the globe classified as endangered, threatened, or vulnerable. In addition to primates, marine mammals — including several species of whales, dolphins, and porpoises — are among those mammals slipping most quickly toward extinction.

#### **12.2.6 PLANTS**

Through photosynthesis, plants provide the oxygen we breathe and the food we eat and are thus the foundation of most life on Earth. They’re also the source of a majority of medicines in use today. Of the more than 300,000 known species of plants, the IUCN has evaluated only 12,914 species, finding that about 68 percent of evaluated plant species are threatened with extinction.

Unlike animals, plants can’t readily move as their habitat is destroyed, making them particularly vulnerable to extinction. Indeed, one study found that habitat destruction leads to an “extinction debt,” whereby plants that appear dominant will disappear over time because they aren’t able to disperse to new habitat patches [10]. Global warming is likely to substantially exacerbate this problem. Already, scientists say, warming temperatures are causing quick and dramatic changes in the range and distribution of plants around the world. With plants making up the backbone of ecosystems and the base of the food chain, that’s very bad news for all species, which depend on plants for food, shelter, and survival.

#### **12.2.7 REPTILES**

Globally, 21 percent of the total evaluated reptiles in the world are deemed endangered or vulnerable to extinction by the IUCN — 594 species — while in the United States, 32 reptile species are at risk, about 9 percent of the total. Island reptile species have been dealt the hardest blow, with at

least 28 island reptiles having died out since 1600. But scientists say that island-style extinctions are creeping onto the mainlands because human activities fragment continental habitats, creating “virtual islands” as they isolate species from one another, preventing interbreeding and hindering populations’ health. The main threats to reptiles are habitat destruction and the invasion of nonnative species, which prey on reptiles and compete with them for habitat and food.

## **13 India: Our endangered wildlife - a cause for concern**

India is a bio-diverse country, with nearly 6.5

As defined by the International Consortium on Combating Wildlife Crime (ICWC), wildlife crime refers to acts committed contrary to national laws and regulations intended to protect natural resources and to administer their management and use. This includes the illicit exploitation of natural resources, such as poaching of animals and unauthorized logging of trees. It may also include subsequent acts, such as the processing of fauna and flora into products, their transportation, sale and possession. The UN-ODC is mandated to support its member states fight wildlife crime. The United Nations Convention against Transnational Organized Crime (UN-TOC) is an important instrument providing the necessary legal framework for international cooperation in combating wildlife crime.

In India, wildlife crime is a pervasive problem damaging ecosystems, impacting food security and affecting livelihoods of rural communities. In many cases, cross-border smuggling of live animals and plants can result in the spread of disease through carrier animals and plants.

Major wildlife crime in India includes poaching of tigers, rhinos and the sale of Star tortoises. Tigers are an endangered species, poached for their skin and bones to cater to an illegal market. Their body parts are used in Asian medicines and tiger claws are used in jewellery. Tiger whiskers are considered a dreadful poison in Malaysia and a powerful aphrodisiac in Indonesia.

Ancient trade routes for salt, spices and wool are being used to smuggle tiger skins and bones. These illegal goods are sent to buyers based largely in northern India and are then smuggled out of the country through couriers. The main route is via Nepal, with whom India has a porous border, or directly across the border to China. More recently, routes through Myanmar have also been used.

Apart from tigers, India is also witnessing a rise in wildlife crime against Rhinoceros. Driven by a soaring demand for their horn, hundreds of rhinos are being killed, illegally. According to a report 1 by TRAFFIC and the

International Union for the Conservation of Nature (IUCN), sophisticated poachers are using veterinary drugs, poison, cross bows and high calibre weapons to kill rhinos.

The Indian rhino could once be found from Pakistan, all the way through India, Nepal, Bangladesh, Bhutan and Myanmar. However, the current population of this species is dwindling and today only about 2500 survive in India and Nepal. It is not only large mammals, but also smaller species that are under threat. Star tortoises from South India are illegally traded in huge numbers. Due to their popularity in Feng Shui, they are kept as pets, believed to bring prosperity and can cost as much as 500us dollar in the illegal market. Many protected marine species such as sea cucumbers, molluscs, sea horses and coral are also illegally harvested in Indian waters for export. In India, the Wildlife (Protection) Act, 1972 is a strong legislation that covers wildlife crime. However, the implementation and enforcement needs to be strengthened in order to curb this transnational crime.

## **14 Wildlife in 'catastrophic decline' due to human destruction, scientists warn**

Wildlife populations have fallen by more than two-thirds in less than 50 years, according to a major report by the conservation group WWF.

The report says this "catastrophic decline" shows no sign of slowing.

And it warns that nature is being destroyed by humans at a rate never seen before.

Wildlife is "in freefall" as we burn forests, over-fish our seas and destroy wild areas, says Tanya Steele, chief executive at WWF.

"We are wrecking our world - the one place we call home - risking our health, security and survival here on Earth. Now nature is sending us a desperate SOS and time is running out."

### **14.1 What do the numbers mean?**

The report looked at thousands of different wildlife species monitored by conservation scientists in habitats across the world. They recorded an average 68 percent fall in more than 20,000 populations of mammals, birds, amphibians, reptiles and fish since 1970.

### **14.2 How do we measure the loss of nature?**

Measuring the variety of all life on Earth is complex, with a number of different measures.

Taken together, they provide evidence that biodiversity is being destroyed at a rate unprecedented in human history.

This particular report uses an index of whether populations of wildlife are going up or down. It does not tell us the number of species lost, or extinctions.

The largest declines are in tropical areas. The drop of 94

”This report is looking at the global picture and the need to act soon in order to start reversing these trends,” said Louise McRae of ZSL.

The data has been used for modelling work to look at what might be needed to reverse the decline.

Research published in the journal *Nature* suggests that to turn the tide we must transform the way we produce and consume food, including reducing food waste and eating food with a lower environmental impact. Prof Dame Georgina Mace of UCL said conservation actions alone wouldn’t be sufficient to ”bend the curve on biodiversity loss”.

”It will require actions from other sectors, and here we show that the food system will be particularly important, both from the agricultural sector on the supply side, and consumers on the demand side,” she said.

### **14.3 What do other measures tell us about the loss of nature?**

Extinction data is compiled by the International Union for Conservation of Nature (IUCN), which has evaluated more than 100,000 species of plants and animals, with more than 32,000 species threatened with extinction. In 2019, an intergovernmental panel of scientists concluded that one million species (500,000 animals and plants, and 500,000 insects) are threatened with extinction, some within decades.

#### **14.3.1 Humans ’threaten 1m species with extinction’**

The WWF report is one of many assessments of the state of nature being published in the coming weeks and months in the build-up to a major summit next year.

The UN will reveal next Tuesday its latest assessment of the state of nature worldwide.



## **15 How to solve the problem faced by the Wild Animals in current time**

### **15.1 STAND UP FOR WILDLIFE**

Your voice matters! Write to your federal and state elected officials encouraging them to support policies that protect wildlife. Sign up for action alerts from AWI, which keep you informed about urgent animal protection issues and provide quick and easy ways to get in touch with policymakers. Check out AWI's publications about various wildlife protection issues, and share the publications with others. Visit AWI's Action Center to take action on current action alerts.

### **15.2 MAKE YOUR YARD WILDLIFE FRIENDLY**

Plant native species of flowers, trees, and bushes in your yard. This gives wild animals food, shelter, and a place to raise families. Learn more about creating wildlife habitat in your yard. To attract birds to your yard, learn which native plant species are best for your location. To attract butterflies and moths to your yard, learn which native plant species are best for your location. To help imperiled monarch butterflies survive, plant native milkweed. Learn which species of milkweed are native to your region, and find milkweed suppliers in your area. Reduce the amount of lawn in your yard. Lawns offer minimal food and shelter for wildlife. Try replacing part of your lawn with garden beds or native plants and flowers instead. Get crafty! Buy or build your own birdhouse or bat house. This can provide hours of fun for the whole family. No yard? No problem! Balconies and patios are great locations for container gardens. Do not use pesticides, insecticides, herbicides, or chemical fertilizers on your lawn or garden beds. These products are the leading cause of wildlife poisonings, and are also toxic to companion animals. Reduce light pollution: artificial light at night has severe negative effects on wildlife. To help, only use lighting when and where it is needed, properly shield all outdoor lights, keep your blinds drawn during the evening, and if safety is a concern, install motion detector lights and timers. Rethink fall cleanup: leaves, dead flower heads, and ornamental grasses provide critical food and shelter for birds, butterflies, bees, and other beneficial insects during the winter months. Learn more about how fall yard cleanup harms wildlife.

### **15.3 PROTECT THE ENVIRONMENT**

One of the easiest and most effective ways to help wildlife is to preserve the environment in which the animals live. Volunteer with organizations in your area to restore native forests, grasslands, and coastal ecosystems

by planting native species, manually removing invasive plant species, and taking out old fences. Participate in or hold your own local trash clean-up to help protect the habitats of imperiled species and other wildlife. Reduce, reuse, recycle! Reduce: Manufacturing consumer products uses energy and natural resources, and creates waste and pollution. When we consume less, we need fewer natural resources and produce less waste. Some waste, like plastic bags and bottles, can make its way into wildlands and oceans, with negative consequences for endangered species and other animals. Reduce or eliminate your use of single-use plastics, which are difficult to recycle and persist in the environment for decades. Reuse: Do not throw it away if it still has a use! If you have unwanted books, toys, clothes or other items in good condition, consider giving them to charity instead of throwing them in the trash. Recycle: Avoid disposable products and products with excessive packaging or packaging that cannot easily be recycled. Find out what is recyclable in your area and recycle everyday items such as aluminum cans, glass and plastic containers, and cardboard and paper products. Dispose of electronics, batteries, and other potentially hazardous materials at municipal collection centers that will handle them properly. Save energy. Driving less, using energy efficient vehicles and appliances, and simply turning off the lights when you leave a room reduce energy use. Many power plants rely on coal and other fossil fuels that damage wildlife habitat when they are extracted, and pollute the environment and contribute to climate change when burned. Unplug appliances and chargers when not in use to eliminate electricity bleeding. You can also consider joining a community solar program or adding solar technology to your home or business. Respect wild animals by keeping a safe distance away, not approaching them, and not removing them from their environment. If you find young animals, particularly in the spring, do not handle them. Mothers often leave young for extended periods to forage. Although the young may appear to be abandoned, the mother will almost certainly return within 24 hours, and handling the young puts them in danger. If you encounter an injured wild animal, contact a certified animal rescuer in your area.

## 15.4 AN EDUCATED CONSUMER

Think before you buy: Choose products that are energy efficient, durable, made from sustainable sources, and sustainably packaged. Avoid products that harm animals and habitats, such as gas-guzzling vehicles, disposable plastics and plastic microbeads, paper products not made from recycled paper, products grown with pesticides, and products made with palm oil. Also avoid products that test on animals and contain animal parts or derivatives. Never buy exotic animals, particularly those who were wild-caught, and never purchase parts and products made from wildlife, including souvenirs. Do not buy clothing or other products that use fur

or feathers. Support genuine efforts that keep wildlife in the wild, such as ecotourism, photo safaris, or community-based humane education programs. Eat less meat, particularly beef. Cattle ranching destroys native vegetation, requires enormous amounts of water, damages soil, often results in lethal control of native predators, contaminates waterways, and produces methane, a potent greenhouse gas. Globally, conversion of forest to rangeland for cattle is one of the leading causes of biodiversity loss. Learn more about where your food comes from and what food label claims such as “sustainable,” “humane,” or “all-natural” really mean. If the product is rated or certified by an independent evaluator, find out what the rating/certification means and what animal and environmental advocates are saying about the certifier’s standards.

## **15.5 LEARN ABOUT IMPERILED SPECIES AND THEIR HABITATS**

Learn about the threats faced by threatened and endangered species. Teach your friends and family about endangered species and other animals that live near you. For information on species imperiled by trade, visit the Convention on International Trade in Endangered Species of Flora and Fauna (CITES) database at [www.cites.org](http://www.cites.org), the US Fish and Wildlife Service Endangered Species website, or the more inclusive International Union for Conservation of Nature (IUCN) Red List at [www.iucnredlist.org](http://www.iucnredlist.org). Visit a national wildlife refuge, park, or other open space and learn about the threatened and endangered species and other animals who live there. Stay informed and support policies that keep these areas wild and protect native species. Teachers: Help spread awareness in your own classroom about endangered species with our educational poster.

## **15.6 PROTECT ENDANGERED SPECIES**

The Endangered Species Act is an effective safety net for imperiled species—extinction has been prevented for more than 98 percent of the animals under its care. Urge your elected officials to preserve the important safeguards in the Act.

## **15.7 HELP PUT AN END TO INHUMANE TRAPS AND SNARES**

Support proposed federal, state, or local legislation against the use of indiscriminate and inhumane traps and snares for commercial purposes or to “manage” wildlife. Let your legislators, as well as your state wildlife agency, know that you support a prohibition on the use of cruel traps and snares in your state and across the country. If you see a non-target species (such as a dog, cat, bird, or threatened/endangered species) caught in a

trap, seek veterinary care for the animal immediately. Next, document and report your findings to your local humane society and AWI. Such information will aid our efforts to pass laws that ban inhumane traps and snares. If you or someone you know hires a nuisance wildlife control business to address a wildlife conflict situation, do not allow them to use cruel traps or snares. Ask for their trapping policies in writing before you hire them.

## **15.8 HELP PROTECT BIRDS**

Up to 1 billion birds in the United States die each year due to collisions with buildings. Learn how to reduce bird strikes by making windows more bird-friendly. Keep your cat indoors. Cats are one of the top causes of bird deaths in the United States. A study by scientists at the Smithsonian Conservation Biology Institute reported that between 1.4 billion and 3.7 billion birds are killed each year by cats roaming outdoors. Therefore, one of the most important things pet owners can do to reduce direct wildlife mortality is to keep their cat inside.