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 clime 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 is 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 manateesand 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 intergovernmental 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 66More than a third of the world's land surface and nearly 75The value of agricultural crop production has increased by about 300Land degradation has reduced the productivity of 23In 2015, 33Urban 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 km2 (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 80Since 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 20The numbers of invasive alien species per country have risen by about 70The 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 35Nature managed by Indigenous Peoples and Local Communities is under increasing pressure but is generally declining less rapidly than in other lands – although 72The 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 Voiceforthe-Planet 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.