

Impact of Environmental Degradation on Wildlife

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Abstract

Animal habitats and all the natural resources are continuously depleted by the destructive activity of human beings as well as the effects of natural hazards such as drought, floods. Extensive use of fossil fuels and the release of greenhouse gases into the atmosphere in the last 50 years have caused so many ecological issues that are responsible for environmental degradation, habitat loss, topography, and land use, urbanization, etc., that wildlife populations have declined by more than two-thirds on average. So that we should take an innovative approach to protect the wildlife and the whole planet we call home. Try to spread awareness by doing education work with the community, government organizations, and businesses to inspire lasting change for the benefit of wildlife around the world.

Keywords

Environmental degradation, wildlife, environment, habitat, biodiversity

Introduction

The interaction of living organisms with abiotic and biotic factors of the ecosystem is necessary for the continuity and survival

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of species. When the natural resource gets depleted by natural or man-made factors, it is termed “environmental degradation.” It is a key factor for the extinction of wildlife [1]. Loss of habitat is a major factor for environmental degradation [4], and other factors include soil erosion, desertification, flooding, depletion of natural resources, deforestation, climate change, desertification, habitat fragmentation, and invasiveness of species [4, 6]. All these factors are responsible for the degradation of the environment, which makes it unfit for the survival of animals, causing biodiversity loss [2]. The major driving force of environmental degradation is human population growth [30]. The world population of human beings is continuously increasing. According to a 1999 report, the world population is 6 billion people, and in 2150 it will reach 8 to 10 billion. Due to urbanization, overpopulation, and poverty, 20-30 million people shifted from remote areas to city areas [7]. High growth of population leads to high demand for resources. It is generated due to overpopulation. so, it raises the level of pressure on the natural resources of life viability. Natural resources, fresh water coral reefs, fresh water, and other natural resources are regularly depleted due to over growth of peoples and urbanization and diminishing the standard of living [8] due to the overrising of the human population due to industrialization, urbanization, and neutralization, causing major impacts on food scarcity, environmental degradation, and its effect on wildlife.

Environmental degradation and its impact on wildlife

- A. Fragmentation/habitat loss. It affects the breeding of animals, behaviour, and predation dispersal.
- B. Deforestation—it increases wildlife, human conflicts, water pollution, soil erosion, and habitat loss.
- C. Global climate change—— it affects oceanic flow and circulation of nutrients linked to the food chain.
- D. Desertification——it affects and disturbs the biogeochemical cycle, the migration of species to other areas, and climate shift.
- E. Soil erosion affects biodiversity loss and affects the productivity of all natural ecosystems.

F. Pollution—it affects physiological stress and bioaccumulation, and mortality.

G. Road effect—it affects the behaviour of animals, changes the home range of animals, decreases the success rate of reproduction, alteration in physiological condition, it decreases animal movement.

Loss of habitat/fragmentation

Necessary needs like food, water, shelter, and location of the zone are compulsory for the existence of an animal niche. When a broad zone is changed into smaller plots, and these slots are created, it is called the splitting of animal habitat. forest fragmentation includes both habitat loss and habitat division, and it has an antagonistic effect on wild flora and fauna. Habitat division and degradation of natural habitat led to a reduction in the growth of population size and density, extinction of wildlife, and a change in genetic diversity. Due to a small group of animals niche trophic level is reduced step by step which changes species interaction and minimizes the specialists and vast species flora and fauna. The destruction of habitat affects breeding of animals, spreading, animal behaviours, foraging and rate of predation [10].

Soil Erosion

The productivity of all natural ecosystems is affected by soil erosion (due to wind or rainwater). Soil erosion is a major problem for biodiversity loss all over the world. Food production is highly dependent on the soil productivity and human-induced changes in soil, which cause major changes in valuable soil, making it unproductive. By which the valuable animals' plants and microbes are destroyed, and it leads to the extinction of wildlife because they depend upon plants and soil organisms for their food (12).

Phenological Changes

Phenology is the study of the timing of the occurrence of biological events. It provides critical insights into interactions between organisms and their environment. biological events such as the new emergence of leaves, the migration of animals and birds, and the

breeding season of animals are highly sensitive to environmental changes. Over the past century, global temperature has risen significantly due to increased greenhouse gases in the atmosphere. This global warming has caused a noticeable shift in the timing of phenological events across a wide range of species in the ecosystem. Phenological changes are a powerful indicator of the impact of climate change on ecosystems. Phenological change has a cascade effect through the ecosystem; e.g., the timing of flowering in plants can influence the availability of nectar for pollinators, which affects the reproductive success of both plants and pollinators.

Pathogens

Many infectious diseases are spread due to global climate change shifts. due to changes in any single factor either rainfall, temperature, and humidity or climate change at the global level can spread different types of health problems. Survival and growth of pathogens depend upon different factors such as temperature, humidity etc. Due to these climatic changes also affect all animals, including wild and other animals are affected globally due to climate shift change.

Due to climate warming, the movement of animal species is towards higher latitudes [14]. Marine introduction moves faster than shifting of the oceanic realm continue effect of local society may be great in the same way as the primary cause to. Great biodiversity loss or due to some specific pressure decline in the ecosystem. this range shifting phenomenon is more extreme possible which affects all-natural living range shifting is faster in marine than terrestrial environments [it is believed that marine ecosystem is affected at a faster rate than terrestrial ones Animal species migrate due some climate effects15]. [17]. [12].

Climate change at the global level

Climate change is local, but sometimes it is regional, which is also affected through linked food chains, oceanic flow, and circulation of nutrients. Some animal species are positively affected, while some are negatively affected. Another species is adapted and able to live in that habitat; some are negatively affected due to unavailability of food resources and loss of habitat or due to difficulty

in migration from one place to another due to climatic changes. E.g., rise of temperature, changes in the pattern of rainfall, changes in weather, and humidity. Changes in climate cause extinction of species and decline in species loss, but it is argued that not all species are not affected by the effects of climate change; it may be advantageous to some animal species, like migration in birds to breeding. Purpose. According to scientists, a few species are emerging with new features and behaviours due to change; in climate they are better to the suitable conditions. Climate change occurs more faster, while the evolution of animals is a very slow process. {13}

Melting of Sea Ice

Different animals such as walrus, polar bears, sea and other small animals' arctic ice are acting as a natural habitat for breeding, support, shelter, moulting, resting, and hunting purposes for these animals. due climate change melting of ice natural habitat of these animals. is reaches to danger zone. those animals depend upon ice which plays an important role in public society. The population of animals is in a danger zone without their natural habitat as a shelter [19].

Air pollution

The population of native animals, wild birds, and wild mammals is badly affected by pollution. Industrial pollutants cause disease, bioaccumulation, mortality, physiological stress, etc. Such pollutants, heavy metals, noise, environmental xenobiotics, and change also affect the distribution of wild animals (24).

Water Pollution

Major causes of water pollution are urbanization and the agricultural process. In any aquatic ecosystem, many nutrients, such as phosphorus and nitrogen, are repeatedly added through agricultural and metropolitan activities. This addition is highly regulated and measured. because these inputs which are not coming from any particular origin, so these are versatile due to seasonal effects, and these are known irrelevant sources. The foodstuffs come from different sources, which causes a vast challenge. Any nutrients that come from different aquatic bodies cause oxygen constraints, eutrophication,

toxin-producing plankton, ecological degradation and danger to re origin of important species. by the process of eutrophication drinking water become spoiled, not usable for other purposes such as agriculture, and industry.[25]. Normal physiology of wild species can be disrupted due to the accumulation of pesticides such as organotin, organochlorine. Some of chemical pesticides get accumulated in the bodies of wild birds, marine mammals which can pose towards in risk to survival [26].

Invasive Species

If any living species is found outside of their native zones, which may be averse to plants, living creatures, and other surrounding habitats, they are known as invasive species. Many terms have been used for “invasive,” including “nonindigenous,” “noxious,” “alien,” and “exotic.” Interaction with any alien species may be harmful for human health and other wildlife because it increases competition between indigenous and exotic species for shelter support and food, support, shelter, and other natural resources, which is significant for the survival of organisms [21].

Desertification

Changes in vegetation and climate of any ecosystem phenomenon as desertification [22]. Due to erosion. Particular area becomes useless and is extended into a wide area. due to different activities such as urbanization, overcultivation, cutting of trees, overgrazing, inefficient irrigation and other unsuitable agricultural practices which are responsible for desertification [23]. Many of animal species to migrate, shifting due to climate disturbance of various biogeochemical cycles. Due to desertification decline in production, an uprising of the poor because of the high growth rate of the population so them becoming poor and they exploit land for survival. [22,23]

Roads’ effect on wild fauna

Roads’ effect on terrestrial and deepwater ecosystems is negative. Roads have a major role in overall environmental modification and the introduction of exotic species and the mortality of different groups of animals. Road construction of is a danger to

vertebrates and invertebrates that exist near the road or near the road. vertebrates and invertebrates animal species are both impacted by vehicles or vehicle accidents many of animal activities are also affectivities animal movement, behaviour, failure of breeding success. and other physiological changes. The water content of the soil is to be changed due to road construction. Introduction of exotic species to increase due corridors. due to the construction of roads hunting and fishing activities to rise. Roads affect species distribution and species diversity. [27].

Deforestation

Deforestation is the cutting of trees from forest ecosystems due to different activities like agriculture, industry, development, and grazing, which causes the decline of forests and land, changes forest cover (Constantino), results in the loss of biodiversity, changes the global water cycle, and enhances global warming and the greenhouse effect [32]. Public society plays a major role in the deterioration process when they unlawfully remove of trees used for construction, wood; as a result, it creates an improvement in man and wild conflicts water pollution, land degradation, and habitat loss of habitat [11]. Forests are the large storehouses of wild fauna and flora, e.g., many wildlife and endangered species and 2/3 of all species are contained in tropical forests [32]. and environmental change [1].

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