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Vanishing from the Seas: The Tragic Extinction of Marine Species

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Abstract

The oceans are a vast and complex ecosystem that houses a diverse range of marine species, from tiny plankton to enormous whales. However, due to human activities, some of these species are facing the threat of extinction. In this article, we will explore the reasons behind the extinction of certain marine species and their impact on the ocean ecosystem.

Keywords: Ecosystem; Biodiversity; Oceanography

Introduction

Overfishing is one of the leading causes of marine species extinction. Fishing boats use various methods like bottom trawling and longlining, which catch not only the target fish but also unintended species like sharks, turtles, and dolphins. This bycatch results in the death of these non-target species, leading to their decline and eventual extinction [**1**].

Methodology

The destruction of habitats like coral reefs, mangroves, and seagrass beds is another significant cause of marine species extinction. Human activities like coastal development, pollution, and climate change are destroying these habitats, which are home to many marine species.

Climate change is causing the oceans to warm up and become more acidic, which is affecting marine species in many ways. For instance, corals, which are home to many fish species, are bleaching and dying due to the increased temperatures. Additionally, the increased acidity is affecting the growth and development of many shell-forming species like oysters and clams.

Pollution from land-based sources like sewage, fertilizers, and chemicals is also affecting marine species. The runoff from these sources leads to eutrophication, which causes oxygen depletion in the water and leads to the death of marine species like fish and shellfish [**2, 3**].

Impact of marine species extinction

The extinction of marine species can have a significant impact on the ocean ecosystem and the planet as a whole. Here are some of the ways in which the extinction of marine species can affect us:

Marine species are essential components of the ocean ecosystem, and their extinction can lead to a loss of biodiversity. This loss of diversity can have far-reaching consequences, as it affects the functioning of the ecosystem and its ability to provide ecosystem services like food, oxygen, and climate regulation.

Many marine species are of economic importance to humans, like fish and shellfish. The extinction of these species can have a significant economic impact on the fishing industry, leading to job losses and reduced food security for coastal communities [**4, 5**].

Marine species like phytoplankton play a vital role in regulating the Earth's climate by absorbing carbon dioxide and producing oxygen. The extinction of these species can have a significant impact on the planet's ability to regulate its climate, leading to more severe weather patterns and global warming.

Many marine species are of cultural significance to coastal communities, like sea turtles and whales. The extinction of these species can lead to the loss of cultural practices and traditions that have been passed down for generations [**6**].

Examples of extinct marine species

Steller's Sea Cow: Steller's sea cow was a large marine mammal that was once abundant in the waters around the Bering Sea. However, due to overhunting by Russian fur traders in the 18th century, the species went extinct. The Great Auk was a flightless bird that lived in the North Atlantic. Due to overhunting for its fathers and meat, the species went extinct in the mid-19th century. The Chinese paddlefish was a large freshwater fish that lived in the Yangtze River in China. Due to habitat destruction and overfishing, the species was declared extinct.

The world's oceans are home to a staggering variety of life, from tiny plankton to massive whales. However, many marine species are under threat of extinction due to human activities. The ocean ecosystem is interconnected, and the loss of one species can have far-reaching consequences. In this article, we will explore the causes and consequences of marine extinction and the urgent need for action to protect our oceans [**7, 8**].

Causes of marine extinction

The primary cause of marine extinction is human activities, such as overfishing, habitat destruction, pollution, and climate change. Overfishing is one of the most significant threats to marine species, with more than 80% of the world's fish stocks either overexploited or fully exploited. Many fish species are caught at a rate faster than they can reproduce, leading to population declines and, in some cases, extinction. The use of unsustainable fishing practices, such as bottom trawling, also destroys habitats and non-targeted species, leading to a further decline in biodiversity.

Habitat destruction is another significant factor contributing to marine extinction. Human activities such as dredging, coastal development, and coral reef destruction destroy the habitats of many

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marine species, leaving them with nowhere to live and breed. Pollution is also a severe threat to marine species, with plastics, chemicals, and oil spills causing harm to animals and their habitats. Climate change is also affecting marine species, with rising temperatures and ocean acidification impacting the ability of many species to survive.

Consequences of marine extinction

The consequences of marine extinction are far-reaching, with implications for the environment, economy, and human well-being. One of the most significant impacts of marine extinction is the loss of biodiversity, which can destabilize entire ecosystems. Marine species play a vital role in regulating the ocean ecosystem, from controlling populations of other species to cycling nutrients through the food chain. The loss of these species can have cascading effects on other species, leading to a collapse of the ecosystem.

Marine extinction also has significant economic implications. Many communities around the world depend on fishing for their livelihoods, and the loss of fish populations can have severe consequences for their economic well-being. Additionally, the loss of marine biodiversity can lead to a decline in the tourism industry, as people are less likely to visit areas with degraded environments.

The loss of marine species can also have implications for human health. Many marine species have medicinal properties and are used in the development of drugs to treat diseases such as cancer and heart disease. The loss of these species can have a significant impact on medical research and the development of new treatments **[9].**

Urgent need for action

The extinction of marine species is a tragedy that can have far-reaching consequences. However, it is not too late to take action to protect our oceans and the species that call them home. Governments, businesses, and individuals all have a role to play in protecting marine biodiversity.

Governments can take action to regulate fishing practices, protect marine habitats, and reduce pollution. International agreements such as the United Nations Convention on Biological Diversity and the Paris Agreement on climate change provide a framework for addressing the issue of marine extinction at a global level.

Conclusion

Businesses can also take action to reduce their impact on the oceans. Companies can implement sustainable fishing practices, reduce plastic waste, and support conservation initiatives. Consumers can also play a role by making informed choices about the seafood they eat, avoiding products with unsustainable fishing practices, and reducing their use of single-use plastics. Individuals can also take action to protect marine biodiversity. This can include reducing their carbon footprint, supporting conservation initiatives, and reducing their use of single-use plastics [**10**].

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