

# BIODIVERSITY



## What is Biodiversity?

The health of the Earth's ecosystem depends on species working to survive and grow their respective habitats. Biodiversity is one way to quantify this, as it, "refers to every living thing, including plants, bacteria, animals, and humans. Scientists have estimated that there are around 8.7 million species of plants and animals in existence." (National Geographic) Biodiversity is threatened by a variety of factors, most of which are a direct result of human behaviors.

## Why is it Important?

While the maintenance of Earth's flora and fauna is clearly important, the necessity of individual species variation may not be as apparent. "We value biodiversity for many reasons, some utilitarian, some intrinsic. Utilitarian values include the many basic needs humans obtain from biodiversity such as food, fuel, shelter, and medicine." (AMNH) The intrinsic values stem from the philosophical belief that every species has the indelible right to live.

An important part of the utilitarian aspect are the various economic benefits. Assigning the financial value to biodiversity can seem cold, but it gives a clearer indication of how much value it is providing people. It is estimated that, "...biodiversity provides a total of \$319 billion dollars in annual benefits and \$2,928 billion in annual benefits worldwide." (Conservation Tools) This economic value is generated from pharmaceutical innovations, pollination and a decreased need for pesticides due to diverse competition.



# Threats to Biodiversity

Understanding the threats to biodiversity can help conservation efforts. The underlying causes of biodiversity loss are mostly due to human consumption, including, “Pollution, climate change, and population growth [which] are all threats to biodiversity. These threats have caused an unprecedented rise in the rate of species extinction. Some scientists estimate that half of all species on Earth will be wiped out within the next century.” (National Geographic) Conservation is vital to prevent further loss of biodiversity, but there are other ways to help mitigate this damage as well.

## How Can We Help Protect Biodiversity?

With millions of acres of rights-of-way (ROW) in the United States, they can help provide valuable habitats. Integrated vegetation management (IVM) creates a haven for native herbaceous vegetation and wildlife. This is achieved by controlling the growth of invasive plants and providing enhancements such as nesting boxes and brush piles to attract certain wildlife species. IVM can contribute specific environments for species of interest, such as those categorized as threatened and pollinators.

As human behaviors are the largest cause of biodiversity loss, it is worth thinking about how we can positively contribute to promoting it. Our actions have power, as “...the lifestyle choices of individuals and communities can have a large effect on their impacts on biodiversity and the environment.” (AMNH) Engaging in sustainable practices can help the environment at large, while more local, small-scale involvement such as reducing invasive species in your landscaping can evoke positive change.

### Work Cited

“Biodiversity & Human Well-Being.” 1. Biodiversity: What Is It, Where Is It, and Why Is It Important?, [www.greenfacts.org/en/biodiversity/l-3/1-define-biodiversity.htm](http://www.greenfacts.org/en/biodiversity/l-3/1-define-biodiversity.htm).

“Economic Benefits of Biodiversity.” Conservation Tools, [conservationtools.org/guides/95-economic-benefits-of-biodiversity](http://conservationtools.org/guides/95-economic-benefits-of-biodiversity).

National Geographic Society. “Biodiversity.” National Geographic Society, 5 June 2019, [www.nationalgeographic.org/encyclopedia/biodiversity/](http://www.nationalgeographic.org/encyclopedia/biodiversity/).

“What Is Biodiversity?: AMNH.” American Museum of Natural History, [www.amnh.org/research/center-for-biodiversity-conservation/about-the-cbc/what-is-biodiversity](http://www.amnh.org/research/center-for-biodiversity-conservation/about-the-cbc/what-is-biodiversity).

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