



Pennsylvania Biodiversity Partnership

What Is Biodiversity

What is Biodiversity?

Biodiversity is the variety of species, their genetic make-up, and the natural communities in which they occur. It includes all of the native plants and animals in Pennsylvania and the processes that sustain life on Earth. Pennsylvania is home to over 25,000 different species of organisms, and of this total, over 800 are considered to be rare, threatened, or endangered. For many groups of organisms, such as insects, fungi, and algae, very little is known about them - not even what species occur in Pennsylvania! The need to understand the state's rich natural resources has never been more critical.

The term ecosystem is defined as a community of living organisms combined with their associated physical environment. It is our "home system" that makes life possible. Ecosystems are the full tapestry of nature that support life and they also provide valuable services.

- Wetland ecosystems filter out toxins, clean the water, and control floods.
- Estuaries act as marine-life nurseries.
- Forest ecosystems supply fresh water, provide oxygen, control erosion, and remove carbon from the atmosphere.

Many species, working together, are needed to provide these critical services. The loss of biodiversity reduces nature's ability to perform these functions. As greater fluctuations occur, ecosystems as a whole become less stable. Instability causes ecosystems to be more vulnerable to extreme conditions and may also decrease productivity.

Why is Biodiversity Important?

While the term "biodiversity" may not be well known or understood, the ecological services provided by biodiversity are vital to everyday life. Not a day, hour, or even second goes by that we do not depend on biodiversity for survival.

- The air we breathe is a product of photosynthesis by green plants.
- Insects, worms, bacteria, and other tiny organisms break down wastes and aid in the decomposition of dead plants and animals to enrich soils.
- More than 90 percent of the calories consumed by people worldwide are produced from 80 plant species.
- Almost 30 percent of medicines are developed from plants and animals, and many more are derived from these sources.

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