

# The Interconnectedness of Trees and the Ecosystem: A Closer Look

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## Perspective

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### ABOUT THE STUDY

Trees provide a variety of benefits to the environment and wildlife, including acting as a support system for other plants and animals. In fact, trees are often referred to as keystone species, meaning they play an essential role in maintaining the balance of an ecosystem.

One of the most noticeable ways that trees act as a support system is by providing physical support to other plants. Many vines and epiphytes, or plants that grow on other plants, rely on trees for structural support. Without trees, these plants would be unable to reach sunlight and would not be able to grow and reproduce. In turn, these plants can provide additional benefits to the ecosystem by providing food and shelter for other organisms.

Trees also support a variety of animals, from birds and insects to larger mammals. Many bird species build their nests in the branches of trees, while insects like bees and butterflies rely on trees for food and shelter. Larger animals like monkeys and sloths also rely on trees for food and shelter, and some species even use trees as a form of transportation, swinging from branch to branch.

In addition to providing physical support, trees also play a crucial role in regulating the environment. They absorb carbon dioxide from the atmosphere and release oxygen, helping to reduce the amount of greenhouse gases in the air. Trees also help to regulate the water cycle by absorbing and filtering rainwater, helping to prevent erosion and flooding.

Unfortunately, trees are under threat from a variety of human activities, including deforestation, urbanization, and climate change. As trees are lost, the ecosystem loses an important support system, and many species are left without the resources they need to survive.

The factors causing the trees demise are called Biotic and Abiotic. Abiotic factors include air pollution (acid rain) de-icing salt from roads, can be weather related floods and drought. Biotic factors are include pathogens, (any microorganism bacterium or virus that causes disease) pandemics such as Dutch elm disease, Ash dieback, sudden oak death, fungi, insects and animals, especially humans.

From my point of view I would say that the greatest pathogen of them all is Honey fungus (Armillary mellea) it is the most common form of tree death I know of. I would go further and suggest that we called this fungus the” natural predator”. It is truly awesome; it reproduces sexually through fruiting bodies releasing billions of basidiospores and more importantly asexually through rhizomorphs. Another common name for A. mellea is bootlace fungus; this refers to the rhizomorph simply because it looks like a black bootlace. A useful aid to identification, it is present all year round and is distinguished from all other fungi.

To combat these threats, it is important to protect and conserve existing forests, as well as to plant new trees. By doing so, we can help to maintain a healthy and diverse ecosystem, providing support for a wide range of plants and animals. We can also help to mitigate the effects of climate change by reducing the amount of carbon dioxide in the atmosphere.

Trees are an essential part of the ecosystem, acting as a support system for a wide range of plants and animals. By protecting and conserving existing forests, as well as planting new trees, we can help to maintain a healthy and diverse ecosystem, providing support for a wide range of species.