

The Role of Individual Species

by Sophia



WHAT'S COVERED

In this lesson, we will cover the topic of the role of individual species. We will discuss two different perspectives on the value of species: ecosystem services and intrinsic value. We will also explore the value of species in relation to the importance of biodiversity. Specifically, this lesson will cover the following:

1. The Value of Species: Ecosystem Services

Species can be valued in two ways. The first perspective is that they can be valued for the ecosystem services that they provide. You may recall that ecosystem services include the services mentioned in the table below.

| Ecosystem Service | What It Provides |
|-----------------------|--|
| Provisioning services | Food, fiber, fuels, fresh water, and medicine |
| Regulating services | Climate regulation, water purification, and pollination |
| Cultural services | Religious or spiritual value, recreation, educational use, and aesthetic value |
| Supporting services | Nutrient cycling, formation of soil, and production of energy from sunlight |

Species that can perform one or more of these services, especially if no other species can, are seen as valuable and are preserved.

➔ **EXAMPLE** Significant efforts have gone into the protection of certain keystone species, such as the mountain lion. Mountain lions manage the population of multiple species and keep ecosystems in balance so that many ecosystem services can be provided. Within this perspective, therefore, the mountain lion is valuable and must be protected.

2. The Value of Species: Intrinsic Value

The second perspective is intrinsic value, meaning that the environment is seen as valuable, not as a means to an end, but as an end unto itself. It is valuable because it exists.

➔ **EXAMPLE** Someone with this perspective might find value in wilderness areas that have no human use because they are intrinsically valuable.

This viewpoint means that the environment is seen as worth protecting, regardless of its value for human use, and it also means that all species are valued equally and should be protected as such.

3. Importance of Biodiversity

In addition to the individual value of a species, their existence contributes to overall biodiversity, which is an important piece of what keeps ecosystems healthy and balanced, and inevitably provides ecosystem services for humans. Biodiversity can also be seen as being valuable from an intrinsic standpoint.

IN CONTEXT

The importance of biodiversity can be illustrated by considering the impacts within an ecosystem if biodiversity decreases.

For example, if a species of wolves were to decrease in population or disappear, an important system of population management would vanish. The result would set off a chain reaction of effects that would threaten or make other species go extinct. Over time, as biodiversity declined, the balance and health of the ecosystem would decline along with it, providing fewer ecosystem services for humans. The ecosystem as a whole might fail or take many years to recover.



SUMMARY

In this lesson, we learned about two different perspectives on the **value of species: ecosystem services and intrinsic value**. We also learned how the existence of species contributes to overall

biodiversity, which is an important part of keeping ecosystems healthy and balanced and provides ecosystem services for humans.

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