Conservation Biology and Restoration Ecology

by Sophia

WHAT'S COVERED

In this lesson, we will discuss conservation biology and restoration ecology. We will define both terms and explore the role each plays in maintaining biodiversity within ecosystems. Specifically, this lesson will cover the following:

1. Conservation Biology

Conservation biology is the study of impacts to biodiversity with the intention of conserving it.

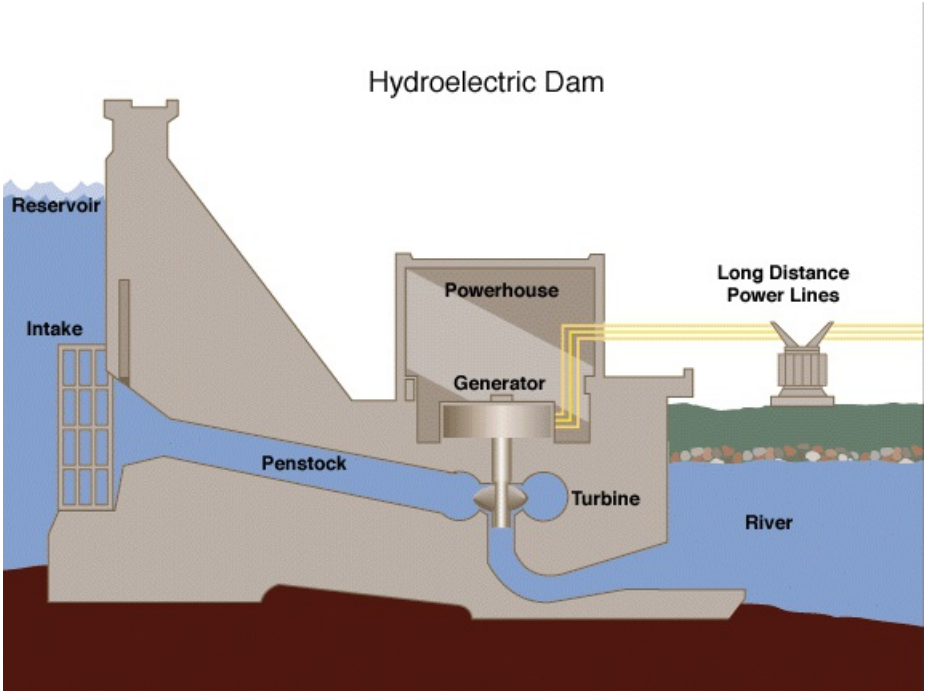
HINT

Conservation means the protection and management of natural resources.

The physical structure of a landscape can heavily influence biodiversity. If habitat fragmentation occurs, which is when a habitat is destroyed and separated into smaller and smaller patches for the sake of human development and use, biodiversity tends to decline.

Corridors connecting habitat patches can be created or protected by conservationists to preserve biodiversity. Conservation biologists often aid in establishing protected areas in order to slow the loss of biodiversity. Challenges to species conservation are often conflicts between the habitat needs of species and human use of the land.

↱ EXAMPLE Consider dams and salmon migration. Salmon migrate seasonally for reproductive reasons, swimming upriver to lay their eggs. However, humans build dams (see diagram below) to control water resources and create hydroelectric energy sources. This blocks salmon migration and fragments their habitat, which can drastically reduce their population.



2. Restoration Ecology

Restoration ecology is the study of the distribution and abundance of organisms and their interaction with the environment, with the intent to determine ways to restore damaged or destroyed ecosystems.

> ↱ EXAMPLE Let's return to the previous discussion of salmon migration. A restoration ecologist might determine that the decline in salmon populations is because of the dam. They might also note that bear populations in the area are impacted by the decline in salmon populations. A restoration ecologist might then suggest that dam removal or relocation of a salmon species could restore an ecosystem to homeostasis.

SUMMARY

In this lesson, we learned about **conservation biology**, which is the study of impacts to biodiversity with the intention of conserving it. We also learned about **restoration ecology**, which is the study of the distribution and abundance of organisms and their interaction with the environment, with the intent to determine ways to restore damaged or destroyed ecosystems.

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