

# Native and Non-Native Species: Impacts of Invasive Species

by Sophia



## WHAT'S COVERED

In this lesson, we will discuss native and non-native species. We will learn about the two different categories of species, the causes of the introduction of invasive species, and their impacts. Specifically, this lesson will cover the following:

## 1. Native Species

Within an ecosystem or environment, species can be categorized as being either native or non-native. Every species is native to some environment somewhere—a place where that species adapted and evolved over time to that ecosystem's predators, competitors, and limiting factors. As long as a species remains in the environment it originally adapted to, it is considered native.

You may recall that a habitat is the area that a particular species inhabits. A niche is all the biotic and abiotic factors that influence a species. A native species, therefore, occupies specifically adapted habitats and niches in its indigenous environment. This allows for ecosystem balance and keeps the population of that species stabilized.

It is important to note that human disturbances can remove the competitors or other limiting factors of some native species and lead to an overabundance of that species.

➞ **EXAMPLE** The killing of wolves allows deer populations to soar.

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## 2. Non-Native Species

Non-native species, also called exotic, introduced, or invasive species, are species living outside the environments they originally adapted to. This may have happened accidentally or intentionally from human activities.

In particular, invasive species are non-native species that are introduced to new environments and end up spreading and adversely affecting habitats and biodiversity. This is made possible because invasive species often have few natural predators, competitors, parasites, or diseases outside their original environment. The result is high birth rates and low death rates, allowing them to quickly take over, like the Japanese knotweed

shown below.



Domesticated species, such as pets, livestock, and certain game animals, are often considered non-native because if or when they escape their domesticated environment, they often become invasive.

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## 3. Introduction of Invasive Species

Exotic or non-native species are often introduced to a new environment accidentally by:

- Escaping from zoos or botanical gardens
- Escaping from domesticated agricultural environments
- Escaping from fish farming
- Escaping pets
- Released ballast from ships

➞ **EXAMPLE** Two such incidences include purple loosestrife, a plant that escaped from botanical gardens, and English ivy, which was imported as an agricultural ground cover and quickly became invasive.

Other pathways for species introduction include medicinal species imported for health benefits and accidental pollen transported in travelers' clothes and belongings.

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## 4. Impacts of Invasive Species

Many invasive species, such as sparrows, starlings, water hyacinth, and nutria, have also been introduced

intentionally by people not knowing the potential impacts.

➡ **EXAMPLE** Kudzu was planted by the U.S. Soil Conservation Service to reduce soil erosion, and it wasn't until a decade later that people realized it was invasive to the point of smothering many native plants.

➡ **EXAMPLE** The Norway maple was planted as a shade tree but quickly displaced many native maples and overshadowed wildflowers.

Remember, non-native species that adversely impact their new environment by altering the balance of their ecosystem in negative or catastrophic ways are termed “invasive species.”

The impacts of invasive species include the following:

- Displacing, killing, endangering, or threatening native species
- Reducing overall ecosystem health and productivity
- Threatening ecosystem biodiversity
- Causing a loss of forest and agricultural products
- Exposing humans and ecosystems to unknown pathogens



## SUMMARY

In this lesson, we learned about two different categories of species: **native species** and **non-native species**. We discussed the causes of the introduction of non-native species, otherwise known as **invasive species**, as well as the **impacts of invasive species**.

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