

Grassroots Environmental Education
Kids Discovery Series
Module Seven: Native Species vs. Invasive Species
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Whether you know it or not, there's a competition going on in nature, right in front of your eyes. There are no gold medals in this competition, but there are winners and losers. The contestants? Plants and animals that have been here living happily for centuries versus plants and animals that are new in town and are growing out of control. Who will win?

What are native species?

Each different kind of plant or animal is called a "species." Those that have been in a particular place for centuries are called "native species."¹

If you go to a different continent, you might see totally different animals. Polar bears live only in the arctic, and camels live only in deserts.

The same is true for plants; the plants in California are not the same plants that grow in New York, or France, or Japan. While the plants might have similarities, with flowers of similar colors or leaves of similar shapes, if you look closely you can see differences. They have different shapes, sizes, and colors because they have grown up to fit in or "adapt" to their particular environment.

Animals and plants have their special places in nature where they feel comfortable. This is what makes a plant or animal native to that place: they've grown up there and their species has been there for a really long time. It's their home.

But what happens when those plants or animals get moved to a different place?

Non-Natives

If you've ever had to move to a new home in a new town, you know that change can be difficult. You leave your old friends behind and meet new people, and then, over time, you eventually feel comfortable and settle into your new place.

People also move plants and animals to new homes. Sometimes they move them because they like seeing exotic flowers in their garden, or maybe they released their exotic pet snake into the wild, or maybe plants or animals got moved by accident, like if they got stuck in a shipping crate.^{2,3,4}

Sometimes the new homes they find themselves in are really far away from their old homes. And the new homes are nothing like the native homes they came from. They may even be on a new continent!

This is kind of like bringing a polar bear to Florida. The polar bear has only ever known cold temperatures and lots of ice; it isn't going to do well on a hot beach. The same thing goes for plants; a lot of plants from tropical areas, like palm trees, aren't going to grow well in the cold winters of New York or New England. Many of the plants and animals that move far from their native homes don't do very well.⁵

Invasives

But there are other plants and animals that are moved by people to a new place and they do really, really well – actually, too well. They love it!

Maybe they had predators (things that ate them) back in their old home, and the new home doesn't have any predators.⁶

Or maybe the new home has more light for them to grow, or more new foods for them to eat. Because they like this new home so much, they grow, reproduce, spread, and sometimes they take over.⁷

However, there's a big downside to this takeover. This non-native plant or animal can upset the "balance of nature." When these animals and plants take over and crowd out native species or otherwise cause harm to the environment, they are called "invasive."⁸

One thing that makes the environment healthy is having a lot of different kinds of plants and animals in it. This is known as "biodiversity."⁹ Biodiversity is important not only because it's nice to have a variety of species and a natural balance of predators and prey, but because having a lot of different species helps the environment recover if a natural disaster happens.

But invasive plants harm biodiversity.¹⁰ In many places in the world, there are so many invasive plants and animals that the plants and animals that are native – that have been there for ages and call the place their home – are being crowded out, and it's harder and harder to find them.

Examples

You've definitely seen some invasive animals before. One example is earthworms. There are no native earthworms in most of the United States.¹¹ All the earthworms that we see here were brought from other places for farming, or they tagged along in the soil with plants that came from places like Asia.

Earthworms change the soil wherever they are, and while one little earthworm doesn't make a big difference, a lot of earthworms can make big changes to the soil, and that changes what kinds of plants will grow well there.

And you've probably seen some invasive plants, but maybe you didn't know it. There's this invasive vine called "Kudzu" that is a big problem in the southern U.S.¹² They call it "the vine that ate the South," because that's exactly what it looks like it's doing: it's like a blanket of tangled leaves the size of a house, covering all the bushes and trees in sight.

There are other crazy invasive plants like Japanese Knotweed, that are so strong that they can grow through concrete, and are very hard to remove permanently.¹³

What you can do

Native species are in a competition with invasive species all over the world, and most of the time, invasive species are winning. But there are things people can do to help the native "team" win.

People that try to save native species and control invasive species talk about it like it's a battle. That's because these invasive species are hard to control – they grow really fast, or spread really fast – sometimes faster than humans can keep up with.¹⁴ But more and more people are helping because keeping our native species and protecting the biodiversity of the environment is important.

One big way to help is to plant native plants for your area, and to prevent invasions from happening in the first place. You can do this by making sure you're not

transporting invasive seeds or plants without meaning too, and by not releasing exotic pets like turtles and goldfish into the wild.¹⁵

Learning about how everything in nature is connected and the important part you can play makes a big difference.

Review Questions:

- 1.
- 2.
- 3.

Links for kids

[Native Species](#)

[DEC sheet](#)

[Biodiversity](#) definition

[Biodiversity facts and games](#)

[Kudzu](#)

1. "[Native Species: Definition & Examples](#)," Published on Study.com November 9, 2015.
2. "[Lonicera Japonica](#)," Published by the University of Florida Center for Aquatic and Invasive Plants.
3. "[Burmese Python](#)," Published by the United States Department of Agriculture.
4. "[Emerald Ash Borer Beetle](#)," Published by the United States Department of Agriculture.
5. "[Tens rule](#)," Published in Invasion Biology, Hypotheses and Evidence.
6. "[Testing the enemy release hypothesis: a review and meta-analysis](#)," by Hong Liu and Peter Stiling. Published in Biological Invasions, October 2006.
7. "[Stages of Invasion](#)," Published by Rewilding North America.
8. "[Invasive Species: How They Affect the Environment](#)," by Jacob Hill. Published on Environmental Science.org
9. "[Biodiversity facts for kids](#)," Published by Kiddle.
10. "[Invasive Species](#)," by Mark McGinley. Published by Encyclopedia of the Earth.

11. "[The Trouble with Earthworms](#)," Published by NPR, March 23, 2007.
12. "[What is Kudzu?](#)" Published by Wonderopolis.
13. "[Oh, No, Not Knotweed!](#)" by Henry Grabar. Published in Slate, May 8, 2019.
14. "[Non-native Invasive Plants- an Introduction](#)," Published by the University of Florida Center for Aquatic and Invasive Plants.
15. "[Invasive Species: What You can do to help stop the spread!](#)" Published by NYS Department of Environmental Conservation.