

Every ecosystem has species that are considered native to it. Native species refer to organisms that have developed and evolved in a particular environment over thousands of years- they were not introduced from other areas. Organisms are considered native to a specific area (i.e. native to Indiana). Invasive species are organisms that were introduced to a habitat where they was not previously found. They do not have to come from other countries. Invasive species are generally spread by human activities, often unintentionally. Humans can accidentally pick up and transport species through the following methods:

- Ships: Aquatic organisms can be found in the ballast water in the bottom of ships (or attached to the hull)
- Wood: Insects can get into the wood in crates and boxes
- Plants: Taking plants from one area to another could allow those plants to spread into the wild.
- Pets: Some invasive species began as exotic pets that escaped into the wild (I.e. Burmese pythons are becoming a big problem in the Everglades)

A key feature of invasive species is that they grow, reproduce and spread throughout the ecosystem quickly and aggressively, often harming the native species in the process. Invasive species are one of the leading threats to native wildlife. 42% of Threatened or Endangered species are at risk from invasive species. Because invasive species are from a different area, they do not often have predators in their new habitats. Without predators, they are able to breed and spread quickly, often taking over the environment. Native species may not have evolved defenses against the invasive species and can quickly become endangered when preyed upon by the invaders. Invasive species pose the following threats:

- Preying on native species
- Out-competing native species for food or other resources
- Causing or carrying disease that native species are not immune to
- Preventing native species from reproducing or killing the native species young
- Changing food webs by destroying or replacing native food sources → the native species may not be able to eat the invasive species
- Decreasing biodiversity: Because of their aggressive nature, the invasive species can take over an ecosystem, creating a monoculture (ecosystem with just one species)
- Altering ecosystem conditions: Some invasive species can change ecosystem conditions by changing water or soil chemistry (pH) or increasing the intensity of wildfires

Invasive species can also impact human health and our economies- we spend billions of dollars each year working to contain invasive species. They can introduce new diseases that we are not immune to. Invasive plants can clog and choke waterways, making it difficult and dangerous for boats to pass. Invasive barnacles, mussels and clams can attach to boats and other water structures. They are often difficult and expensive to remove. When plants invade livestock pastures and crop fields, they destroy food for the livestock and destroy the crops.

Invasive Species Questions

1. Define native and invasive species.

- Native species: _____

- Invasive species: _____

2. What is the most common way that invasive species are spread? _____

3. Explain 4 ways that invasive species are spread by humans.



- _____
- _____
- _____
- _____

4. Why are scientists concerned about invasive species? _____

5. Summarize 3 ways that invasive species affect the environment.

- _____
- _____
- _____

6. Describe 2 ways that invasive species affect humans and the economy.

- _____
- _____

State Invasive Species Project

- **Essential Question(s):** What invasive species are found in your state, and what can you do to help increase the awareness of invasive species issues?
- **Task:** Have students select an invasive species found in their state that is considered a “[State Specific Threat](#).” After selecting a species, guide students to design and create a multimedia educational outreach product (Google Slide Presentation) that will increase public awareness about the species they selected.

<https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/journeywithnature/invasive-species-3.xml>

1. Slide 1: Title, Names, Class Period
2. Slide 2: Discuss what it means for a species to be invasive.
3. Slide 3: Identify and describe the invasive species of your choice.
4. Slide 4: What is its native range and habitat?
5. Slide 5: Explain how your choice of invasive species was introduced to the US and what risks were overlooked in bringing this species to the US?
6. Slide 6: What environmental impact have the species had on native species?
7. Works Cited: ALL (ABSOLUTELY EVERY) sites used for information, pictures, etc. need to be cited.

5 points per slide

Total: 35 Points

Additional requirements for Pre Ap



- Identify general characteristics that invasive species need to survive.
- If given the opportunity to spread, what environmental issues will occur?
- Illustrate the spread of the invasive species in the US.
- Design a solution for reducing the impact of the invasive species on the environment and biodiversity in the affected areas.
- Develop a model of how your solution to prevent the spread of your species could possibly solve or improve the environmental issue. Be creative in your approach to developing your model. Work as a team to plan the needed materials and construction of your model.