

Possible Answers to the Reflection Questions

Note to Educator: The purpose of the Reflection Questions is to encourage students to think critically about what they have read. The following “answers” are only suggestions to assist you in using these questions in the classroom. You may use the student answers to these questions as an informal assessment tool.

Introduction

How do you think the behavior of a native earthworm changes when an invasive earthworm species moves into its habitat?

Invasive earthworms consume large amounts of leaf litter, which covers the forest floor. Native earthworms also feed on leaf litter. With less food available, native species of earthworms may have to move to a new location where food is more abundant in order for them to survive.

Why it is important for scientists to determine whether an invasive species has invaded a natural area?

Invasive species can cause harmful changes to natural environments. It is important for scientists to understand these impacts so that they can help find ways to reduce impacts.

Method

Do you think the scientists trapped the types of earthworms that live below the surface of the ground or those that live in the leaf litter that covers the forest floor? Why?

The majority of the earthworms collected by the scientists were earthworms that live in the leaf litter that covers the forest floor. As suggested by figure 3, pitfall traps lie flush with the ground just below the leaf litter. Only earthworms crawling on the ground would be able to enter the trap.

Why did the scientists identify the species of each earthworm they collected?

The scientists identified the species of each earthworm they collected to determine if there were greater numbers of native earthworm species or invasive earthworm species. The scientists also needed the information to determine which types of invasive species they were collecting.

Findings

Invasive species like *Amyntas agrestis* are often introduced to natural areas through the activities of people. List two activities you think would result in moving *Amyntas agrestis* to new locations.

Students should consider activities such as moving soil from one location to another, using worms for fish bait, and soil getting stuck on tires.

Do you think the scientists were surprised at their findings? Why or why not? (Hint: Reread the second paragraph of the Introduction.)

Yes, the scientists should have been surprised because they believed they would find native earthworms in undisturbed forest soils.

Discussion

Would decreased amounts of leaf litter affect other animals living in the forest? How?

Yes. Decreased amounts of leaf litter can lead to changes in native vegetation, which in turn can result in decreases in the kinds and amounts of food that are available for wildlife. Decreased depths of leaf litter also result in less cover for small animals to use when avoiding predators.

Pretend that you are the forest manager for an area of forest that has been invaded by invasive earthworms. What are some things you could do to stop or slow the spread of these earthworms into your forest?

Educate anglers about the impact of discarding their unused fishing bait on the ground. Suggest alternative types of bait for anglers to use or encourage them to buy from places that sell native species of earthworms as bait. You could post this information on signs, brochures, and bulletin boards.

Number Crunches

Based on the graph above, how many earthworms were identified as invasive species if the scientists collected a total of 628 earthworms? **471**

How many were identified as native species? **157**

Based on your answers to the previous questions, how many earthworms collected by the scientists were *Amyntas agrestis*? **452** (answer is rounded)

How many were identified as other species of invasive earthworms? **19** (answer is rounded)

If a total of 628 earthworms were collected, what was the average number of earthworms collected each month? **126** (answer is rounded)

What was the average number of invasive earthworms collected each month? **94** (answer is rounded)