Species and Sprawl: A Road Runs Through It

As the suburbs flourish, animals struggle to survive.

Recall the Ecology Disrupted curriculum learning goals:

1. Human daily life can disrupt ecological function leading to environmental issues.
2. Scientists can collect data to investigate human impact local ecology.

Students watch additional Science Bulletins videos to learn about how human daily life can affect ecological function, and to pull out the ecological principles. An introduction to the video and background information are provided below.

While watching the Bulletins they will complete a graphic organizer with the following questions:

1. How have people changed the habitat in this example?
2. Why do people change the habitat? How does it help us?
3. How do the habitat changes impact populations in this area?
4. How do you know that the habitat is being changed and that local populations are affected? Describe the evidence or data.
5. Suggest how to solve this problem.

Introduction

"Have you ever seen turtles in New York City parks? You can find them resting on logs in Central Park and Prospect Park. If you had to describe a turtle what words would you use? Have you ever heard the story of the Tortoise and the Hare? Yes, turtles are slow and this can be a problem when they are trying to cross a road. We are going to watch a *Science Bulletin* video about the plight of turtles and roads. Get ready to fill out your graphic organizers."

Background Information

Biology: Wood turtles are a North American species of turtle that prefer wooded areas even though they are semi-aquatic. They grow to be 9 inches long.

History: Wood turtles were extremely common in the 19th century in the lower Connecticut Valley. Exact numbers are not known, but there are many anecdotes that describe people being able to collect over a hundred turtles within a few square miles. These turtles were able to move freely within their habitat.

Impact of Suburban Sprawl: Suburban sprawl is the term used to describe how people are spreading out across the landscape by building new single- family homes, new roads, and malls. The roads, homes, and malls associated with sprawl often disrupt ecosystems and fragment wood turtle populations. Cars and other motor vehicles have decimated the wood turtle, leading to a drastic decline in the number of wood turtles.

Research: Scientists have begun to track the healthiest wood turtles to gauge their habits, so as to devise ways to protect the remaining wood turtles from the impact of suburban sprawl. The roads cut the wood turtle habitat in two, forcing turtles to cross roads to reach

breeding pools or meadows that they need to live. Scientists are tracking habitats that are still intact in order to protect them.

NYC Connection: New York City has such a high population density that it is in many ways the opposite of suburban sprawl. Everything in the City is close together, and many people use public transportation or walk instead of using cars like in Massachusetts. People living in densely packed cities like NYC help protect even more land from being developed.