

Light Pollution: Beyond the Glare

Light reflected off cars, buildings, and roads can derail wildlife..

Recall the Ecology Disrupted curriculum learning goals:

- Human daily life can disrupt ecological function leading to environmental issues.
- 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. What abiotic factor(s) have people changed and what is the impact on the biotic factors in the ecosystem?
2. What is the evidence/data for your conclusion?
3. How has daily life contributed to this change and how is it affected?
4. What are possible solutions?

Introduction

"Raise your hands if you use lights at night. What about admiring the NYC skyline at night? New York City produces a lot of light. We are going to watch another Science Bulletin. This one will be about light pollution. Get ready to fill out your graphic organizers."

Background Information

Artificial light can disrupt many species because it mimics natural light. This Science Bulletin is based on work done by a group of Hungarian and American scientists who studied the impact of polarized light. Natural light oscillates in many directions, but in polarized light many of the waves are oscillating in the same direction. Polarized light is dangerous because it mimics light bouncing off of water sources. Aquatic insects that normally lay their eggs near water sources are tricked into laying their eggs on roadways and other reflective surfaces, which decrease the size of these populations because the young insects die without food and shelter that the water provides. Their deaths disrupt food webs that depend upon these aquatic insects.