

Lesson 7: Becoming Schoolyard Stewards

Objectives

- Evaluate schoolyard as habitat for wildlife using camera trap data as evidence
- Discuss human impacts on Earth resources and wildlife
- Develop recommendations for your schoolyard habitat
- Brainstorm strategies for students to alleviate human impacts on Earth resources and wildlife

Timing and Implementation: 60 minutes. Complete lesson after camera deployment and photo uploads.

Materials:

- Pollution Probe Worksheet for Students
- Clipboard and pencils

Introduction and Background:

A key part of wildlife management is understanding how animals and humans impact one another. This allows scientists to manage wildlife to protect humans and to ensure the survival of species.

Procedure

1. Discuss how people influence wildlife through the lens of your schoolyard habitat. Review how humans impact water, soil, and air.
 - *What seems to be good (or not good) about our schoolyard for wildlife?*
 - *Is there anything that we are doing that may negatively or positively impact animals in our schoolyard habitat?*
 - *Do the individual animals use other habitats or do they only live at our school? What are factors outside of the school habitat that may impact wildlife?*
 - *Why does the health of humans and wildlife require monitoring of atmosphere, water, and soil?*
2. Students will go outside to investigate human impacts in their schoolyard. Divide students into teams and have each team fill out a Pollution Probes worksheet.
3. Inside, discuss with students strategies to improve your schoolyard wildlife habitat and reduce pollution. Use the Pollution Probe Answer Key to help you. *Discussion starters:*

- *Did you notice ways in which people affect the air, water, and soil around the school?*
- *What can we do about the impacts we found around our school?*
 - *Talk to parents, staff, administrators, encourage them to develop more eco-friendly habits. Use the bus or carpool to school. Develop campaigns to educate people. Write to government officials for issues beyond the schoolyard.*
- *How do the impacts we identified affect animal health? For human health?*
 - *A classic example is [the impact of the pesticide DDT on bald eagles](#).*
- *How can we help animals?*
 - *Students may say put out food for animals to increase their numbers, however, this can backfire. For example, with black bears, when they are fed by humans they become bolder and can even be more aggressive and break into people's cars and homes looking for food. The NCCC recommends not to feed wildlife directly. Rather students can improve habitat for wildlife through a variety of ways:*
 - [Going Native: Urban Landscaping for Wildlife with Native Plants](#)
 - [Inviting Reptiles and Amphibians to Your Backyard](#)
 - [Certifying habitat for wildlife](#)
- *How do scientists know when to become concerned about an animal?*
 - *There are different criteria set by countries (for the US, the United States Fish and Wildlife Service) or organizations such as the International Union for the Conservation of Nature's (IUCN) Redlist. Factors usually are based on population declines, the original size of the population, and how fast the population has declined.*

4. Have students brainstorm ways they think that wildlife should be managed to maintain ecosystems and human safety. To learn more about wildlife management options refer to [Tarheel Wildlife](#) page 10-13.

Evaluation: Homework.

- Have students interview parents to discuss their views of wildlife and conservation and write up their parent's responses and their own opinions in regards to what they have learned in class.

Pollution Probes

It's time to investigate how human activity can impact the health of wildlife around your school. Walk around your school and write down anything you observe that may affect the air, water, or soil. After identifying impacts, offer potential solutions to these problems so we can be better stewards for our schoolyard wildlife and the environment!

Resource	Impacts	Solutions
Air	<ul style="list-style-type: none">• Car/bus emissions	<ul style="list-style-type: none">• Avoid idling vehicles - educate students and parents
Water		
Soil		

Pollution Probes Answer Key

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Resource	Impacts	Solutions
Air	<ul style="list-style-type: none"> • Car/bus emissions • Animal manure from agricultural activity • Misapplication of fertilizers • Volatile Organic Compounds (VOC) from painting 	<ul style="list-style-type: none"> • Avoid idling vehicles - educate students and parents • Use methane emitted from decomposing animal manure as electricity • Make sure fertilizers are properly applied and are not applied on days of improper weather conditions • Use VOC free paint
Water	<ul style="list-style-type: none"> • Litter, especially plastics that don't biodegrade • Erosion of sediment into waterways • Runoff carrying chemicals • Sewage runoff • Fertilizer/pesticides runoff from agricultural activities 	<ul style="list-style-type: none"> • No litter campaigns • Pick up litter/recycle • Plant native vegetation to prevent erosion • Rain gardens • Plant larger riparian, or vegetation, buffers between impervious surface or agricultural activity and the waterway.
Soil	<ul style="list-style-type: none"> • Litter • Gasoline tank spills • Mining • Construction • Agriculture - overuse of pesticides or fertilizers • Leaking of toxic chemicals from vehicles • Paint chips from buildings 	<ul style="list-style-type: none"> • No litter campaigns • Pick up litter/recycle • Use biodegradable or less toxic alternatives • Use Best Management Practices to reduce erosion of fertile soil • Minimize overuse of pesticides or fertilizers • Avoid idling vehicles • Cleanup paint chips from buildings and repair quickly