



## Schoolyard Stewards: Educator Handout

### OVERVIEW

A key component of wildlife management is understanding the impact that humans have on their surrounding environment. In this activity students will begin to explore the human impacts that their school yard is experiencing from air, soil, and water pollution.

### LEARNING OBJECTIVES

- Evaluate schoolyards as habitat for wildlife
- Discuss human impacts on the Earth
- Develop recommendations for your schoolyard habitat
- Brainstorm strategies for students to alleviate negative human impacts on the Earth

### CURRICULUM CONNECTIONS

Curriculum	Standards
Wisconsin's Standards for Science	SCI.CC7, SCI.LS2.A, SCI.LS2.C

### TIME REQUIREMENTS

60 minutes

### SUGGESTED AUDIENCE

This lesson plan is appropriate for grades 5 and up. Depending on the age of students, more complex discussion questions can be supplemented, or you can add group/individual projects to remediate school yard pollution

### PRIOR KNOWLEDGE

Air pollution, soil pollution, water pollution, human impacts, endangered and threatened species

### TEACHING TIPS

- If you are hosting a Snapshot Wisconsin trail camera, consider performing this activity around your camera site (this could pair up well with checking the camera – to avoid sifting through human photos wait to turn the camera back on until after the activity is completed)
- If your camera isn't hosted on school property you can frame the activity as more hypothetical experience, if you *were* to host the camera on school land
- It may be beneficial to bring the example answers (listed on the last page of this educator handout) along to help students who are struggling to spark ideas

### MATERIALS

- Student handout
- Clipboard and pencils

Snapshot Wisconsin was granted rights to adapt this classroom resource from the North Carolina's Candid Critters activity "Becoming Schoolyard Stewards." To view original lesson plan, follow [this link](#).

Feedback is always welcomed! Any questions or improvements? Contact us at [DNRSnapshotWisconsin@Wisconsin.gov](mailto:DNRSnapshotWisconsin@Wisconsin.gov)



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### PROCEDURES

1. Lead a discussion on how people influence wildlife through the lens of your schoolyard habitat. Review how humans impact water, soil, and air. See the below questions for discussion starters:
  - What animal species are we seeing on our Snapshot Wisconsin camera?
  - 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 air, soil, and water?
2. Bring your students outside to investigate human impacts in their schoolyard. Divide students into teams and have each team fill out their student handout for about 10-20 minutes.
3. Once back inside, discuss with the students different strategies to improve your schoolyard wildlife habitat and reduce pollution. Use the example answers to help you. See the below questions for discussion starters:
  - Did you notice ways in which people affect the air, soil, and water around the school?
  - What can we do about the impacts we found around our school?
    - Some example answers may be: talk to parents, staff, and administrators to encourage them to develop more eco-friendly habits. Use the bus or carpool to school. Recycle and discourage the use of single use plastic. Develop campaigns to educate fellow schoolmates and outside groups.
  - How do the impacts we identified affect animal health?
    - Answers will vary. A classic large scale example to share with students is [the impact of the pesticide DDT on bald eagles](#).
  - How can we help animals?
    - Keep wildlife wild! Students may say put out food for animals to increase their numbers, however, this can be detrimental to wildlife. For example, with black bears, when they are fed by humans they can 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.
    - Students can also 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](#)



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- How do scientists know when to become concerned about an animal?
  - There are different criteria set by countries 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 population, and how fast the population has been declining. There are various factors impacting population levels, including: pollution, disease, climate change, overexploitation, habitat loss, and invasive species.
  - [More information about threats to wildlife can be found here.](#)
- Optional: How do the impacts we identified affect what animals we see on our Snapshot camera?
  - Pollution has many impacts, poor quality air and water can make animals sick (just like humans). Encourage students to think about the bigger picture, how does pollution impacting the primary producers (plants) impact animals higher up the food chain? For example, pollution affecting trees and plants affect the food availability for squirrels, deer, and rabbits - as well as predators of these animals.



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### EXAMPLE ANSWERS

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

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