

# Lancaster County Conservation District Education Programs

2018-2019 School Year

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## Who We Are...

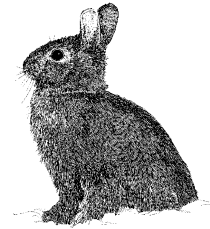
The mission of the Lancaster County Conservation District is the stewardship of land, water, and other natural resources. The District administers and participates in a variety of programs to protect and promote the wise use of natural resources.

## About Programs...

The programs in this guide are available to Lancaster County students and residents. All of the programs are designed to address the PA Department of Education Environment and Ecology Standards (see last page). Each program can be individually tailored to meet your needs. The majority of programs focus on soil and water conservation issues in keeping with the mission of the Lancaster County Conservation District. If you do not see a topic in the guide that you would like offered, please contact the education coordinator to discuss the possibility of creating a program.

## To Schedule a Program...

To schedule a program, contact the education coordinator. Unless special arrangements are made, programs are offered Monday through Friday, 8 AM – 4 PM. ***Before emailing or phoning, please have several dates and times in mind.*** Please notify us immediately to postpone or cancel the program.



## Program Costs...

A nominal donation is requested which assists with program development.

\$60/hr up to an hour

\$12/hr for each additional program hour

## Specific Fees

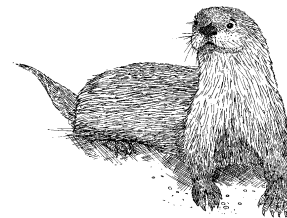
- Owl Pellets = \$2.65
- Groundwater Model = \$15 per session (no program fee)

**3 Programs for FREE:** In the tradition of promoting soil and water stewardship the following programs will remain at no cost – *The Dirt on Soil*, *Stream Study*, and *the Watershed Enviroscope*.

## About this Guide...

Program descriptions are listed on the following pages. To the side of each description is a key that gives the following information...

- Indicates the program is indoor, outdoor, or either
- Appropriate grade level
- Time required
- Type of program



## Animals in Winter

**Indoor**  
**Gr. K - Adult**  
**40 - 60 min.**  
**Hands-on**

Animals survive winter by hibernating, migrating, or staying active. Learn their specific adaptations with study skins and animal artifacts (antlers, skulls, etc.). Literature connection included for elementary.

## Awesome Owls

**Indoor**  
**Gr. 3 - Adult**  
**45 - 60 min.**  
**Hands-on**

What makes owls so interesting? Learn their habits, behaviors, and tear apart an owl pellet to discover the bones inside. Literature connection included for elementary. Cost per pellet, \$2.65. Students often work in pairs to investigate a pellet.



## Biodiversity

**Either**  
**Gr. 2 - 12**  
**40 - 60 min.**  
**Simulation Game**

Explore learning through understanding the importance of diversity within nature. Food pyramids, food webs, plant systems, and predator/prey relationships are incorporated into the lesson.

## A Healthy Bay Takes Root in Trees

**Either**  
**Gr. 4 - Adult**  
**45 min.**  
**Problem Solving**

The Susquehanna River watershed includes water from streams, creeks, rivers, and the land. Water that drains from streets and rooves or runs off the land from this watershed travels on to the Chesapeake Bay. In this lesson learn how native trees consume stormwater, remove pollutants, slow runoff, and benefit wildlife from trout to turtles.

## Watershed Enviroscape

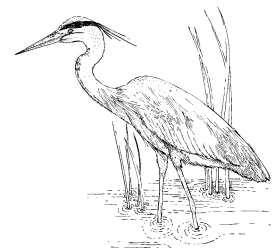
**Either**  
**Gr. 1 - Adult**  
**30 - 45 min.**  
**Hands-on/Model**

The hands-on watershed model not only allows students to witness the effects of water pollution, but also the importance of conservation practices. Students observe pollution's impact on a watershed as a whole and discuss possible solutions for cleaner water.

## Waste Not, Want Not

**Either**  
**Gr. 2 - Adult**  
**30 - 40 min.**  
**Activity**

Could you do without using one-use plastics for an hour, for a day, for a lifetime? Discover the natural resources used to create one-use plastics. Students will make a plan for minimizing one-use plastics over time conserving valuable resources..



## **Stormwater Matters**

**Either**  
**Gr. 3 - Adult**  
**40 min.**  
**Simulation**

Stormwater matters and there are matters of stormwater that influence water quality each day. Small groups evaluate five simulated rain events to predict the healthiest surface water area. Internet source needed to include video segment from *EarthEcho Expedition: Into the Dead Zone*. Lesson plan source: [www.earthecho.org](http://www.earthecho.org)

## **Befriend a Bat**

**Indoor**  
**Gr. K - 6**  
**40 - 60 min.**  
**Slides/Activity**

Learn why bats are our friends and why they are so important to the environment. They are a beneficial resource that we often take for granted. The bats of Pennsylvania will be highlighted. Find out the latest news on White Nose Syndrome that could dramatically decimate the bat population in our state within 2-3 years. Form and function is demonstrated through fun, interactive activity.

## **Stream in a Bucket**

**Either**  
**Gr. 3 - 12**  
**45 - 60 min.**  
**Hands-on**

If you can't get to a stream, we'll bring one to you. Students investigate leaf litter for critters, macroinvertebrates, and whatever may be hiding in the leaves or swimming in the water sample. (spring, summer, early fall)

## **Stream Study**

**Outdoor**  
**Gr. 3 - Adult**  
**45 - 60 min.**  
**Hands-on**

Do you have a stream near your schoolyard that we can explore? We bring the equipment, you supply the site. Investigate macroinvertebrates, and determine the overall health of the waterway. (spring, summer, early fall)

## **A Cholera Mystery**

**Either**  
**Gr. 4 - 8**  
**45 min.**  
**Simulation**

Shh! Don't give the solution away to your students. Using a series of clues first discovered by English physician Dr. Snow, students solve a mystery to discover the source of a deadly illness in 19th Century London. Students will understand the importance of clean water supply to public health.

## **The Dirt on Soil**

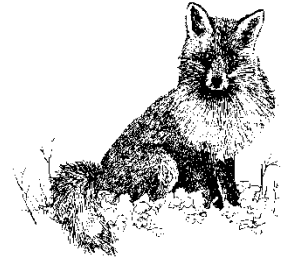
**Either**  
**Gr. K - Adult**  
**40 min.**  
**Hands-on**

Find out what's really going on under our feet. Through hands-on activities students will investigate the many interesting properties and uses of different soils, and discuss why soil is so vital for all life. Literature connection included for elementary. (spring, summer, early fall)

## The Water Cycle

**Indoor**  
**Gr. 2 - 12**  
**40 - 60 min.**  
**Simulation**

Dive into the hydrologic cycle commonly known as the water cycle with an emphasis on how water pollution and water treatment can affect the cycle negatively and positively. Students explore memory tricks and simulations that illustrate a valuable resource's trip around the world.



## Wading into Wetlands

**Either**  
**Gr. 3 - Adult**  
**40 min.**  
**Exploration**

Wetlands provide critical assistance to plants, animals, humans, and the total environment. Activities bring these benefits to life and encourage an appreciation of the important role wetlands play.

## Groundwater Model

**Either**  
**Gr. 4 - Adult**  
**40 min.**  
**Simulation**

Pulled by gravity, groundwater is always on the move. The rate of movement varies from a few inches a year to several miles a day. The model defines groundwater, an aquifer, and karst formation. Pollution and water movement are demonstrated in varied rock formations. \$15 materials fee per session, no program fee.

## Every Family Needs a Farmer

**Either**  
**Gr. 1 - Adult**  
**40 min.**  
**Hands-on**

Healthy Soils + Healthy Sprouts = Healthy Diet. Agri-business is Pennsylvania's largest industry beginning with production to distribution. Explore conservation connections on the farm that lead to healthy diet choices and help the environment at the same time.

## Birds of a Feather

**Indoor**  
**Gr. K - Adult**  
**40 - 60 min.**

Walk near any field or by a stream and you might hear the call or chatter from a songbird or raptor. Participate in activities that explain bird adaptations and behavior. You'll learn how conservation practices on the farm or in the suburban backyard can aid the flights of our feathered friends.

## Fish On

**Either**  
**Gr. K - 7**  
**45 min.**  
**Simulation**

There are roughly 20,000 species of fish worldwide with a wide variety of characteristics and lifestyles. Activities connect students to fish behaviors, characteristics, and habitat needs. Cast a line to fishing regulations connected to population changes and water quality.

## **Additional Educational Programs...**

### **Library Guest Reader**

Library Guest Reader programs include reading a favorite book relating to water, natural resources, land use, or agriculture. Following the reading, education coordinator will lead activity relating to concept shared in the story. All programs 45 min. - 60 min. Grades K-6.

### **Lancaster County Envirothons**

The Envirothon program is an academic contest that involves teams of students working together to demonstrate their natural resource knowledge. Envirothon topics include wildlife, forestry, soils, aquatics, and a current issue topic that changes from year to year. Many teachers find that reference materials and study topics blend well with classroom curriculum. The contest includes grades 3 - 12.

All study materials are provided. Please contact the Education Coordinator if you would like more information or visit [www.lancasterconservation.org](http://www.lancasterconservation.org).

### **Lancaster County Youth Conservation School**

Students looking for a summer adventure, look no further. The Lancaster County Conservation District along with Local Sportsmen's Clubs proudly offers a 7 day, 6 night rigorous field school for teen's ages 14-16 interested in outdoor activities. The Youth Conservation School is held in a camp like setting at the Northern Lancaster County Game and Fish Protection Association in West Cocalico Township each July.

Up to 28 students are accepted each year. Topics include forestry, canoeing, wildlife management, archery, survival, stream restoration, and firearm safety. Teens will have the opportunity to meet professionals in various environmental related fields and discuss career options with them. Applications open January each year at [www.lancasterconservation.org](http://www.lancasterconservation.org).

### **Teacher Workshops**

Education Coordinator offers teacher workshops relating to water quality, watersheds, wetlands, and topics suggested by participants. Within each workshop, there is a balance of content-specific learning with field studies; hands-on activities and resources that can help you share what you learn with your students.

### **Resource Assistance**

Education Coordinator offers resource assistance, as she is able to advance awareness and knowledge of natural resource conservation by building an ecologically literate and engaged public.

Lancaster County Conservation District's education programs address the PA Department of Education Environment and Ecology Standards. Take a look...



	4.1 Watersheds & Wetlands	4.2 Renewable & Nonrenewable Resources	4.3 Environmental Health	4.4 Agriculture & Society	4.5 Integrated Pest Management	4.6 Ecosystems & their Interactions	4.7 Threatened, Endangered, & Extinct Species	4.8 Humans & the Environment	4.9 Environ. Laws & Regulations
Animals in Winter			✓			✓	✓		✓
Awesome Owls			✓			✓	✓		✓
Groundwater Model	✓	✓	✓						
Birds of a Feather		✓	✓			✓	✓		✓
Biodiversity			✓		✓	✓	✓		✓
A Healthy Bay Takes Root in Trees	✓	✓				✓		✓	
Watershed Enviroscope	✓	✓	✓	✓		✓		✓	
Waste Not Want Not		✓	✓					✓	
Stormwater Matters	✓		✓			✓			
Befriend a Bat			✓			✓	✓		
Every Family Needs a Family	✓		✓	✓	✓			✓	
Stream in a Bucket	✓		✓	✓			✓	✓	
Stream Study	✓		✓	✓			✓	✓	
Trees and Forests	✓	✓	✓		✓	✓		✓	
The Dirt on Soil	✓	✓	✓	✓	✓	✓		✓	
The Water Cycle	✓			✓		✓			
A Cholera Mystery	✓	✓				✓		✓	
Wading into Wetlands	✓	✓	✓	✓				✓	
Fish On	✓					✓		✓	✓



### Teachers Take Note...

The Watershed Enviroscope model is available to borrow for two weeks.

Contact Sallie at 717-299-5361 x.2516.

Prior to returning model, teachers are asked to wash and clean model and complete a checklist for supplies.

Enviroscope may be picked up at the Conservation District located at the Farm and Home Center, 1383 Arcadia Rd Room 200, Lancaster. The office is open 7:30 AM - 4 PM.