



TEACHING GREEN



TOM WOLF, GOVERNOR • PATRICK MCDONNELL, DEP SECRETARY

Welcome, Educators!

With this issue of Teaching Green, we bring news of workshops, curriculum materials, grants, and other opportunities, as well as an update on the Harrisburg falcons' new hatchlings. Have comments or suggestions for newsletter content? Drop me a line at gimymyers@pa.gov. Thank you for all you do to foster environmental literacy in Pennsylvania.

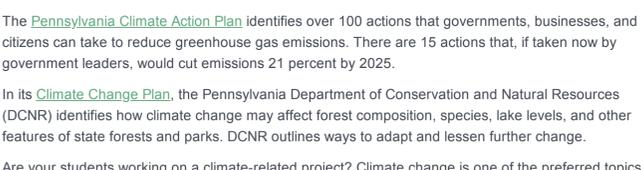


— Bert Myers, Director, [Environmental Education and Information Center](#), Department of Environmental Protection, Harrisburg

Climate Change in PA

Pennsylvania's climate has undergone a warming of 1.8 degrees Fahrenheit in the past 110 years. Temperatures have been higher in the 2000s than at any previous time, and a record 63.97 total inches of rain fell in 2018, which brought disastrous flooding to municipalities, homes, and businesses as well as losses to farmers.

New resources from state agencies can help you take a state focus on climate change education. Governor Wolf has set a state goal of a [26 percent reduction in greenhouse gas emissions by 2025 and an 80 percent reduction by 2050](#). DEP's new multimedia storymap, [Climate Change in PA](#), looks at the electricity grid, transportation, buildings, and land use. It outlines state efforts, such as funding programs and policy development, to promote emissions reductions.



The [Pennsylvania Climate Action Plan](#) identifies over 100 actions that governments, businesses, and citizens can take to reduce greenhouse gas emissions. There are 15 actions that, if taken now by government leaders, would cut emissions 21 percent by 2025.

In its [Climate Change Plan](#), the Pennsylvania Department of Conservation and Natural Resources (DCNR) identifies how climate change may affect forest composition, species, lake levels, and other features of state forests and parks. DCNR outlines ways to adapt and lessen further change.

Are your students working on a climate-related project? Climate change is one of the preferred topics for funding from the DEP Environmental Education Grants Program. The application period for 2019 grants has closed; check the [grants web page](#) in coming months for information on 2020 grants.

Harrisburg Falcons

May 17 Livestream Event

This month we welcomed four hatchlings to the peregrine falcon nest on the 15th floor ledge here at Rachel Carson State Office Building in Harrisburg. Join us on May 17 for a [livestream](#) of baby falcons being banded, and hear DEP and the Pennsylvania Game Commission assess the hatchlings' health, and discuss the importance of banding to protecting these amazing birds.



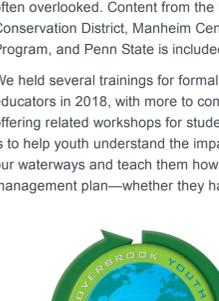
You can also follow the life of the new falcon family on the [FalconCam](#), and submit questions about the peregrines on [Facebook](#) or [Twitter](#) using #HbgFalcons. We'll answer as many questions as we can during the event.

Studying the return of peregrines to Pennsylvania is a great way for students to learn about the real-world impacts of environmental protection policy. Peregrines are powerful birds, but they were no match for widespread use of DDT in the early and mid-20th century. Their population was all but eliminated from the Northeast United States.

Thanks to efforts by scientist and Pennsylvania native Rachel Carson, the U.S. Environmental Protection Agency was established and this carcinogenic pesticide was banned in the 1970s. These measures, along with careful reintroduction of captive birds to the wild, have enabled peregrines to make an incredible comeback. Including the new arrivals, there've been 72 hatches at the RCSOB nest since 2000, making it the most productive peregrine nest in the state.

How We Did It

Stories from DEP Environmental Ed Grant Projects



Farm Kids: Never Too Young to Have a Manure Management Plan

— by Jenn Fetter, Educator-Watershed/Youth Development, Penn State Extension

Farmers learn early on that manure is a valuable resource. But it's a major pollutant in streams and rivers too, creating algal blooms that create dead zones where no fish, insects, and plants can live.

At Penn State Extension, we used a DEP Environmental Education Grant to develop a new project book to teach budding farmers the importance of managing animal manure. The activities are ideal for 4-H, FFA, and ag ed students, as well as environmental students.

[Manure Management Planning for Youth Animal Projects](#) teaches students about soil nutrients; environmentally sensitive areas on the farm; mapping and topography; and the importance of manure management planning, a state requirement that's often overlooked. Content from the Lancaster County Conservation District, Manheim Central Ag-Ed Program, and Penn State is included.



Training session at the 2018 Penn State Dive Deeper Summit

We held several trainings for formal and informal educators in 2018, with more to come in 2019. We're offering related workshops for students, too. The goal is to help youth understand the impacts of manure on our waterways and teach them how to write a manure management plan—whether they have just one goat or a barn full of animals.



Teaching Environmental Best Management Practices to Students in STEM and Career Technical Education

— by Jerome Shabazz, Executive Director, Overbrook Youth Environmental Stewardship Program

The [O'YES Program](#) in Philadelphia educates students in STEM and career technical education about environmental best management practices to reduce exposure to toxic substances, pests, and poor water quality. Developing students into environmental stewards enables them to make a real-world connection between what they learn in school and the practices that reduce exposure to unhealthy environmental conditions in their communities.

Thanks to support from a DEP Environmental Education Grant, O'YES students completed the U.S. Environmental Protection Agency's Lead Renovation, Repair, and Painting Rule Program, which certifies them to properly mediate reconditioned homes. Certification is required to perform renovation, repair, and painting projects that may disturb lead-based paint in homes built before 1978.

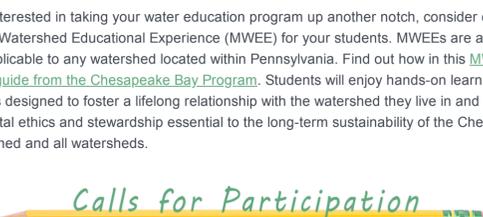
Earth Day

Earth Day at the Governor's Residence



Carmichael Area High School students, 2018 Envirothon state champions, with Governor Wolf and First Lady Frances Wolf at the Governor's Residence.

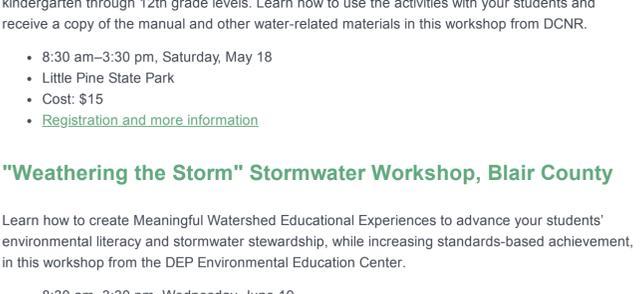
First Lady Frances Wolf hosted about 100 children, teachers, and parents for an [Earth Day event at the Governor's Residence on April 22](#). The DEP Environmental Education Center was pleased to partner with other agencies and organizations in creating a program packed with exhibits and activities on how all Pennsylvanians can reduce their carbon footprint.



Water

New Website on the Status of Pennsylvania's Waters

Pennsylvania has about 85,000 miles of streams and rivers and over 700,000 acres of lakes, bays, and wetlands. What makes a body of water safe, or not safe, as drinking water supply, for fish, or for recreation? With DEP's new multimedia, interactive website, [Integrated Waters Report](#), your students can learn how DEP assesses and categorizes the health of Pennsylvania's waters and research the status of any water body in PA.



Educator's Guide to Meaningful Watershed Educational Experiences

If you are interested in taking your water education program up another notch, consider creating a meaningful Watershed Educational Experience (MWEE) for your students. MWEEs are a statewide initiative applicable to any watershed located within Pennsylvania. Find out how in this [MWEE educator's guide from the Chesapeake Bay Program](#). Students will enjoy hands-on learning experiences designed to foster a lifelong relationship with the watershed they live in and a sense of environmental ethics and stewardship essential to the long-term sustainability of the Chesapeake Bay Watershed and all watersheds.

Calls for Participation

Environmental Educators Survey

You're invited to participate in the [Status and Needs of Environmental Education in Pennsylvania Survey](#), open through May 24. Survey questions are offered for classroom teachers, school administrators, and non-formal environmental education organizations. Results will be used to increase the capacity of environmental education, including areas for professional development.

This survey is an initiative of the Pennsylvania Environmental Literacy and Watershed Education Task Force, led by Stroud Water Research Center; the Pennsylvania Department of Education, Department of Environmental Protection, and Bureau of State Parks; the Pennsylvania Association of Environmental Educators; Millersville University; and the Chesapeake Bay Foundation. Funding is provided by the National Oceanic and Atmospheric Administration's Chesapeake Bay Office.

Workshops and Training

Project WET Curriculum Workshop, Lycoming County

Project WET is a nationally used hands-on curriculum supplement for educators teaching at kindergarten through 12th grade levels. Learn how to use the activities with your students and receive a copy of the manual and other water-related materials in this workshop from DCNR.

- 8:30 am–3:30 pm, Saturday, May 18
- Little Pine State Park
- Cost: \$15
- [Registration and more information](#)

"Weathering the Storm" Stormwater Workshop, Blair County

Learn how to create Meaningful Watershed Educational Experiences to advance your students' environmental literacy and stormwater stewardship, while increasing standards-based achievement, in this workshop from the DEP Environmental Education Center.

- 8:30 am–3:30 pm, Wednesday, June 19
- Hollidaysburg Public Library, 1 Furnace Road, Hollidaysburg, PA 16648
- Cost: Free
- Registration and more information: Contact Kathleen Banski at kbanski@pa.gov

"WILD About Raptors" Workshop, Huntingdon County

Teaching strategies and materials will be provided to enhance your education about the return of eagles, osprey, and peregrine falcons to Pennsylvania in this two-day workshop from DEP and the Penn State Shaver's Creek Environmental Center. Traditional and nontraditional educators are welcome. Class size is limited to first 25 registrants.

- 9:00 am–3:30 pm, Wednesday-Thursdays, August 8–9
- Shaver's Creek Environmental Center, 3400 Discovery Rd., Petersburg, PA 16669
- Cost: Free
- Registration and more information: Contact Kathleen Banski at kbanski@pa.gov

"Growing Up Wild" Educator Workshop, Butler County

"Growing Up Wild: Exploring Nature with Young Children" is an early childhood education activity guide that builds on children's sense of wonder and invites them to explore wildlife and the world around them. It features 27 field-tested, nature-based activities in a full-color 11"x17" guide. Learn how to use these activities in this workshop from DCNR.

- 9:00 am – noon, Saturday, October 5
- Moraine State Park
- Cost: Free
- [Registration and more information](#)

Staff News

New Environmental Education Program Coordinator Joins the Center

Enjoying the Adirondacks

We're excited to announce that Kathleen Banski has joined the Environmental Education Center as the new Regional Program Coordinator. Previously Kathleen worked at the Dickinson College Center for Sustainability Education and at the Pennsylvania Association of Conservation Districts, where she coordinated the activities of the Governor's Chesapeake Bay Education Office and the Statewide Nonpoint Source Pollution Education Office. She's also worked at the Pennsylvania Department of Labor and Industry.

Kathleen has a master of education degree in agricultural and extension education and is state certified in elementary and special education. Camping, swimming, and canoeing are some of Kathleen's favorite ways to spend time with family, friends, and pets. Her dog, Callie Doodle, is a licensed therapy dog and has helped Kathleen deliver programs to libraries, schools, and nursing facilities.

Kathleen will help manage the Environmental Education Grant program, providing support to applicants and recipients, and help the DEP Environmental Education Center continually improve and expand its outreach to educators.

Pennsylvania Department of Environmental Protection, 400 Market Street Harrisburg, PA 17101

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