

## For Hikers

### Mud Season: Hiking with X-Ray Vision

by Peter Fleszar

Pennsylvania hikers cherish the wildflowers of May, the clear weather of September, October's flaming foliage, and January's sparkle of winter. Few are afoot in the woods during the weeks between the melting snows and the bloom of ephemeral wildflowers. In fact, up in Vermont, the Green Mountain Club requests hikers stay off trails during "mud season," to avoid damaging the treadway.

Yet the bones of our landscape are never clearer than late March in the south, or mid-April in the Northern Tier. For when the leaves are matted down, but before the buds break, the sylvan public domain of Pennsylvania shows secrets otherwise hidden under green, orange, or white. Walkers seeking solitude will have little company at this time, when even hunters have no legal quarry.

#### What to Look For

The Allegheny High Plateau, wearing its last traces of melting snow, reveals on the hillsides the hundred year old traces of log slides and tram grades that were never known to the maker of USGS 7.5" topo maps. Newly molten snow sings down millions of cascades. Foundations and fences of past generations of loggers, miners, and farmers reveal themselves briefly.

The clear vision of mud season is no secret to surveyors who scurry to find property corners well hidden eleven months of the year.

#### Where To Go

The ghost mining town of Landrus is but one example of places to explore in the PA Wilds. See Sarah Nevin's site <http://landrus.blogspot.com> and the Mid State Trail's Temporary Map T18 at [www.hike-mst.org/guide.html](http://www.hike-mst.org/guide.html) to start getting lost in this remote northern corner of Tioga State Forest. Closer to many of us, places such as St. Anthony's Wilderness in State Game Land 211 open layers of human history to the careful, and we hope not careless or despoiling, observer. Annette Logan's website <http://seesaw.smugmug.com> shows many sites between the lines shown on the KTA Appalachian Trail Map No. 7 & 8, Susquehanna River to Swatara Gap.

#### How to Act

Like Superman avoiding Kryptonite, hikers seeking X-ray views of our landscape should bear a few things in mind. While not so much a concern in the Tiltrock Country of the Ridge-and-Valley Appalachians, many footpaths in the valleys, Piedmont, or plateau regions of PA can't stand excess traffic any better than those in the Green Mountain State. So reward yourself during mud season with the discoveries of bushwhacking, not the shame of mud tracking.

#### Precautions to Take

Mud will be inevitable, so consider quality gaiters to spare your ankles a refrigerated spa treatment and to ease your passage through the headwater brooks that appear as sizable creeks. Take only pictures, allow future generations to re-make your small discoveries, and leave no others memory of your passage. Lastly, confine your bushwhacking to public lands open to dispersed travel, such as State Forest and State Game Lands, and to private land where both you and the landowner's son, who might point a shotgun at an unaccustomed sound, know you have permission to be there.

While March Madness envelops your television set, embark on your own personal voyage of quiet discovery in Penn's Woods during mud season!



The trail maintainer combats mud. Photo by Joan March.

### Recycling Your Shoes

If you are a hiker, walker, runner or other active outdoor recreationist, you might find yourself grinding down boots and athletic shoes at an amazing rate. Many of these boots and shoes lose their support and tread, but still are in good shape when they are retired.

So why toss them in the trash? Next time, donate your footwear to someone who will continue to wear them until they really do fall apart, or will take the materials from the shoes and recycle them into something else.

Try these reuse sites for information on donating your used shoes: [www.nikereuseashoe.com/#](http://www.nikereuseashoe.com/#) or [www.soles4souls.org/about/locations.cgi](http://www.soles4souls.org/about/locations.cgi). For a more comprehensive list of options see [www.runnersworld.com/article/0,7120,s6-240-323--10041-0,00.html](http://www.runnersworld.com/article/0,7120,s6-240-323--10041-0,00.html).



### Live the Greenlife

GreenlifePA is a Dept. of Conservation and Natural Resources supported television series that showcases people, places, and events around the state. Typical segments cover topics such as the Bureau of Forestry's Penn Nursery, the return of life to the superfund site at Lehigh Gap, an organic farm at Dickinson College, the Great Allegheny Passage, and Trout in the Classroom.

Episodes are available on the web at [www.greenlifepenn.org](http://www.greenlifepenn.org).

### Maintenance Costs

What does multi-use trail maintenance cost? According to figures in the PA Recreation & Park Society's *Trails to You*, annual maintenance of multi-use trails costs \$1500 to \$2500 per mile. But, according to one study, this cost drops to about \$700 per mile when substantially all volunteer labor is used.

## Ecology

### Climate Change Action Plan: Reduce Greenhouse Emissions

Pennsylvania could slash greenhouse gas emissions by 30 percent by 2020 by following the recommendations contained in the state's recently released Climate Change Action Plan. In combination with other state and federal environmental initiatives, the 52 recommendations could reduce emissions by more than 40 percent. The Climate Change Advisory Committee estimates the plan could result in the net creation of 65,000 new full-time jobs and add more than six billion dollars to the state's economy.

The recommendations include: a "Re-Light Pennsylvania" program that encourages residential and commercial use of more efficient lighting systems; an Eco-Driving program that offers fuel-saving tips and incentives to drive less; and an urban forestry program that increases carbon storage in trees while reducing a buildings' heating and cooling demands.

The plan, based upon the most current scientific data available, was opened for public comment in October, and DEP accepted a record number of comments, approximately 23,000. About 99 percent of those who commented were strongly in favor of a public policy to address climate change. For more information and a copy of the final report, visit [www.dep.state.pa.us](http://www.dep.state.pa.us), keyword "Climate Change," or call 717-783-2300.

### Natural Diversity Launches New Online Newsletter

Natural Diversity, a non-profit organization dedicated to conserving the native diversity of plants and animals in Pennsylvania, has announced the publication of a new online newsletter -- the *Leaflet*.

Natural Diversity has pioneered the development of holistic habitat management techniques for the control of invasive and non-native plants, such as Japanese knotweed, and the restoration of native plants in the Kiski-Conemaugh and upper Juniata watersheds.

The *Leaflet* newsletter seeks to not only inform people about what the organization is doing, but also educate the public about invasive and non-native plants. The newsletter is available at [www.naturaldiversity.org](http://www.naturaldiversity.org); choose "News & Events" and "Leaflet". To get on the email list for the newsletter, send email to: [NBD\\_Staff@naturalbiodiversity.org](mailto:NBD_Staff@naturalbiodiversity.org).

### Earth Day 40

Commemorate the 40<sup>th</sup> anniversary of Earth Day by participating in the iConservePA Earth Day 40 Personal Challenge from April 22 (Earth Day) to June 1. Schedule a home energy audit or hook up a rain barrel. Take a spin on public transportation or skip the spring lawn fertilization. Help study songbirds or join a local land conservancy. From buying eco-friendly coffee to greening up your spring camping trip, consider adopting these and 32 other actions.

iConservePA invites everyone to register their participation and

download a special coupon as a small reward for taking the time to care. Individuals who send iConservePA their checklist will be recognized on a roll of Earth Day heroes.

In addition to individuals, iConservePA has Earth Day 40 programs for groups and schools. See [www.iconservepa.org/earthday40](http://www.iconservepa.org/earthday40) for details.

### Penn State Marcellus Shale Programs Webinars

Penn State's ongoing series of monthly, web-based seminars addressing issues surrounding Pennsylvania's Marcellus Shale natural gas boom will continue through the winter. Sponsored by the College of Agricultural Sciences and Cooperative Extension, upcoming webinars will be held at 1 PM on February 18 and March 18.

Online participants have the opportunity to ask the speaker questions during the free webinars. Previous webinars, which covered topics such as water use and quality, gas leasing considerations for landowners, workforce issues and implications for local communities, can be viewed online.

For more information, visit [www.naturalgas.extension.psu.edu](http://www.naturalgas.extension.psu.edu) or contact Joann Kowalski, extension educator in Susquehanna County, 570-278-1158 or [jmk20@psu.edu](mailto:jmk20@psu.edu).

#### Informational Meetings

Penn State Cooperative Extension is also sponsoring a series of live, in-person informational meetings at various locations around the state on issues related to Marcellus Shale natural gas drilling. Upcoming dates at the University of Pitt Bradford Campus are February 16 and March 24. Contact University of Pitt-Bradford Campus Outreach Services at 814-362-5078 to register.

A complete list of events is available at the web site listed above.

### Wells Information System Update

The Wells Information System (WIS) is a comprehensive database, created by the Pennsylvania Geological Survey, that houses details associated with drilled oil and gas wells, along with undrilled, canceled, void, or expired drilling permits. Brought online in 1995, WIS provides data to help DCNR, DEP, industry, and other organizations manage oil and gas resources efficiently and responsibly. It also provides the public with a source of oil and gas well information and production data in Pennsylvania.

Operators submit data to DEP as wells are permitted, drilled, produced, and eventually plugged. This data is then provided to the Survey for public access. Due to the Survey's commitment to geologic carbon sequestration research, loss of staff, and increased drilling activity associated with the Marcellus shale play, a backlog of oil and gas well records has developed over the past year. Staff is working diligently on data entry in an effort to bring the database up to date in the first half of 2010.

More information is available at [www.dcnr.state.pa.us/topogeo/oilandgas/wis\\_home.aspx](http://www.dcnr.state.pa.us/topogeo/oilandgas/wis_home.aspx)

The PA Dept. of Environmental Protection reported that it issued 1,984 drilling permits in 2009, and the industry expects to apply for 5,200 permits during 2010. DEP issued 195 Marcellus permits in 2008. DEP said 763 wells were actually drilling during 2009.



## Plants and Animals

### Emerald Ash Borer in Juniata County; Quarantine Expanded

Emerald Ash Borer beetles have been found in Milford Township, Juniata County, bringing to eleven the number of Pennsylvania counties where the ash tree-destroying pest has been identified. A state-imposed quarantine, which requires residents and visitors to use only locally harvested firewood, burn all firewood on site, and not carry wood to new locations, is being expanded to include Juniata County.

Due to the difficulty in distinguishing between species of hardwood firewood, all hardwood firewood and wood chips—including ash, oak, maple and hickory—are considered quarantined.

The Juniata County infestation was discovered along Route 333 near the Mifflin County border when entomologists noticed extensive tree damage due to woodpeckers. Woodpecker injury is a key indicator that trees may be infected with Emerald Ash Borer as the birds injure the trees while attempting to eat the beetle larvae.

The invasive beetle was first detected in Pennsylvania in the summer of 2007 in Butler County, and subsequently was found in Allegheny, Armstrong, Beaver, Indiana, Lawrence, Mercer, Mifflin,



Washington and Westmoreland counties. Emerald Ash Borer is a wood-boring beetle native to China and eastern Asia. The pest likely arrived in North America hidden in wood packing materials commonly used to ship consumer and other goods. It was first detected in July 2002 in southeastern Michigan and neighboring Windsor, Ontario, Canada. In addition to Pennsylvania, the beetle is attacking ash trees in Illinois, Indiana, Kentucky, Maryland, Michigan, Minnesota, Missouri, New York, Ohio, Virginia, West Virginia and Wisconsin, and is responsible for the death and decline of more than 40 million trees.

Typically, the beetles will kill an ash tree within three years of the initial infestation. Adults are dark green, one-half inch in length and one-eighth inch wide, and fly only from early May until September. Larvae spend the rest of the year beneath the bark of ash trees. When they emerge as adults, they leave D-shaped holes in the bark about one-eighth inch wide.

There is no known practical control for this wood-boring pest other than destroying infested trees. People who suspect they have seen Emerald Ash Borer should call the toll-free pest hotline at 866-253-7189.

### i-Tree Software for Urban Forest Management

i-Tree is a state-of-the-art, peer-reviewed software suite from the USDA Forest Service that provides urban forestry analysis and benefits assessment tools. The i-Tree Tools help communities of all sizes strengthen their urban forest management and advocacy efforts by quantifying the structure of community trees and the environmental services that trees provide.

Since the initial release of the i-Tree Tools in August 2006, numerous communities, non-profit organizations, consultants, volun-

teers and students have used i-Tree to report on individual trees, parcels, neighborhoods, cities, and even entire states. By understanding the local, tangible ecosystem services that trees provide, i-Tree users can link urban forest management activities with environmental quality and community livability.

Whether studying a single tree or an entire forest, i-Tree provides baseline data that can be used to demonstrate value and set priorities for more effective decision-making

i-Tree Tools are in the public domain and are freely accessible. See [www.itreetools.org](http://www.itreetools.org).

### White-Nose Syndrome in Bats; Hibernating Bats Continue to Die

Pennsylvania reported its first case of white-nose syndrome in Mifflin County in December 2008. Today it is known to exist in eleven locations in Bucks, Centre, Mifflin, Lackawanna and Luzerne counties. It affects all six species of cave bats found in Pennsylvania: little brown bat, big brown bat, Indiana bat (federally endangered), eastern pipistrelle; small-footed bat (state threatened) and northern long-eared bat. The disorder has killed 750,000 to a million bats in Connecticut, Massachusetts, New York, New Jersey, New Hampshire, Pennsylvania, Vermont, Virginia and West Virginia since 2006.

The cause and source of spread have been the greatest mysteries of WNS since it first appeared in New York. Evidence is mounting that WNS is caused by a cold-loving *Geomyces* fungus. Scientists recently named this fungus *Geomyces destructans*, given its destructive effect on bat populations. The National Wildlife Health Center (NWHC) reported that *Geomyces destructans* infection of skin causes epidermal erosions and ulcers that can progress to invade underlying connective tissue. This fungus could arouse a hibernating bat, which would quickly burn through its fat reserves and die.



Preliminary data from WNS infection studies conducted at NWHC indicate *Geomyces destructans* can be transmitted from bat-to-bat in a controlled environment. This finding suggests that WNS transmission may occur during the fall bat swarm, as well as during hibernation. Once WNS appears in hibernacula, whether it got there on an infected bat or hitchhiking on a human, it passes through a hibernating bat colony quickly.

The Game Commission expects a majority of the bat hibernation sites in eastern Pennsylvania to have WNS by the end of April. WNS has not appeared west of the Route I-99 corridor, where some of the state's largest bat populations hibernate.

If anyone observes flying or dying bats in western Pennsylvania this winter, the Game Commission wants to hear about it. Reports from areas west of Centre and Mifflin counties will be treated as extremely high priority. A reporting form is on the Game Commission web site [www.pgc.state.pa.us](http://www.pgc.state.pa.us) (choose Wildlife, then Bats)

To learn more about WNS, visit the U.S. Fish and Wildlife Service's web site at [www.fws.gov/northeast/white\\_nose.html](http://www.fws.gov/northeast/white_nose.html).