

UPCOMING EVENTS

- MAR 26 - Volunteer Open House & Training, Hawley, PA (see pg 9)
- MAR 30 - Financial Benefits of Land Conservation, Hawley, PA
- MAR 31 - Financial Benefits of Land Conservation, Bethel, NY
- APR 30 - Foods of the Delaware Highlands Annual Dinner, Settlers Inn, Hawley, PA
- MAY 7 - Open House and Wildflower Walk, Dingmans Ferry, PA
- MAY 16 - On the Course for Conservation, 3rd Annual Golf Tournament, Woodloch Springs, PA

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DELAWARE HIGHLANDS CONSERVANCY

serving New York and Pennsylvania
P.O. Box 218 Hawley, PA 18428-0218



INSIDE •
• Forest Health
• Annual Monitoring
• Inspecting the Health of your Forest
• Volunteer Open House and Training



HIGHLANDS LANDLINES

Spring 2011

A Guide to the Stewardship of Protected Lands
with the Delaware Highlands Conservancy

Common Diseases Of Mixed Hardwood Woodlots

Thomas J. Hall, Plant Pathologist/Forest Pathologist
Division of Forest Pest Management, Pennsylvania DCNR Bureau of Forestry

The types of diseases associated with the native hardwoods and conifers of the Upper Delaware River region fall into several categories; root and butt rots, stem and branch cankers, and decline diseases. Below is information on a few diseases that are relatively easy to observe and actively manage.

Symptoms of decline disease in trees usually begins with a progressive dieback of twigs and small branches. Eventually dieback extends into larger branches result in a noticeable change in the tree's live crown. Dieback affecting less than 5% of the upper crown is normal, dieback in excess of 15% is an indication of significant problems and dieback above 30% is an indication that conditions will worsen. Decline diseases are associated with stress conditions that deplete internal food reserves and weaken the trees defense mechanism to the extent that recovery is compromised. Stress conditions are drought, severe insect defoliations, flooding or severe compaction of the root zone, storm damage resulting in branch breakage and wounds to the stem and roots.

Figure 1 shows a sugar maple stem killed by a disease called *Armillaria* root and stem rot. *Armillaria* fungi gain access through root wounds or dead feeder roots or other damage caused during drought conditions. *Armillaria* breaks down wood tissue which is a food source, initial root infections continue until the fungus reaches the base of the stem and proceeds to slowly girdle the tree during periods of continued stress. *Armillaria* fungi have a large host range that includes many of our native hardwood and conifer species. Inspection of declining trees at the base can reveal the presence of *Armillaria* rhizomorphs or black shoestring strands growing on the internal and external surfaces of the bark. Although



Figure 1. *Armillaria* root and stem rot on sugar maple.

The Delaware Highlands Conservancy is a land trust dedicated to conserving the natural and cultural heritage of the Upper Delaware River region.

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Highlands Landlines is a semi-annual newsletter created by the Conservancy for landowners who have a conservation easement with the Conservancy.

This publication is also available electronically.



What is Highlands Land Lines?

You probably already receive the Delaware Highlands Conservancy’s regular newsletter, *Highlands Journal*. Our newsletter is distributed three times a year to all of our landowners, members and other like-minded folks who are interested in what the Conservancy is doing.

This publication, *Highlands LandLines*, comes to you twice per year and is completely dedicated to providing you, a landowner with a conservation easement through the Conservancy, with useful tips for the stewardship of your land.

This issue contains information focused on monitoring the health of your land and forests. We’ve also included information on upcoming programs, events and incentive programs related to managing your land. We will start scheduling annual monitoring visits in the Spring. Please help us get a jump start on monitoring your property by completing and returning the form on page 11.

We’d be interested in your ideas for future articles, features or just comments on the publication in general. Please, tell us what you think!

We need your Email Address!

The Conservancy, like so many other conservation minded organizations, is hoping to conserve resources by communicating with its landowners members through e-mail.

Please send your email to info@delawarehighlands.org and specify if you would like to receive our mailings electronically or continue to receive hard copies in the mail.

Pre-Monitoring Visit Questionnaire

Please help the Conservancy in our annual monitoring visits by completing the below survey and mailing to:
Delaware Highlands Conservancy
Attn: Stewardship Coordinator
PO Box 218
Hawley, PA 18428

Annual monitoring allows the Conservancy to uphold the terms of the conservation easement for each property. Monitoring allows the Conservancy to determine whether the conservation values outlined in the conservation easement are intact. In addition, monitoring is a fundamental part of relationship building between the Delaware Highlands Conservancy, its members and landowners.

Do you have plans to sell, subdivide or lease the property?.....	Yes	No
Have any structures (houses, sheds, barns, gazebos, garage, pole barn) been built or replaced within the boundaries of the conservation easement?.....	Yes	No
Has there been any land disturbance as a result of road/trail construction, digging/ filling, planting, fencing or other construction?.....	Yes	No
Has the protected property been affected by any of the following:		
Insect damage.....	Yes	No
Storm damage.....	Yes	No
Fire.....	Yes	No
Vandalism; trespassing, dumping, operation of ATVs or other motorized vehicles....	Yes	No
Property line violations from neighboring parcels.....	Yes	No
Has there been any timbering on the property?.....	Yes	No
If so, was the timbering a result of a recommendation by a current Forest Management Plan?.....	Yes	No
Have you noticed any of the following affecting wetlands or waterways on the property?		
Encroachment of invasive vegetation or animals.....	Yes	No
Change in flow, quality or quantity of water	Yes	No
Livestock in or near waterways or wetlands.....	Yes	No
Erosion along banks or channels.....	Yes	No
Have you signed a lease for use of the land? (ie. gas lease, agricultural).....	Yes	No
Have you noticed new populations or an increase in existing populations of invasive vegetation?.....	Yes	No



Shop Local Save Land on the Web!

Looking for a local place to purchase mulch to spruce up that garden this spring? Or a local farm market open on Wednesdays? Now you find all of this information plus directories of resources you may need to steward your land on the ShopLocalSaveLand.com website.

Since 2008, the Conservancy has been supporting the working lands of the Upper Delaware River region through the Shop Local Save Land initiative. In partnership with the local marketing firms WDesign and Heron's Eye Communications, the Conservancy has produced three editions of the *Guide to Farms and Farm Markets* and the inaugural edition of the *Guide to Wood Products, Professionals and Resources*. Now all of the farm and forest providers listed in the guides can be found online in a searchable database.

In the upcoming months, the Conservancy will be joined by other coordinating organizations, like nearby land trusts and visitor associations, who will add their data to the website.

Please visit the website and let us know what you think. If you know a local forest or farm product provider that should be listed on the website or in future editions of the hard copy guides, have them contact Amanda at the Hawley office (570.226.3164) or by email (conserve@delawarehighlands.org).

www.ShopLocalSaveLand.com



Native Species Spotlight Bloodroot

Sanguinaria canadensis

In early spring before the trees produce their leaves, keep your eyes out for this member of the Poppy family. Bloodroot, named so because of the red liquid the roots produce when broken, only grows up to 10" above ground level. The leaves can grow up to 8" wide and are found at the base of the plant, usually clasping the stem. The pure white flower petals surround a golden center which is often visited by insects collecting pollen.

Wildflower Walk with Dr. Ann Rhoads

Saturday, May 7 10am - 1pm

Join us for a Wildflower Walk with Senior Botanist Dr. Ann Rhoads at the Camp Akenac property in Dingmans Ferry, Pike County, PA.

Dr. Rhoads is the renowned author of the books "The Plants of Pennsylvania," "The Vascular Flora of Pennsylvania," and most recently, "Trees of Pennsylvania." Dr. Rhoads was the Director of Botany for Morris Arboretum and taught Botany at the University of Pennsylvania.



Dr. Rhoads discusses common plants found in the forest understory during a walk in June 2010 at the Stairway Ridge property.

This walk is free and open to the public, but prior registration is requested. To reserve your space and receive directions, please call the Delaware Highlands Conservancy office at 570-226-3164 or email info@delawarehighlands.org.

GUIDELINES FOR ANNUAL FOREST PEST INSPECTIONS

To detect any developing forest pest problems it is important that a landowner do at least one woodland inspection a year. A good time of the year is mid-May to mid-June. Leaf eating caterpillars are very active and most of the tree species will be out in full leaf. Look for any unusual amounts of insect and disease activity. At the same time do a general health assessment of your forest. If you detect a pest problem on the property or anticipate a problem (such as a forest insect outbreak in the general area of your property) it is important that you do multiple inspections per year or ask for assistance from your local Forester.

- General health inspections involve looking at the forest as a whole, individual trees, and each tree species. Pay particular attention to the foliage on the tree. Look for leaf color, leaf size, and branch dieback. Ask yourself, is the foliage normal green or is it yellow-green, yellow, partly eaten, small, wrinkled, turning color early, leaves falling early, etc.
- It is very important to know the past history of insect and disease attacks to determine the future health and welfare of a forest or stand of trees. A forester can provide you with this information on a walk through your woods.
- During each inspection, write down your observations on a map of your property. Photographs may also help document forest health on your property.
- Select specific areas of your forest and visit those areas during each inspection. For example, you may visit an upland area, lowland area, area near an access road, and an area near a water body.
- There are always forest insects and disease at work in the forest. Low levels of activity are normal. Look for excessive activity.



NYS DEC Local Foresters
Sullivan County: (845) 256-3000 Delaware County: (518) 357-2066

PA DCNR Service Foresters
Pike County: (570) 895-4000 Wayne County: (570) 945-7133

Delaware Highlands Conservancy Invites you to:

“Stewards of the Land: Contributing to Conservation”

A Brunch, Open House, & Volunteer Event

At the Conservancy’s Hawley, PA office

Saturday, March 26
10AM-1PM



New Volunteers - Come learn from staff and volunteers ways you can help to protect the Upper Delaware River region.

Existing Volunteers and Board and Committee Members - An opportunity for volunteers to introduce themselves and share their talents.

Brunch will be served.
Registration is requested.

For more info contact: info@delawarehighlands.org or 570.226.3164

DHC Gets New Look



DELAWARE
HIGHLANDS
CONSERVANCY

The Conservancy has recently embarked on updating our look as part of the continued growth of the organization.

As a landowner you will notice that correspondence coming from the Conservancy now includes our new logo (shown at left).

Graphic designer and caterer, Amy Miller, of Cochection, NY assisted with the design of the new logo and letterhead.

We hope you enjoy the new look!

...Continued from page 1

a tree may survive with this condition for many years, removal of declining trees may be helpful to provide additional light and growing space for healthy neighboring trees.

Stem canker diseases are common to all tree species. A pathogenic fungus associated with cankers gains entry to the stem through a wound, broken twig, or branch stub. Once access is gained, the pathogen attacks the cambium tissue, the infected tissue is killed and the canker expands in size.



Figure 2. Sugar maple with multiple *Fusarium* cankers.

Figure 2 shows a *Fusarium* canker disease on sugar maple. This type of disease is frequently encountered on yellow poplar too. This disease seems to be associated with drought stress and results in long, narrow cankers. A few cankers are not unusual but multiple cankers as displayed tend to be lethal.

The extent of canker damage within pole-sized timber can be severe if not recognized early in stand development. Proper thinning of pole stands to reduce spread and promote species diversity should be done early to remove affected trees and to reduce stand stem density.

Another canker disease associated with severe insect defoliation and drought is *Hypoxylon* canker of oak. Figure 3 shows a red oak with extensive patches of the fungal growth associated with *Camillea punctulata* (formerly *Hypoxylon*). The fungus is not highly pathogenic but when a tree is killed or severely weakened following a series of stress events these saprophytic fungi aggressively colonize the bark and sapwood of the dead tree. Sometimes dead bark patches of varying size and number may be observed in advance of the pending mortality event.

Stress conditions play an important role in forest tree health or condition. Examination of woodland stands for symptoms of dieback, cankering, and tree mortality are best conducted during the active growing season followed by management action during the dormant period. Timely inspections and selective removal of unhealthy or dead trees to retain the healthiest residents of the stand is recommended.



Figure 3. *Camillea* canker on red oak.

Invasive Species Corner
JAPANESE KNOTWEED
Polygonum cuspidatum



If you've spent time on the Delaware River or its tributaries, you've probably noticed the nuisance plant, Japanese Knotweed. You can also often spot this plant growing along roadsides throughout the Upper Delaware River area.

Japanese knotweed is native to Asia and was brought to America in the 1800s as an ornamental garden plant. It is easily recognized by the rounded leaves with flat bottoms which are borne on a bamboo-like stalk that can grow

over 9 feet in a single growing season. In autumn, the plant loses its leaves and takes on a rusty hue (see photo above). White flowers appear in summer (see below photo along the West branch of the Delaware River). Japanese knotweed spreads primarily through underground rhizomes (roots) and forms extremely dense colonies.

The best way to control this plant is to prevent it from spreading to your property. If it does appear or already exists on or near your property, take action NOW! According to the PA Flora project there are mechanical and chemical control options. It is important to remember that even a 1" long piece of the plant can begin a new colony.

More information is available on the Delaware River Invasive plant Partnership and PA Flora website:

www.paflora.org/DRIPP.html



Tues. FEBRUARY 22 @ 6pm Join us for a program on **Forest Health.**

Call for details.

Are you eligible for \$\$\$ to protect forests on your property?

The **Common Waters Fund** will initially provide \$1 million to private landowners and some conservation and forestry professionals to implement forest management and conservation projects in the Upper Delaware River watershed.

While applying for funds from the Common Waters Fund is a simple process, there are a few basic requirements for **eligibility**:

- At least five acres located in the priority funding area (see map)
- You must be receiving some form of income from your land (typically from timber harvests) or you are otherwise eligible for the USDA Natural Resources Conservation Service Environmental Quality Incentives Program (EQIP) program

Applications are available online at www.commonwatersfund.org or through several local resource offices (see website or call the Conservancy). These experts can help you determine your eligibility and assist with your application. Applications will be evaluated based on a project's potential contributions to forest health and water quality. The first applications will be reviewed on May 1, 2011.

What is Funded?

Forest Management Plans

Forest owners can apply for funds to have a forester write a new forest management plan. If you have an existing plan, you can be funded to enhance the plan. The Common Waters Fund will fund 100% of the cost of a new or upgraded plan.

Forest Management Practices

Landowners can apply for funds to offset the costs of implementing certain forest management practices that will improve forest health and protect water quality. The Common Waters Fund pays set rates for eligible practices. These rates are meant to cover approximately 75% of the costs. The maximum grant award per landowner per year is \$20,000.

Conservation Easements

Costs associated with protecting land with an easement are also eligible. So, if you would like to place an easement on other unprotected parts of your land - or have an interested neighbor who has been thinking about an easement - call the Conservancy at 570-226-3164 or 845-807-0535 to learn more.

