



# Woodlands *for* Wildlife

Volume 26 Winter 2011

## The Joys of Being a Wildlife Detective

By Robert Ott, Class of 2009s

One of my favorite things about winter is that I can observe wildlife activities in the forests and fields better than I can do it without snow on the ground. The presence of snow makes it difficult for animals to hide their activities. For this reason, snow-covered ground allows me the opportunity to be an ecological detective, to verify theories I may have, and to learn a few things along the way.

I developed an interest in interpreting the activities of wildlife at an early age. My love of nature extends back as far as I can remember, so it seemed natural to learn as much as I could about all aspects of natural history. I also was an active hunter and trapper during my childhood in western New York.

Success in both of these activities necessitated that I learn how to discern the signs of various wildlife species. This meant not just identifying animal tracks, but also identifying trails, scat, feeding activity, dens, and habitat preferences. As an adult, I refined my observational skills in college while studying forestry, wildlife biology, and forest ecology, but my education in this activity continues to this day.

You don't, however, need a degree in natural history to be a winter wildlife detective. All you need is the enthusiasm to take a walk, and an interest to try your hand at interpreting what your wildlife neighbors have been up to.

The best time to read animal tracks is when the snow is soft or fluffy enough for an animal to leave an imprint. Other forms of animal sign can be observed as long as snow is on the ground. A fresh snow covers existing animal signs on the

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## Keeping Forests for the Future: Planning a Legacy for Your Woodland

By Lisa Sausville, Executive Director

Vermont Coverts will cohost a landowner summit with the Vermont Natural Resources Council on April 30 at Lake Morey Inn, Fairlee, VT.

The program will explore options available to landowners to plan for the future of their property. Presentations and interactive break-out sessions will provide guidance on initiating family conversations about current and future ownership, implementing conservation and estate planning strategies and setting up cooperative forests and other methods to manage land into the future.

A panel of experts including lawyers, conservationists and financial planners will discuss how to keep woodlands in-

tact and transfer ownership to the next generation.

Coverts Cooperators are encouraged to attend and to share what they learn with neighbors and friends who may be considering the future of their woodlands and are interested in knowing more about how to keep land intact and meet their goals and financial needs.

The landowner summit is titled: *Keeping Forests for the Future: Planning a Legacy for Your Woodland*.

Registration forms and additional program information are online at [www.vnrc.org/forest/landowner-summit](http://www.vnrc.org/forest/landowner-summit). The cost is \$30, and includes lunch. The pro-

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## Tracking Hemlock Woolly Adelgid

By John Evans, Class of 2002s

The violent winds of Hurricane Gloria in 1985 are believed to have carried hemlock woolly adelgid from Long Island, across the Sound and into Connecticut. The northern advance of this exotic invasive insect reached Vermont in 2007, and is now found in six Windham County communities bordering the Connecticut and West Rivers.

The hope is that cold winter temperatures in Vermont may reduce insect populations and prevent significant hemlock mortality. As winters over the past several years have been relatively mild, the hemlock woolly adelgid (HWA) has not been put to the test of prolonged spells of -20 degree and lower temperatures at a time when the insect is vulnerable to cold.

A short walk from our Dummerston woodlot, at the site of an infestation discovered in 2008, there is evidence that hemlock woolly adelgid rebounded from last year's very sparse populations. It's easy to find several dozen white, woolly ovisacs in an area the size of your hand on the underside of the branches along a row of ornamental hemlocks surrounding a tennis court.

The good news is that beyond one additional very small infestation across the street from our home there are no other local signs of adelgid expansion.

It's a wait and see situation. Midwinter is an excellent time to check for the presence of HWA and the monitoring process involves a series of pleasant mornings trekking through the woods.

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## Wildlife Detective

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ground, and signs of wildlife activity generally accumulate between snowfalls.

I love deciphering the activities of wildlife from tracks in the snow. I have followed fox tracks through my field, and the presence of blood flecks indicated that it enjoyed a meal of two voles during the night. Following the tracks of this fox also verified it was using a depression under a link fence to cross from one field to another. I suspected that the fox was crossing under the fence at this location, but the tracks in the snow verified my hypothesis.

I have discovered that when the snow is deep, the gray squirrels in my woods use the snow-free spaces under elevated logs and large branches as travel corridors. Ruffed grouse tracks that appear out of nowhere indicate that it landed in the snow. Knowing this, I have walked in a straight line in the opposite direction of the first set of tracks to locate scattered droppings under a hemlock tree where a grouse spent the night roosted in the branches.

A set of large bird tracks at the carcass of a ruffed grouse told the story of an owl eating its kill. Similarly, tracks around a deer carcass tell me who has been enjoying a meal of venison. I have used the presence of winter tracks to identify the cottontail rabbit habitat on my property and to decide where to create brush piles for rabbits.

Following tracks has led me to the dens of porcupines, raccoons, opossums, and squirrels. The swagger of porcupine tracks partially erased by dragging quills has even allowed me to locate the porcupine before my dogs, thereby averting a potentially disastrous situation.

I enjoy deciphering the stories of animal activities from other signs as much as I enjoy interpreting animal tracks. Often the combination of tracks and other signs allows me to create a more complete story. Some of these signs can be detected during other seasons, but they are much more apparent when contrasted against

the snow of winter.

Compacted and melted snow in conjunction with tracks and droppings tells me where a deer was resting, and the imprints from the front legs tell me which direction the deer was facing. A small circle of melted snow in the woods, in combination with tracks, indicated where a fox was curled up to rest about 100 feet from my house. I always stop and look up when I see wood chips scattered on the snow near a tree, indicating a woodpecker was feeding somewhere overhead.

Large areas of churned leaves under the oaks in my woods cause me to stop and look for tracks and droppings to verify that deer were foraging for acorns during the night. Scattered remnants of chewed acorns tell me that a squirrel ate a meal perched on a branch overhead. A more compact pile of chewed acorns leads me to conclude a squirrel ate its meal closer to the ground, or at ground level, because the nut remnants did not scatter as far.

Similarly, scattered droppings of a ruffed grouse tell me that the bird was roosted in a tree, whereas a compact pile of droppings indicates the bird roosted on the ground. A concentration of mammal droppings under a large hemlock caused me to look up to find two porcupines feeding in the top of the tree.

Soft deer or grouse droppings that accompany a warm spell with bare patches of ground indicate the animals are enjoying some fresh herbaceous food after a typical winter diet of woody browse that gives the animals firm, fibrous droppings. Patches of animal hair and blood, or scattered feathers, lead me to conclude that a predator successfully secured a meal, and the hair or feathers allow me to identify the animal that gave its life.

There is always a new story to decipher from the clues left by wildlife in the snow. The examples I have provided are intended to whet your appetite to explore your own woodlands and fields. Curiosity and warm clothes are all that are required to enter the world of a winter wildlife detective.

## Woodland Secret: Water Uptake

*By Arthur H. Westing, class of 1996*

When you look at the trees in your woods, what you are seeing in the forest before you is about 65 to 75 percent of its woody biomass. The remaining 25 to 35 percent represents the trees' below-ground root systems. The functions performed by a tree's root system are essentially two-fold: on the one hand, it anchors the tree in place and keeps it upright; and on the other, it draws in water with its dissolved nutrients — indeed, simply huge amounts of such water throughout each growing season.

But as it turns out, a tree's roots are simply not up to the job, so for every known species of tree — and, indeed, perhaps as well for all other plants growing in natural systems — the roots of each tree species have formed an intimate relationship with some particular species of fungus to help them out here. This relationship of “symbiosis” [sym- = together; -biosis = life] is of benefit to both partners.

### *Increasing water absorption*

The fungi live within the tree's feeder root cells and draw their nourishment from the tree (fungi not themselves being able to synthesize their own food). They in turn send out a huge array of fungal hairs (hyphae) that increases the tree's water absorption of the order of 100-fold. And those same fungi often perform one or more additional functions of use to their host tree: some of them ward off pathogenic (disease-causing) fungi; others make the roots less sensitive to heat stress; and yet others prevent or at least impede the uptake of toxic substances.

The crucial symbiotic relationship I have been describing is referred to as a “mycorrhizal” one [myco- = fungus; -rhizal = root]. So a forester may value a woodland site for the fine trees it supports, whereas the mycologist with him is admiring all of those great fungal host plants.

A sufficiency of water is, of course, cru-

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## Hemlock Woolly Adelgid

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A standard procedure is to turn over at least 200 hemlock branches. If adelgid are present, they will be found at the junction of the needle and branch. While only lower branches checked, in many cases this is an excellent diagnostic as HWA will often be distributed throughout a tree.

### **Spreading by bird activity**

In some mature hemlocks stands, the first live branches can be 30 feet and more from the ground. Few lower branches are available for inspection. One is reminded of the possibility HWA may be present in hemlock crowns by the chatter of chickadees and mixed bird flocks high up in the canopy. These sounds are important as a primary dispersal mechanism for woolly adelgid is birds carrying the insect from one site to another. This link is confirmed by the common discovery of HWA in the vicinity of bird feeders.

When crown evidence is not available for inspection, and far beyond binocular view, signs of adelgid may not be discovered until a hemlock falls or the infestation is severe enough to cause needles to drop, leaving the crown looking, as some have described, as “ghost like.”

Last summer a rotted oak knocking over a hemlock led to the discovery of the largest HWA infestation in Dummerston. The site was near the West River, a travel corridor for birds, and adjacent to a major stream, another bird friendly site. The landowner recognized signs of HWA and called our County Forester, Bill Guenther. Bill surveyed the area and found evidence of HWA in a wide range of hemlocks, from small seedlings to mature trees. The crown of the fallen tree looked like it “had been snowed on.”

### **Volunteer insect monitors needed**

Well-informed landowners are often the first to spot infestations. In Vermont, with 9,600 square miles of land and only a small force of state agency employees in Forests, Parks and Recreation and Fish and Wildlife to patrol it, the need is for many more citizen volunteer monitors

with eyes trained to see evidence of exotic invasive insects, and plants.

I learned about HWA and other invasive insects at training sessions conducted by Jim Esden of Forest Parks and Recreation. They were held at a Coverts Cooperator Training and also at several trainings for citizen monitors sponsored by the Dummerston Conservation Commission. In our community we now have more than 30 local volunteers engaged in adelgid monitoring and reporting results to FP&R.

This is my third year on HWA patrol, and I look forward to these winter snowshoe walks. My travels take place over three or four mornings and involve a spot check of perhaps 125 acres of hemlock. I focus on preferred bird habitat, to include hemlocks bordering streams and ponds, surrounding wetlands, along ridge lines and where there are well-defined edges.

I’ve turned over thousands of branches, and done enough squinting in bright sunlight against a white snow background to learn to try and schedule patrols when it’s cloudy or overcast. It’s also a good idea to wear gloves with a black or dark background. Placing your hand behind the branch makes it much easier to spot the contrast with the very small, white, cotton-looking ovisacs.

### **HWA control options**

For information on what to do when an adelgid infestation is discovered, check out this document from Forests, Parks and Recreation at [www.vtfor.org/protection/documents/VTFPR\\_August2010HWAinVermont.pdf](http://www.vtfor.org/protection/documents/VTFPR_August2010HWAinVermont.pdf).

You may live in a part of Vermont where HWA will never reach, and we don’t know enough about woolly adelgid to predict the population range or tree mortality.

However, this lack of information is not the case with the emerald ash borer and Asian longhorned beetle. Emerald ash borer is a tree killer and it can rapidly expand its range. Today, it’s on the Vermont border to the east with New York State and the north with Quebec. The Asian longhorned beetle population may be

confined to the Worcester, MA, area with a single Boston outlier.

As stewards of the land, it is increasingly important to educate ourselves about invasive insect I. D. and to patrol our own woods for signs of infestation. In the process of focusing attention on one thing, insect evidence, you’ll be surprised how much more you will learn about tree species and wildlife habitat.

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## Landowner Summit

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gram is supported with funding by the USDA Forest Service and Northeastern Area State and Private Forestry.

Catherine Mater, keynote speaker and a senior fellow at The Pinchot Institute for Conservation, will discuss the links and interrelationships between human health and forest health.

If you have any questions about this program, call Lisa Sausville at 802-388-3880. Some scholarship money will be available.

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## Fund Drive, Workshops and Cooperator Training

The annual fund drive wrapped up at \$23,810 just shy of our goal. There is a strong possibility that additional grant funding will make up the difference.

Spring and fall trainings are scheduled, as noted in the calendar on the back page, and Coverts is now accepting applications.

An online survey to determine workshop opportunities for our audience provided many helpful suggestions. One result is a course in Digital Mapping for Landowners to teach landowners how to use online resources to map their properties. See the calendar for information.

Visit our website ([www.vtcoverts.org](http://www.vtcoverts.org)), Facebook page or Ning site ([www.vtcoverts.ning.com](http://www.vtcoverts.ning.com)) for current information on a variety of topics, post your comments and concerns or start a discussion group.



# Woodlands for Wildlife

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## Calendar of Upcoming Events

For additional calendar information visit [www.vtcoverts.org](http://www.vtcoverts.org)

### Digital Mapping for Landowners

*Thursday, April 7, Johnson State College, Johnson; Friday, April 8, Ilsley Public Library, Middlebury; Wednesday, April 20, Lake Morey Resort, Fairlee; Wednesday, April 27, Holiday Inn, Rutland.* Dive into the exciting world of digital mapping! Free mapping data, online mapping applications, and inexpensive hand-held GPS units offer a wealth of opportunities to visualize your land and its resources from a new perspective (a bird's eye view, to be specific!). Leslie Pelch from the VT Center for Geographic Information (VCGI) will take you on a 3-hour tour. Fee is \$10; class limited to 10 participants at each site. Contact Lisa Sausville, [lisa@vtcoverts.org](mailto:lisa@vtcoverts.org) for a registration form.

### What Every Vermont Landowner Should Know About the Birds

*Saturday, May 14, 8:45 a.m., East Peacham.* Charlie Brown, a noted bird expert and educator, will lead a morning bird walk from his East Peacham home. This program is co-sponsored by Coverts, Audubon Society-NEK and the Fairbanks Museum. A relaxed discussion of wildlife management will conclude this event. Charlie's house is on Blanchard Hill Road, off East Peacham Road. House is first on the right, about 1/2 mile from the intersection.

### A Walk in a Managed Woodland

*Saturday, June 18, North Danville.* Enjoy a tour of the 100-acre forest and streams on the property of Nancy and Richard Diefenbach and learn about wildlife signs and the Diefenbach's management plans and practices.

### Vermont Coverts Cooperator Training

*Friday, June 3 to Sunday, June 5, at Coutts-Moriarity Camp, Derby, VT.*  
*Friday, Sept. 9 to Sunday, Sept. 11, at Kehoe Conservation Camp, Hydeville, VT.*

## Water Absorption

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cial to a tree's survival, but species are variously sensitive to too much of a good thing. For example, Red maple (*Acer rubrum*) and Sycamore (*Platanus occidentalis*) can cope with occasionally waterlogged soils, whereas Red oak (*Quercus rubra*) is less able to do so.

Finally, there is a symbiotic relationship between certain tree species and some very special bacteria, but this is another story.

*This article first appeared in the winter issue of Woodlot Tips, the newsletter of the Woodland Owners Association in Windham County.*