

HARTFORD CONSERVATION COMMISSION

The 2008 newsletter of the Hartford Conservation Commission (HCC) examines the ecological and economic threats caused by invasive species, particularly three insect invaders that could produce region-wide devastation to our forested landscape. Learn how to recognize these invasive pests and whom to notify if you find them. We include an update on Didymo, the noxious aquatic organism found in stretches of the White River, and how to avoid spreading it. Also, we encourage you to attend one of our Wildlife Initiative community gatherings that will be held this fall. We invite you to participate, and bring a neighbor too!

Please check out our calendar listing free HCC activities throughout the year and join us!

UPCOMING HCC EVENTS CALENDAR

April 19, Saturday, 10:00 a.m.—noon, **Vernal Pool Walk**, Hartford Town Forest*

April 26–May 3, **Green-Up Hartford Days**, green-up bags available at Municipal Office

May 3, Saturday, 9:00 a.m.—noon, **HCC Green-Up Day/Tree Board Arbor Day Celebration**,

Lyman Point Park, Green-up bags, Tree and shrub sale, Tree and Invasive Plant Identification Walks

May, Date and time TBA*, **Riparian Tree Planting** with the White River Partnership, Lyman Point Park

June 7, Saturday, 9:00 a.m.—noon, **Trails Day**, Hartford Town Forest *

September 11, Thursday, 7:00 p.m. **Wildlife Initiative Community Input**, Hartford Library

September 17, Wednesday, 7:00 p.m. **Wildlife Initiative Community Input**, West Hartford Library

September 25, Thursday, 7:00 p.m. **Wildlife Initiative Community Input**, Quechee Library

October 2, Thursday, 7:00 p.m. **Wildlife Initiative Community Input**, Wilder Club and Library

October 9, Thursday, 7:00 p.m. **Wildlife Initiative Community Input**, Bugbee Senior Center

First Monday of every month (excluding holidays), 7:00 p.m. Conservation Commission meeting, Municipal Office, second floor conference room.

* Please contact Matt Osborn for more information 295-3075

WILDLIFE INITIATIVE-LINKING LANDS ALLIANCE

The Upper Valley is rich in wildlife and natural beauty. As our population grows, protecting intact natural areas and biodiversity as well as maintaining a working landscape become essential if we wish to continue enjoying our rich natural heritage. This awareness has brought together people from neighboring towns, **including Hartford**, in order to address natural resource issues that transcend town borders.

The first project of this group, the **Linking Lands Alliance (LLA)**, is a **Wildlife Initiative**. Animals such as moose, fisher, bobcat, and bear require large acreages that extend beyond town boundaries in order to maintain healthy populations. By providing habitat for these animals we ensure the ecological health of a multitude of other animals and plants with their own special needs that are important to the whole region.

LLA has partnered with the Community Wildlife Program of the Vermont Fish & Wildlife Department to help with the project. The **Wildlife Initiative** consists of two elements. One is working with State and local wildlife experts to assess landscape components that encompass a broad range of habitats. The other is learning from community members in each of the towns those places they regard as special for enjoying nature. When completed, the **Wildlife Initiative** will combine science-based evaluations of the multi-town landscape with important natural assets identified by the communities.

The LLA aims to provide an overview of the natural areas important to both wildlife and residents. The information can be used as a guide by landowners and towns to coordinate voluntary land use efforts to ensure that we, and wildlife, continue to thrive in the Upper Valley.

In Hartford, this crucial next step of eliciting community input will take place in villages and community centers in order to engage as many residents as possible. (See the above calendar for dates.) We encourage everyone to join with neighbors in identifying those special places that enrich our lives.

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INVASIVE SPECIES

What are invasive species?

These are plants, animals, insects, and pathogens that have moved outside their natural range—often due to human activities—and lack natural enemies to keep them in check. They spread aggressively in their non-native habitat at the expense of native species and habitats. Though only 1% of introduced species are considered invasive, they pose serious ecological and economic threats. Global trade and world travel have propelled the speed and likelihood of invasive species introductions worldwide.

How do invasive species get here?

- ◆ **packing material:** Wood boring insects like the *Asian long-horned beetle (ALB)* and the *Emerald ash borer (EAB)* have arrived in the wooden spools, pallets, and fill used to transport products imported into the U.S. from other countries.
- ◆ **ballast water:** Aquatic invasive species such as the *zebra mussel* and *Asian milfoil* have been transported in ballast water from ships coming from other countries and then spread by humans from lake to lake or stream to stream attached to boats, nets, or waders.
- ◆ **escapes from agriculture, horticulture, and aquariums:** Several invasive plant species such as *purple loosestrife*, and *Japanese knotweed*, have been quarantined by the State of Vermont. However, many others including, *bush honeysuckles*, *burning bush*, and *Japanese barberry* are still sold at local and mail-order nurseries; and once planted, they spread across the landscape. Non-native animals, fish, and aquarium plants released into the wild or disposed of improperly can also become invasive.



Forest devastated by Hemlock Woolly Adelgid infestation.

Why are invasive species a problem?

- ◆ **ecological effects:** Invasive species readily colonize non-native habitats and displace native species. This results in major changes to the structure and composition of our local ecosystems and loss of species diversity. Next to habitat loss, invasive species are the largest cause of species loss in the U.S. These disruptive effects are long-lasting or permanent.
- ◆ **economic effects:** Invasive species cause huge economic losses — \$138 billion a year in the U.S. To date in the U.S., more than \$250 million has been spent on control of the *Asian long-horned beetle*. In fact, the invasion of the *Asian long-horned beetle* has the potential to cause more damage to a wider range of hardwood species in North American forests than the Dutch elm disease, chestnut blight, and gypsy moth **COMBINED!** (U.S.D.A.)

What can we do?

- ◆ **Learn to recognize invasive species and stop their introduction:** The first step is learning to recognize the invasives that are arriving in our area. Be aware that some invasive plant species are still available from nurseries. It is best to not purchase them. Instead, encourage your local nursery to carry native plants. Stop the spread of aquatic invasives by checking boats and gear for invasive aquatic plants and don't discard aquarium plants outside or release fish or exotic animals into the wild. Do not haul firewood from distant locations; it may contain invasive insects.
- ◆ **Monitor for invasives:** Periodically inspect your property for invasive plants and insects, particularly for the *hemlock woolly adelgid (HWA)*; and note signs of rapid decline in tree health. Birds, wind, and heavy equipment can carry invasive seeds onto your land; if discovered as single or small infestations they are easier to eradicate. Also examine wood packing materials and nursery plants for invasive insects. If invasive insects are found on private or public lands, notify local authorities listed below in "Northeast's Most Wanted."
- ◆ **Eradicate invasives:** Learn proper methods for removal, treatment, and disposal of invasive plants and remove them from your property. Check the web sites below for useful information on identifying and removing invasive plants. Please call authorities at once if you find invasive insects.

To learn more about this local and global problem, check these websites:

USDA Forest Service Invasive Species Program: <http://www.fs.fed.us/invasivespecies/index.shtml>

USDA Forest Service/Vermont: <http://www.invasivespeciesinfo.gov/unitedstates/vt.shtml>

Vermont Master Gardener Program University of Vermont Extension: <http://www.uvm.edu/mastergardener/invasives/invasives.htm>

Vermont Invasive Exotic Plant Committee: <http://www.vtinvasiveplants.org/>

THE NORTHEAST'S MOST WANTED

Three potentially devastating insect pests – the Asian longhorned beetle (ALB), emerald ash borer (EAB), and hemlock woolly adelgid (HWA) – are on the doorstep of the woods of northern New England and New York. If you spot any of these insects, please contact the appropriate state agency: Vermont Department of Forests, Parks & Recreation at: (802) 241-3606 (ALB); (802) 888-5733 (EAB); (802) 885-8821 (HWA).

Let's keep these invaders out of our forests!

Special thanks to our friends at *Northern Woodlands* magazine for permission to reprint the "Northeast's Most Wanted" article from the Winter 2007 issue (www.northernwoodlands.org).

Photos: Top: Will Blozan, Right: ALB, VT Agency of Agriculture, EAB on leaf and galleries and HWA, Ron Kelley, VT Dept. of Forests, Parks & Recreation.

Identification	M.O.	Status in Northeast	Potential Effects
Asian Longhorned Beetle (<i>Anoplophora glabripennis</i>)			
<p>The Asian longhorned beetle (ALB) is an inch-long, bullet-shaped beetle with a shiny black back and irregular white spots; the male sports very long (longer than the body), antennae with white rings. It is often confused with the whitespotted pine sawyer, a native black beetle with long antennae that has a prominent white spot at the base of its wing covers (behind the head).</p>	<p>ALB attacks many hardwoods, including all species of maple, poplar, willow, elm, birch, and black locust. Its white, wormlike larvae tunnel into wood and disrupt water transport, killing the tree; adults leave round emergence holes 3/8-inch or larger in bark. Leaves yellowing and dropping is one sign of infestation. The ALB is usually spread in cut wood or on nursery stock, and adults can easily fly 200 meters.</p>	<p>The ALB was introduced into New York, Chicago, and New Jersey, probably in wood packing materials from China. It was first discovered in New York, in 1996. Known infestations at present in North America are in Brooklyn, Queens, Staten Island, and Manhattan in New York; Middlesex and Union counties in New Jersey; and in Toronto, Canada. These areas are under quarantine and are each in different stages of active eradication efforts. Previously infested areas in the Chicago area of Illinois have been deregulated, since no beetles have been found there since 2003.</p>	<p>Because it thrives on many host species and has no natural predators here, the ALB has the potential to spread throughout the Northeast and destroy millions of acres of hardwood forests. The United States Department of Agriculture estimates its effects on the lumber, maple syrup, tourism, and nursery industries could potentially add up to over \$41 billion in losses.</p>
Emerald Ash Borer (<i>Agilus planipennis</i>)			
<p>The emerald ash borer (EAB) is a 3/8ths- 5/8th-inch-long shiny, metallic-green beetle with a coppery red or purple abdomen.</p>	<p>The emerald ash borer's larvae feed under ash bark, creating twisted galleries and often splitting the bark. They leave distinctive D-shaped emergence holes. Infestations usually start in tree crowns and so are difficult to detect. In highly infested trees, damage is usually visible, whether by the presence of emergence holes, dying branches, or signs of woodpecker work on ash limbs. Detecting new infestations on the outskirts of affected areas is much more difficult; the best method forest managers have is to girdle sacrificial "trap" trees in high-risk areas, then come back and peel off the bark to look for larval tunnels. All native ash species are susceptible. The insect has spread on nursery stock, and, often, in firewood brought from infested areas. For that reason, it is recommended that you not move firewood more than 50 miles from its source.</p>	<p>The EAB came to the U.S. from Asia, probably in wood packing material. It was found in 2002 in Michigan and is spreading rapidly, and has reached as far east as Pennsylvania, Maryland, and West Virginia. Affected areas are subject to quarantine rules.</p>	<p>The EAB is a serious threat to the entire ash resource. Since 2002, it has killed more than 20 million ash trees in Michigan, Ohio, Illinois, and Indiana. Though rarely dominant, ash is an important component of many forest types and its seeds are important for many bird species.</p>
Hemlock Woolly Adelgid (<i>Adelges tsugae</i>)			
<p>The hemlock woolly adelgid (HWA) is only 1/32 of an inch long, and it hides out on the underside of hemlock twigs; it is best identified by the white, woolly fluff that covers its body.</p>	<p>The HWA feeds by sucking plant juices at bases of hemlock needles, causing them to dry out and fall off; this prevents the trees from producing new apical buds. It also depletes the tree of vital nutrients, making it susceptible to other stressors. Adelgids can kill a hemlock in three to five years. They are spread by wind and animals, and also via infested nursery stock.</p>	<p>The HWA came to the U.S. from Asia from accidental introductions on nursery stock. It was first found in the 1920s in British Columbia and eastern North America and is now established in New York, Connecticut, Rhode Island, and Massachusetts, as well as in southern Maine (Eliot, Kittery, South Berwick, Wells, and York) and southern New Hampshire (Rockingham and Hillsborough counties). Infested nursery stock has been found in Vermont and eradicated. Natural infestations were found in Windham County this year. Hemlock nursery stock and forest products from infested areas are subject to quarantine rules.</p>	<p>The HWA has the potential to devastate stands of hemlock in northern New England, as it has already done in southern New England. An important forest tree, hemlock provides both food and cover for many wildlife species and valuable shade and soil protection along streams and rivers. Cold temperatures have thus far slowed its northward spread. Hemlock is extremely important to wildlife (it provides critical winter shelter for deer) and to water quality (it protects our streams and rivers from runoff and keeps them shady and cool for fish and other aquatic species).</p>

What is Didymo?

Didymo is a nuisance, possibly non-native, freshwater alga that can form extensive blooms in streams. Tufts of didymo are beige or brown in color and may resemble sediment. Didymo stalks create thick mats on the stream bottom. When dry, the stalks turn white at the ends and are sometimes mistaken for toilet paper. Though it appears slimy, didymo feels like wet wool or cotton balls.

What is the Threat?

Didymo is spreading and has been documented in previously unaffected streams throughout the world. Though it is not a considerable human health risk, dense mats formed by didymo cover the stream bottom and may adversely affect aquatic invertebrates and fish. The unsightly clumps of stalks can also break free and clog water intake pipes. Fishermen, swimmers, tourists, scientists and anyone who utilizes streams could be impacted by the spread of didymo.

How is it spread?

Didymo can hitch a ride to new streams on clothing and recreational equipment such as water shoes, boats, and fishing gear. Didymo cells can remain viable for several days if kept moist. Thus, absorbent items (such as felt-bottomed waders) increase the spread of didymo. If you have been in a didymo stream, please follow the precautions in the yellow box (right) before entering another stream.

Check

Remove visible clumps and sediment from clothing, gear or equipment when leaving a stream.

Clean

Soak gear or equipment in a 5% (by volume) detergent or salt solution for at least one full minute. Prepare by combining 1 cup detergent or salt with 19 cups (4 ¾ quarts) water. Soak thoroughly to ensure complete contact. If available, utilize wash stations set up for didymo control.

Dry

If cleaning is impractical, dry the item for at least another 48 hours after it is dry to the touch. Absorbent items, such as felt-bottomed waders, may require a long time to dry or never dry, so they should be soaked.

Thanks to Brad Taylor, Dartmouth College Biology Dept., for permission to reprint Didymo Flyer. Photos: Amy P Smagula, NH DES Exotic Species Program. Left: streambed with Didymo Right: close up of rock with Didymo



Didymo Watch:

If you spot didymo in a stream near you, please contact: Didymo identification, Water Quality Division 802-241-3770 or 241-3777, Leslie.Matthews@state.vt.us or michael.humling@state.vt.us