



## An Ohio Woodland Stewards Program Publication

The Ohio Woodlands, Water, and Wildlife Newsletter is published in part with funding from the Renewable Resource Extension Act (RREA).

### The “Wascally Wabbit”: Prepare Against Rabbit Damage This Winter

Marne Titchenell, OSU Extension, Wildlife Program Specialist

The eastern cottontail rabbit can be responsible for a considerable amount of damage no matter the season. In the spring they are feasting on greening vegetation such as clover, herbs, and flowering plants, leaving plenty of time for crops to ripen (fruits, vegetables, legumes), which are preferred summer foods. Once fall and winter roll around, rabbits will turn their attention to woody plants for sustenance. They will eat the bark, buds, stems, and tender twigs of a variety of shrubs, vines, and young trees (Figure 1).

Winter damage by rabbits is fairly easy to identify. Older woody growth will have evidence of gnawing, with marks from the rabbit’s two front incisors usually evident. Twigs, vines, and stems will be neatly clipped off at a characteristic 45 degree angle. Round droppings in the area can also be used to identify rabbit damage. Keep in mind that rabbits are light enough to traverse on top of snow cover. Once the snow melts, the damage can be deceiving as it will appear to be much higher than a rabbit can reach. In places where snow drifts can reach 4-5 feet high, it’s not uncommon to see rabbit damage to woody stems reaching that high.



**Figure 1:** Eastern cottontail rabbit late winter damage to trunk of a crab apple. Image courtesy of Steven Katovich, USDA Forest Service, Bugwood.org.

**Figure 2:** Wire cylinder around a bur oak seedling.

Protect your woody plants this winter by surrounding them with a protective cylinder of hardware cloth or chicken wire (Figure 2). This barrier between your plant and hungry rabbits should be as tall as the rabbit’s reach (about 2 feet) while standing on the expected snow depth (perhaps another foot depending on where you live in Ohio). A mesh size of ¼ inches is ideal but can be more expensive than large mesh sizes. Leave enough space between the plant and cylinder to prevent a rabbit from reaching tasty twigs through the wire if you use mesh larger than ¼ inches. Commercial tree shelters are also an option, and serve the same purpose, if you do not want to make your own.

A dome or cage of chicken wire or hardware cloth can also be used to protect your early blooming flowers in the spring. Creating a barrier between the plants and rabbits is often a successful tool against rabbit damage throughout the year if other attempts, such as repellents, have failed.

For more information on managing rabbit damage visit [www.icwdm.org](http://www.icwdm.org).

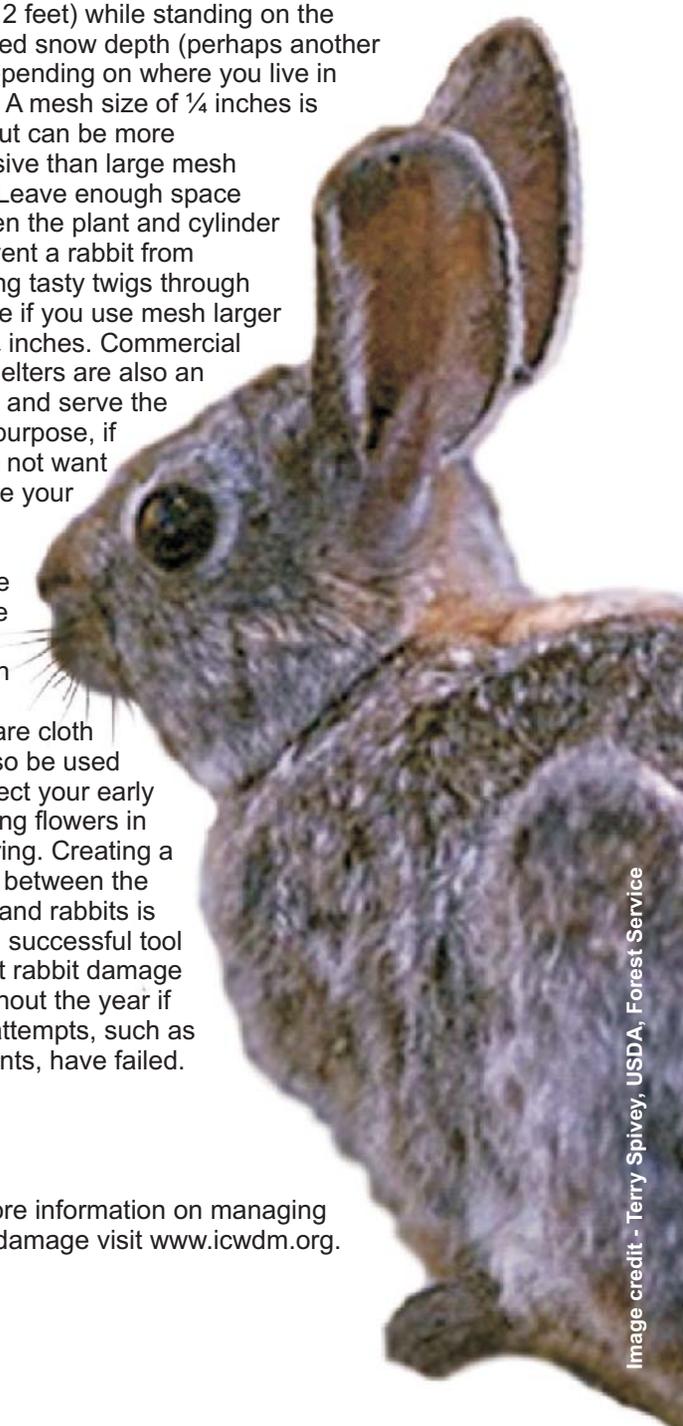


Image credit - Terry Spivey, USDA, Forest Service

## Asian Longhorned Beetle Update, November 2011

Amy Stone, OSU Extension EAB & ALB Outreach Educator

While Asian longhorned beetle (ALB) infestations in SW Ohio are garnering nearly all of the attention in Ohio, residents and woodland owners across the buckeye state are urged to stay vigilant and continue to look for signs and symptoms of this non-native invasive species

Joe Boggs, Extension Educator in Hamilton County has said “this insect has the potential to impact the breakfast we eat and the table we eat upon.” While not only maples (*Acer* spp.) can be killed by ALB, that genus is an obvious favorite. Other potential host species include: *Aesculus* (horse chestnut), *Albizia* (mimosa), *Betula* (birch), *Celtis* (hackberry), *Cercidiphyllum* (katsura), *Fraxinus* (ash), *Koelreuteria* (golden raintree), *Platanus* (sycamore), *Populus* (poplar), *Salix* (willow), *Sorbus* (mountain ash), and *Ulmus* (elm).

Adult ALB Photo (above): Dave Shetlar, OSU Extension



in their own areas as well. Ohioans can check out the following website – [www.beetlebusters.info](http://www.beetlebusters.info) for additional information and photos. Stay tuned as the topic of ALB will continue to be added and incorporated to woodland owner programming this fall and winter.

If you suspect that you have a tree infested with ALB, please contact the Ohio Department of Agriculture at 855-252-6450. Early detections of ALB infestations are less costly; more easily eradicated and have less impact on affected communities. It is the goal of the program to eliminate ALB from Ohio and the United States, thus saving the maples and other host trees from the devastating destruction and ultimate death at the “mandibles of the exotic species.”

Eradication efforts are moving forward in Clermont County and tree removals are scheduled to begin on November 14, 2011. Crews will begin removing identified infested trees and working directly with those property owners. At the same time, a second Environmental Assessment will be completed for the “full host removal” of trees within  $\frac{1}{4}$  of a mile of a known infestation. There will be a 30 day public comment period on this Environmental Assessment, just as there was for the first assessment.

You may wonder, what does “full host removal” mean? Full host removal means that the program would like to remove all of the trees that the ALB is able to complete its lifecycle in, which are the 13 types of trees mentioned

above. Trees that are not able to support ALB development will remain, such as shade trees like oaks and beech, flowering trees such as crabapple and cherry trees, evergreen trees like pines, firs and spruces, etc. This strategy for eradication is under consideration since ground survey is only 30% effective in detecting a lightly infested tree, and climbing surveys are 60% effective in detecting a lightly infested tree. Therefore for every 10 infested trees found, another 3 to 4 infested trees are missed, leaving ALB to continue to spread, and subsequently prolonging the eradication process.

Knowledge gained through research and expertise is the driving force behind eradication recommendations. While no one wants to cut and remove trees in our forests and landscapes, these efforts are being made as a means to protect millions of other trees outside of this immediate area from ALB. The sacrifice of residents in Tate Township, the Village of Bethel, and impacted property owners in Monroe Township should be recognized by all Ohioans as their trees will be lost in the battle to eliminate ALB from Ohio.

## The Forest Products Industry Is Important to Ohio's Economy

Eric McConnell, OSU Extension, State Specialist, Forest Products

Production forestry has long been recognized for its contributions to the local economy through employment, wages and benefits, products produced, and value-added monies. Other impacts, though, go largely unnoticed. Its impacts on allied industries, resulting from the purchasing of goods and services necessary to maintain production, reach far beyond the forest landowner's fence or the producing mill's gate and into allied industries, neighboring towns, and counties. An additional effect is the economic activity generated through the purchasing of goods and services by production forestry and its allied employees in their local communities.

One way to measure economic impact is through input-output analysis. Input-output analysis follows commodity flows through each stage of production from producer to consumer. This tracks how the products manufactured by one business are used as inputs in another company or industrial sector. A network of interdepe

ndent suppliers and consumers can then be illustrated and quantified in a locality or region through economic modeling. Thus, an industry's impacts within and between sectors in an area can be determined.

Four measures are used to evaluate economic impact. Employment is the number of full and part-time jobs. Labor income is the sum of employee compensation (wages and benefits) plus proprietor income. Value-added is the sum of labor income, interest, profits, and indirect business taxes. Total output is the total value of production measured as the sum of value-added plus the cost of buying goods and services to produce the product.

Economic impacts of an industrial sector are reported three ways. Direct impacts are those generated by the industry of interest through employment, value-added, and industrial output. Indirect impacts result from the purchasing of goods and services by the industry being studied to meet its demands. This activity results in employment, value-added, and industrial output for supporting businesses. Induced impacts are the changes produced from the purchasing of goods and services by households as a result of changes in employment and/or production levels.

An input-output analysis of Ohio's forest products industry was recently conducted using Impact Analysis for Planning (IMPLAN), an economic impact analysis software package distributed by the Minnesota IMPLAN Group. IMPLAN was originally used by the U.S Forest Service for modeling the regional economic impacts of the national forests' management plans. It divides Ohio's economy into 440 industrial sectors. The data used by IMPLAN for modeling are provided by the Bureau of Economic Analysis, the Census Bureau, the Bureau of Labor Statistics, and National Agricultural Statistics Service. Below are some highlights from the analysis. (Results were based on 2009 data, the most recent available, and reported in 2009 dollars. The Ohio forest products industry consists of 25 individual IMPLAN sectors and was modeled as a collective group to prevent overestimating its indirect and induced economic impacts.)

### Direct Impacts

- The forest products industry employed 47,114 people who earned \$2.55 billion in labor income.
- The average annual wage was \$54,179 compared to the state average of \$46,096.





## ALB and the Maple Syrup Industry

Gary Graham, OSU Extension, Natural Resource Specialist

Asian Long horned Beetle (ALB) has a long list of trees it will infest. However, this insect is of great concern to Ohio's more than \$5 million annual maple syrup industry since one of its preferred hosts is sugar maple (*Acer saccharum*). Though the distance between the infestation discovered in southwest Ohio and the heart of Ohio's maple industry is significant, this pest should be of major concern to all maple producers. Ohio has maple operations in almost every one of Ohio's 88 counties. The annual upcoming Ohio Maple Days workshops are going to be addressing this issue along with others of great importance to the industry. The workshops are the same each day but held in Morrow County (January



- \$12.9 billion in industrial output and \$3.9 billion in value-added were generated.
- For every one job in the forest products industry, 1.7 other jobs were filled in the economy.

### Total Impacts - Direct, Indirect, and Induced

- 114,500 people in 318 sectors of Ohio's economy were employed because of production forestry related activities, which was 1.8% of the state's total employment.
- Total labor income was \$5.58 billion.
- Total value-added was \$9.03 billion of new wealth.
- Total industrial output was \$22.45 billion.
- The industry generated \$1.02 billion in federal non-defense taxes and \$795 million in state and local non-education taxes.
- For each newly created job in forest products, total economic impacts of \$118,000 in labor income, \$191,000 in value-added, and \$476,000 in industrial output were realized.
- Forest products had the largest indirect impacts on wholesale trade and truck transportation businesses. Sectors associated with real estate and home ownership, health care, and food services received the greatest benefits from forest products-related household spending.

Our wood products today are the result of conscientious decisions made decades ago. Growing timber is a stable form of wealth, producing jobs, economic activity, local taxes, and community support. Indeed, the products from our forests are important to Ohio.

26th), Wayne County (January 27th) and Geauga County (January 28th) to make it easier for all maple producers to attend. These meetings are for anyone who has just a couple taps up to operations with thousands of taps. The speakers this year include Ms. Amy Stone who heads up the educational outreach efforts for the Emerald Ash Borer (discovered in 2003) and now Asian longhorned beetle. She is a wealth of knowledge and will help maple producers understand the lifecycle and how to identify ALB over the many potential lookalike beetles. She will also cover the efforts to quarantine and eradicate ALB and other invasive species from Ohio.

Other speakers this year will include Mr. Steve Childs from the Cornell University maple program. Steve will cover results from research on tubing systems as well as evaluation of sap sugar content and tree growth from thinning the sugarbush. Steve will also have a section on making and marketing maple confections. Also speaking will be the leader of Ohio State University Extension's maple syrup program, Gary Graham. He will be discussing the latest changes in the industry nationally and internationally and how they impact Ohio. Gary will also be providing free hydrometer and temporary grading kit testing to get producers prepared for the upcoming maple syrup season.

To receive registration information contact Gary or Lisa Troyer at (330) 263-3799, or [graham.124@osu.edu](mailto:graham.124@osu.edu). Registrations are due for any of the three daylong classes by January 20th.

## 2012 Ohio River Valley Woodland & Wildlife Workshop

Kathy Smith, OSU Extension, Program Director - Forestry

Are you looking for a landowner oriented workshop where you can get information all in one day on multiple topics? Then mark March 24, 2012 on your calendar! On that date Ohio will host the 2012 edition of the Ohio River Valley Woodland & Wildlife Workshop at the Kings Island Resort and Conference Center in Mason, OH.

This event rotates around the three states that sponsor it Indiana, Kentucky and Ohio and we work hard to make



sure the topics are relevant and timely for our woodland owners.

The talks for the day will cover a wide range of topics including sessions on tree id and shrub id, forest wildlife management, wood id and uses, timber taxes and Ohio's latest invasive pest Asian longhorned beetle. Come learn more about black bear, quail and how to improve your woodland to meet your goals and objectives. The presenters will be a mix from all three states expertise.

Look for registration information to be available in early January at <http://woodlandstewards.osu.edu>. We hope to see you there!

## Diversity is Key!

Kathy Smith, OSU Extension Program Director - Forestry

It seems that in the last few years all we have heard about is non-native insect invaders. Emerald ash borer comes along and all of our ashes are under attack. Viburnum leaf beetle moves into northern Ohio and an infestation of Asian longhorned beetle is discovered in southwest Ohio to add to the attack on Ohio trees and shrubs. What can landowners do?

One side of dealing with these invasive species is for landowners to be vigilant and stay up to date on what to be on the lookout for. Infestations found in their early



stages are infinitely easier to deal with than those that have been left to slowly and quietly spread across the landscape.

The other side of dealing with these issues is and will continue to be species diversity. Whether dealing with the trees in your yard or the trees in your woodland making certain to have a good diversity of species may be the key to that same landscape surviving whatever comes along next.

We all have favorite species but too much of a good thing may put that woody landscape at an increased risk of attack. So, whether you are working with an existing woodland or planning to plant a new woodland or

wooded landscape, try to include a good variety of species in whatever plans you make. There are some good references out there that can help you make well informed decisions in this process. One of those that gives a historical perspective (early 1900's) to the trees of Ohio is E. Lucy Braun's *The Woody Plants of Ohio* (Ohio State University Press). The book gives information on the species of woody plants found in Ohio and provides distribution maps for those species. It also includes keys to help with the identification of those species. While it has been reprinted several times it is still available at book stores and online at many sites including Ohio State University Press.

Another reference that is available to landowners is 'Ash Replacements for Urban and Woodland Plantings' OSU Extension Bulletin #924. This publication was put together a few years ago as emerald ash borer made its way into the state. The book is a diverse list of species that could be used replace ash in a variety of situations. However, the details that are provided for the listed species can also help a landowner make better informed decisions about either the species within an existing woodland or landscape or what to favor if adding to or

creating a new planting. This publication is available at your county OSU Extension office or online at <http://estore.osu-extension.org/>.

These are just a couple of references that are available for landowners when it comes to learning more about the tree species they already have or are thinking of planting. Whatever you use as the source of your information, keep in mind the end result should be to have a diversity of species so that one introduced pest or disease does not have the opportunity to wipe out your entire landscape.

## facebook

Ohio Woodland Stewards is now on Facebook.

Come find us at:

<http://www.facebook.com/pages/Ohio-Woodland-Stewards-Program/197418573782?ref=nf>

### Check Us Out On The Web!

Look for newsletter articles, links to fact sheets and other publications by browsing our site. Registration for upcoming Woodland Stewards classes may also be done electronically. Go to:

<http://woodlandstewards.osu.edu>

Kathy L. Smith

Program Director - Forestry

Ohio Woodland Stewards Program Coordinator

### Contact Us!

For program information contact Mary Slyby at 614-688-3421 by email:

[ohiowoods@osu.edu](mailto:ohiowoods@osu.edu)

or by mail at:

Ohio Woodland Stewards Program

School of Environment & Natural Resources

210 Kottman Hall

2021 Coffey Road

Columbus, OH 43210

OSU Extension embraces human diversity and is committed to ensuring that all educational programs conducted by Ohio State University Extension are available to clientele on a nondiscriminatory basis without regard to race, color, age, gender identity or expression, disability, religion, sexual orientation, national origin, or veteran status.

Keith L. Smith, Associate Vice President for Agricultural Administration and Director, OSU Extension

TDD No. 800-589-8292 ( Ohio only) or 614-292-1868



Non-profit Org.  
U.S Postage  
PAID  
Columbus, OH  
Permit # 711