

BRANCHING OUT

Maryland's Woodland Stewardship Educator



University of Maryland Extension – Woodland Stewardship Education
<http://extension.umd.edu/woodland>



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Another Pest: Spotted Lanternfly

We are quite familiar with the role global commerce plays in the introduction of invasive plants and insects to North America in general and Maryland in particular. The Emerald Ash Borer is one of the most pervasive examples of a pest hitchhiking a trip across the globe. A new invasive insect that may arrive in Maryland is the spotted lanternfly, or SLF.

This native of China may have arrived in Pennsylvania's Berks County as early as 2012 on a boat or a plane carrying imported goods. The insect eats trees, munches on vines, and has spread to the city of Philadelphia and twelve additional counties in southeastern Pennsylvania. These areas are now under a quarantine affecting plants, plant-based materials, and outdoor household items. An additional quarantine exists in three New Jersey counties; SLF has also been reported in Delaware, New York, and in the town of Winchester, Virginia. One digest of infestations can be found on Don't Move Firewood's [Spotted Lanternfly page](#).

The reason that outdoor household items are on the quarantine list is that SLF lays egg masses on a wide range of vertical surfaces, including trees. Egg masses have been found on grills, mowers, vehicles and firewood.

SLF poses a threat to a variety of agricultural crops, particularly fruit trees and grape vines. As the insect digests the sap in trunks, branches, twigs and leaves, it excretes a substance called honeydew that can attract bees and other insects. This sticky fluid may also accumulate on the ground below the infestation. Honeydew provides a medium for fungi which can cover leaf surfaces and stunt growth; plants with heavy infesta-



Adult spotted lanternfly (actual size: 1 inch).
 Photo by Pennsylvania Dept. of Agriculture

tions may not survive. To learn more about the life cycle and behaviors of SLF, start with the [USDA Animal and Plant Health Inspection Service's Spotted Lanternfly webpage](#), [Penn State Extension's "Spotted Lanternfly" webpage](#), and their ["Spotted Lanternfly Management for Homeowners" webpage](#).

Along with this general threat to the region's timber and agricultural economies is the relationship with

another native of China: tree-of-heaven. SLF loves tree-of-heaven. While SLF can reproduce on many trees and shrubs, it seems to prefer tree-of-heaven. While researchers are examining this relationship, limiting the spread and occurrence of tree-of-heaven might slow SLF's reproduction and its spread, and, by extension, the impact SLF has on other plants. It is now perhaps more important than ever to identify and control tree-of-heaven in your woodlands.

You can learn more about identifying and controlling tree-of-heaven through the Woodland



Adult spotted lanternfly with wings open. Photo by Pennsylvania Dept. of Agriculture

Stewardship Education program's Publications Library. The ["Invasive Species" section](#) has several publications that will assist you in your efforts.

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New Zealand Forests Down Under

Jonathan Kays

I recently returned from a forest conference in Christchurch, New Zealand and a tour of the southern island, a land of beauty, diversity, and contrasts. In many of the lowland locations, native forests are being actively cleared for pasture for dairy cows, which now outnumber sheep. This results in water quality issues, due to high amounts of nutrient runoff and leaching. A leading export is powdered milk, which is primarily for markets in China.

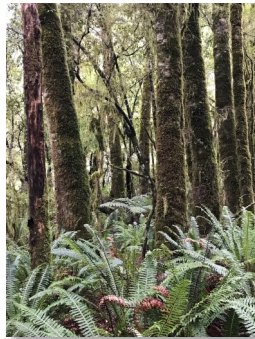
Many scenes from the films *The Lord of the Rings* and *The Hobbit* were filmed in New Zealand. As we headed west from Christchurch, we traversed through mountain forests of beeches (different species from those in the US), which have black sap residue that produces honeydew, used by many birds. We climbed steep mountains to cross Arthur's Pass, the entry to the west coast range of mountains.



New Zealand has no native mammals except for a few bat species. However, the introduction of opossums and deer have wreaked havoc on the landscape. Most of the major efforts to eradicate these species have had questionable success.

New Zealand has orchestrated a major effort to eliminate "wildlings" (the natural regeneration or seedling spread of introduced trees) that dominate the landscape. Most are conifers such as pine, larch, and firs. It was obvious to this visitor that this large-scale eradication without real knowledge how to regenerate native species results in some questionable justification for removals.

The ancient forest of New Zealand are known as podocarp-hardwood forests and are very diverse, but many have been cut down and converted to farm land, except for those in conservation areas. One large area exists on the southwest coast. Podocarp trees make up 17 species that come from a time when New Zealand was attached to a larger land mass. Best known as rimu, kahikatea, miro, matai, and totara, the podocarp forest is luxuriant with a dense undergrowth of shrubs, ferns, and tree-ferns. These ancient leftovers are mainstays for many of the films mentioned, but few remain.



If you are looking for an intriguing place to visit, consider New Zealand, but be forewarned: they drive on the left side of the road.

New Woodland Stewardship Education Webinars Available

On August 7, 2018, the Woodland Stewardship Education program offered the latest in its Woodland & Wildlife Webinars series. "Status of Emerald Ash Borer in Maryland & Potential for Impact to Tidal Hardwood Swamps" featured Colleen Kenny from the Maryland Department of Natural Resources Forest Service, who discussed the latest spread of and control methods being employed and developed related to emerald ash borer. Jonathan Kays, Extension Forester with the University of Maryland Extension, shared thoughts concerning the recent spread of EAB onto Maryland's Eastern Shore, and how it could impact populations of riparian ash species along vital waterways.



To view the recording of this webinar, visit WSE's YouTube channel. Click [this link](#) to view the webinar.

University of Maryland Extension Forester Jonathan Kays shared his observations on "Increasing Adoption of Residential Wood Energy: Past, Present & Future" via Forestrywebinars.net on August 29th. The one-hour presentation covered trends in home and commercial uses of wood energy, the different types of heating devices available, and regulations to improve efficiency and reduce atmospheric particulates. He also shared a number of best practices for buying, storing, and seasoning wood for heating.



The webinar is available free of charge but requires registration for viewing through Forestrywebinars.net. For more information, go to <http://www.forestrywebinars.net/webinars/increasing-adoption-of-residential-wood-energy-past-present-future/>

Woodland Wildlife Spotlight: Southern Flying Squirrel

Maryland is home to a variety of squirrel species. The gray squirrel is seemingly everywhere, especially in urban and suburban locations. The red squirrel is found mostly in the western part of the state, preferring evergreen trees. The Delmarva fox squirrel is found only on the Eastern Shore, and was removed from the Endangered Species list in December 2015 (read more about them in this [issue of Branching Out](#)).

But the one species that most have not seen is the Southern flying squirrel. The main reason is that this mammal is nocturnal and lives high in the trees of hardwood forests across the state. You may hear them before you see them; their calls are most often heard within the first few hours after sunset. Their series of high-pitched, excited-sounding cheeps are used to keep track of their fellow squirrels and to issue warnings. Some of these vocalizations are higher in frequency than humans can hear.

Autumn nights are the best time to observe these squirrels, because they are particularly active as they gather food for the winter. As omnivores, they have a varied diet. It includes nuts and acorns, seeds, berries, fruits, leaf buds, fungi, and bark. (One sure sign that your woodland has southern flying squirrels is the presence of gnawed hickory nuts at the base of large hickory trees.) Additionally, they will consume bird eggs, insects, and carrion. They are beneficial to woodlands through their dispersal of acorns and nuts, and by their dispersal of certain fungi that are beneficial to tree root systems.

Fall is also the end of the southern flying squirrel's second young-rearing season. They mate in February and March, and then again during June and July. However, little is known about the species' courtship and mating practices. After a period of gestation lasting forty days, the female gives birth to an average litter of two to three young. The young nurse for two months and are independent after four months. These are unusually long periods for animals this size; one theory is that the extended time spent with adults helps them master their "flying."

Of course, flying squirrels do not actually fly. They have a special flap of loose skin between the wrists and ankles that stretches out to resemble a parachute. Their wide and flat tail is used for guidance. These adaptations not only allow them to glide from upper to lower branches with ease, but also enable them to glide up to 250 feet and make 90-degree turns in midair. Their large eyes enhance night vision, enabling them to navigate between trees in the dark.

The southern flying squirrel is a highly social mammal. They are often observed in large groups, gliding and foraging together.

Southern Flying Squirrel Vital Statistics



Southern flying squirrel. Photo courtesy Phil Myers/University of Michigan Museum of Zoology



Appearance: Soft, greyish-brown fur with white belly. Large eyes with dark rings around them. Prominent ears and whiskers.

Size: 2.5 ounces average weight; 8-12 inches average length

Lifespan: 5 to 6 years old in the wild

Southern flying squirrel launching a glide from a tree. Photo courtesy wildlifelandtrust.org

The "safety in numbers" strategy protects them against a variety of predators. They are often hunted during their glides by hawks and owls, and by other species that can climb well, such as weasels, raccoons, bobcats and house cats. It also helps them survive the winter months. Because they do not hibernate, groups of 15-20 squirrels will often nest communally in a tree cavity, an abandoned woodpecker hole, or a vacant nest box. They gather nesting materials such as dry leaves, shredded bark, moss, fur and feathers to line the floor of the cavity, and will spend the winter together to share body warmth.

For more information about the Southern flying squirrel:

[Maryland Mammals: Southern Flying Squirrel \(Maryland Department of Natural Resources\)](#)

[Southern Flying Squirrel \(Chesapeake Bay Program\)](#)

[Southern Flying Squirrel \(Humane Society of the United States Wildlife Land Trust\)](#)

[Southern Flying Squirrel \(BioKIDS/University of Michigan\)](#)

The Forestry Industry & Its Effects on Maryland's Economy

How many dollars does the forestry industry add to the Maryland economy? BEACON and MARBIDCO joined forces to find out.

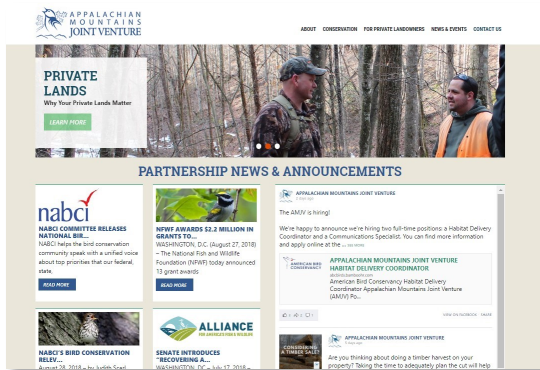
BEACON is the Business Economic and Community Outreach Network at Salisbury University in Salisbury, MD. MARBIDCO is the Maryland Agricultural and Resource-Based Industries Development Corporation. Together, they examined the impact of resource-based industries as a whole on the Maryland economy. This included agriculture, mining, natural gas, and seafood/aquaculture along with forestry.

Using the latest available (2015) statistics, they examined three levels of impact: the industry's direct effects, in terms of jobs produced and economic contributions of companies involved; the indirect effects, such as the dollars spent by such companies to support their business operations; and the "induced" effects—those dollars spent by industry employees in household spending—to calculate.

The three-page summary is available on the WSE website at [https://extension.umd.edu/sites/extension.umd.edu/files/docs/Impact_of_Forestry_on_MD_Economy\(03.18\).pdf](https://extension.umd.edu/sites/extension.umd.edu/files/docs/Impact_of_Forestry_on_MD_Economy(03.18).pdf). The full study is available at MARBIDCO's website at http://www.marbidco.org/pdf/2018/Full_Report_All_Maryland_Resource_Based_Industries_Beacon_2018.pdf.

AMJV Launches New Website

The Appalachian Mountains Joint Venture recently launched its website re-design. The URL (amjv.org) remains the same.



Planning a Fall Foliage Excursion?



Photo courtesy Kevin Moore, Maryland.gov

Although summer has its share of enthusiasts, the vibrant colors of autumn have ar-

dent followers across the country. While the foliage in New England gets a fair share of attention, it's certainly possible to enjoy such woodland displays closer to home. Maryland's fall colors are expected to peak around the week of October 22, although it will occur earlier in the western counties.

If you're interested in catching color, consult [The Foliage Network](#) or the [Fall Foliage Prediction Map](#). Shenandoah National Park posts "[Fall Color Reports](#)" weekly during the peak season. This article from the [Anne Arundel Patch](#) has a good summary of sites for viewing.

West Virginia Ginseng Season

West Virginia's ginseng season runs through November 30. Ginseng is a perennial plant that takes two years to germinate. While ginseng grows in all 55 counties



Ginseng photo courtesy West Virginia Division of Forestry

in West Virginia, digging for ginseng on state-owned lands, such as state parks and state forests, is illegal.

There are a number of regulations that cover who can collect and sell the plant, including requirements for maintaining the plants' populations. A new law this season requires the seller to have a government-issued photo ID to sell ginseng to a registered dealer.

For more information, visit the West Virginia Division of Forestry's website at <http://www.wvforestry.com/ginseng.cfm?menucall=ginseng>.

Invasives in Your Woodland: Multiflora Rose

Multiflora rose is one of the most common invasive plants in the mid-Atlantic region. It is reported in all but three counties (Charles, Wicomico and Somerset) in Maryland; in all but nine counties and cities in Virginia; and all but four counties in Pennsylvania. It is reported in every county of West Virginia and Delaware. Farther afield, it is found as far north as Newfoundland and Nova Scotia, as far south as northern Florida, and as far west as Minnesota, Nebraska and Texas, with further concentrations on the west coast.

What is it?

Multiflora rose (*Rosa multiflora* Thunb.) is native to eastern Asia, found in Japan, Korea and eastern China. It is a stout and thorny perennial bush that was brought to the eastern United States in 1866 as rootstock for ornamental roses, and was later promoted in the 1930s by the US Soil Conservation Service as a means of erosion control and as “living fences” in confining livestock. State conservation departments recommended using it as cover for wildlife; for example, in West Virginia, more than 14 million plants were planted in the 1940s to 1960s. More recently, it has been planted along highway medians to serve as crash barriers and to reduce automobile headlight glare. The plant was chosen because of its dense and rapid growth, creating dense thickets that crowd out native species. It also spreads into pastures and now infests more than 45 million acres throughout the eastern United States.

How does it spread?

Multiflora rose spreads through its prolific seed production. Each cane on a large plant may contain 40 to 50 clusters of flowers; each cluster may contain as many as 100 hips, and each hip averages seven seeds. Some researchers estimate that a single plant may produce a million seeds per year. The seeds remain viable in the soil for several years, and are often spread by birds, especially cedar waxwings and American robins and perhaps the Northern mockingbird, that eat the fruit and spread the seeds through their droppings. The plant also reproduces by rooting at the tips of its drooping canes.

How can I identify it?

Multiflora rose can be identified by its arching, thorny canes that can be green to red in color. The leaves are alternate with serrated, elliptical leaflets that are up to 1.5 inches long. The plant produces white, fragrant flowers during May and June, with red, spherical fruit appearing in late

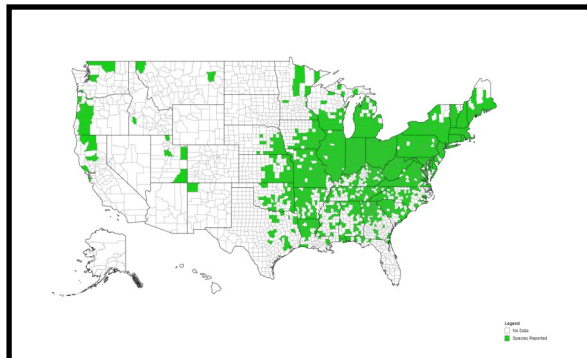
summer. Mature thickets may exceed ten feet in height and twenty feet in diameter. See the photo gallery on the next page.

How can I control it?

Like many invasive plants, multiflora rose is difficult to control once it is established. A combination of manual, mechanical, and chemical strategies is often necessary. Removing new growth by hand is most effective when the plant is first found and before it can become established in the landscape. Repeated mowing, up to six times per growing season for two to four years, may control the spread of multiflora rose, although this may be a challenge when the plant is found in hilly terrain. Dealing with established infestations is



Multiflora rose plants and flowers. Photo by Rob Routledge, Sault College, Bugwood.org



Multiflora rose US county distribution.

Courtesy eddmaps.org.

difficult, especially when the plant has established thick hedges. One study examined the use of bulldozers on large thickets but counselled against it, because further control would be needed to combat re-sprouting and that seeds would readily germinate in the disturbed soil. The use of glyphosate has been effective on freshly-cut stems, new growth, and foliage. Application in the fall would result in control in spring of the next year. Other chemicals, such as dicamba, triclopyr, and fosamine have shown results as

well. Always check warning and safety labelling information before using herbicides.

For more information:

Learn more about multiflora rose:

[Multiflora rose \(USDA Forest Service\)](#)

[Shrubs and Subshrubs: Multiflora rose \(US Dept. of the Interior National Park Service\)](#)

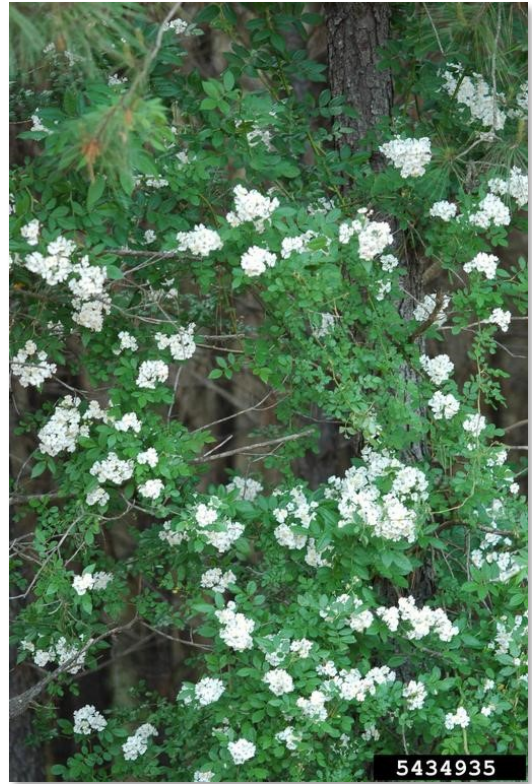
[Rosa multiflora \(The Nature Conservancy\)](#)

[Multiflora Rose \(Penn State University Extension\)](#)

Image Gallery: Multiflora Rose



Multiflora rose infestation. Photo by Randy Westbrooks,
Invasive Plant Control, Inc., Bugwood.org



Multiflora rose plants. Photo by Karan A. Rawlins, University of
Georgia, Bugwood.org



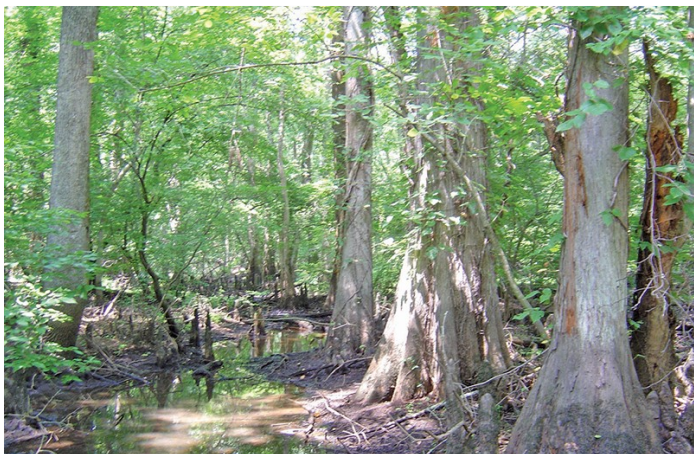
Multiflora rose flowers. Photo by Rob Routledge, Sault College,
Bugwood.org



Multiflora rose fruits. Photo by Chris Evans, University of
Illinois, Bugwood.org

Remnants of Bald Cypress Swamps Grace Chesapeake Watershed

Kathy Reshetiloff, *Bay Journal*



The Pocomoke River forested swamp is located near Snow Hill, MD. Photo by Dan Murphy/USFWS

Towering over coffee-colored waters, a majestic tree, the bald cypress (*Taxodium distichum*), dominates isolated swamps of the Chesapeake Bay watershed.

Although more common to swamps in the Southeast, stands of bald cypress can still be found in parts of Virginia, Maryland and Delaware, where it inhabits areas too wet for many other trees, catching attention with its odd knobby “knees” and buttressed trunk.

Although it is a member of the redwood family and has needles and cones, the bald cypress is not an evergreen. This deciduous tree’s needles turn brown in autumn and fall off by winter, and is the source of its common name, bald cypress.

Its featherlike appearance is produced by flattened needles. The reddish brown to gray bark is stringy and flakes away from wood, peeling off in strips. Flowers are borne on round cones.

Growing up to 150 feet high, very old bald cypress trees may reach a diameter of 10 feet or more. More often, though, they approach 120 feet high and 3–5 feet in diameter.

Adapted to swamp life, bald cypress trunks widen at the base to provide additional support in the soft, wet soil. Shallow roots spread out from the base of the trunk. Where water stands during part of the year, roots develop into elongated “knees” that grow above the mud and correspond to the high-water level. The knees help to anchor the tree. Hollow, the knees usually die if the water is permanently drained.

Because they do not produce seeds every year, bald cypress trees must be long-lived to reproduce. Conditions must be just right for a seed to develop into a tree. Seeds

must set down on a hummock, a knoll of land that remains moist, but not flooded, for three to five years before the sprout can grow into a thriving seedling. Seeds are dispersed by wind and water.

Bald cypress wood is valued for both interior and exterior building materials. The heartwood is durable even when it comes in contact with the soil or is exposed to the elements. Bald cypress wood is also very resistant to most insects and rot. Because of the wood’s durability, large tracts of cypress swamps, from Virginia south to Texas, have been logged.

Bald cypress often share the swampy landscape with other water-tolerant tree species such as black gum, sweet gum, red maple, and a variety of oaks and hickories. In the understory, look for persimmon, sweet pepper bush, swamp azalea and southern arrowwood. Lichens and mosses may add a soft coat to trunks and logs. Open water supports both floating and submerged plants. These forested swamps provide homes for wading birds, like herons and egrets, and waterfowl.

Many songbirds, like the Kentucky warbler, hooded warbler, prothonotary warbler, yellow-throated warbler, ovenbird, Louisiana waterthrush and yellow-breasted chat, depend on these swamps for migratory and breeding habitat. Cavity nesters, like wood ducks, woodpeckers and owls, are right at home here.

Temporary pools are excellent breeding grounds for frogs, toads and salamanders. Snakes and turtles take advantage of both aquatic and terrestrial environments. Even fish find both food and refuge among the twisted submerged roots. Muskrat, raccoons and otter are a few of the mammals that live in these forested wetlands. Seeds are eaten by wild turkey, wood ducks, evening grosbeak, wading birds, waterfowl and squirrels.

Bald cypress swamps, like other types of wetlands, play an important role in the landscape. Their floodplains help to disperse and slowly release floodwater. In addition, they trap sediments and other pollutants, improving the health of nearby rivers.

The Chesapeake Bay watershed still supports some of these unique bald cypress swamps. Explore and enjoy!



Bald cypress swamps are vital breeding grounds for prothonotary warblers. Photo by USFWS

Events Calendar

For more events and information, go to <http://extension.umd.edu/woodland/events>

October 9, 2018, 12:00 PM—1:00 PM and 7:00 PM—8:00 PM

Invasive Forest Insects webinar

Online

Presented by Penn State Dept. of Entomology's Extension Educator Michael Skvarla, this webinar looks at recent control efforts for emerald ash borer, spotted lanternfly, and other pests. This free webinar is offered at noon and at 7 PM. For more information on the noon webinar, go [here](#). For the 7 PM, go [here](#).

October 16, 2018
6:00 PM—9:00 PM

The Woods in Your Backyard: Creating, Enhancing, Protecting & Financing

Bel Alton MD

This evening workshop will provide the knowledge and resources to create new natural areas from lawn or pasture, or to enhance existing woodlands. For more information and how to register, click [here](#).

November 9-13, 2018

Wood Stove Design Challenge

National Mall, Washington DC

The fourth Wood Stove Design Challenge will feature twelve teams from across the globe in a competition that demonstrates innovative means of making wood heat cleaner, more efficient, easier to use, and a renewable source of electricity. For more information about this free event, go to <http://forgreenheat.org/2018-stovedesign/stovedesign.html>.



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This and back issues can be downloaded for free at www.extension.umd.edu/news/newsletters/branching-out.

All information, including links to external sources, was accurate and current at the time of publication. Please send any corrections, including updated links to Andrew A. Kling at akling1@umd.edu.

Send news items to Andrew A. Kling at akling1@umd.edu or 301-432-2767 ext. 307.

This Issue's Brain Tickler ...



Last issue, we featured this small bird. Congratulations to Joanne Sheffield for identifying the golden-winged warbler—that's two correct Brain Ticklers in a row!

For this issue, we share a photo of a woodland management technique that can be particularly effective this time of year. It's useful for managing both native and non-native woody species, and requires very little specialized equipment. Name this technique.



Email Andrew Kling at akling1@umd.edu with your answer.