

Looking at forests: Is forest green always a sign of health?

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UNIVERSITY PARK — It's easy to interpret green in forests as good, though that isn't always the case. You might identify a mantle of green forests covering our hills and valleys as a sign of a healthy environment, while yellows, tans, reds, browns or other colors imply something is amiss.

Soon our forested landscapes will start to take on their autumn colors. With practice, careful observers know tree and shrub species by the colors they assume in the fall along with where they grow in the landscape. As fall approaches and you enjoy the change from green to bright yellows, reds, oranges and all the shades in between, look carefully for woody plants that remain green (of course, other than our evergreen conifers). These will be most obvious along wood edges, under taller native trees or in woodland openings. Sometimes these plants will still have green leaves after all other leaves have fallen, even when the first snowflakes appear.

Those lingering green leaves may be a concern, as they may tell a story of declining forest health. Forests are changing as invasive exotic plants are a growing threat to natural forest functions. Therefore, it is important to learn to identify these plants that hold their "green" to make informed management decisions.

Research studies have documented exotic invasive plants gain an upper hand against our native species by exploiting several advantages. One strategy you may notice this autumn, is they develop leaves early in the spring and retain them longer into the fall. In addition, our native insects and herbivores, such as deer and rabbits, do not generally feed on leaves or twigs of many exotic plant species. Lastly, as exotic plants expand across our landscapes, they are more competitive, cast shade and may even exude chemicals which allow them to exploit an advantage over native plants.

Does it matter that we allow exotic plants to fill our woodlands? Absolutely! Their presence reduces the occurrence of native trees and plants, which native insects, birds, animals, fungus and other wildlife need to survive. In the book, *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants*, Doug Tallamy weaves an interesting story of how exotic invasive plants affect birds and other components of a healthy forests. It's a compelling and important story to understand.

The list of the species of concern is long. Frequently encountered invasive woody plants that hold their leaves beyond the natives include:

Bushes — bush honeysuckles (i.e., three species that look similar — Amur, Morrow's and Tartarian), Japanese barberry, porcelain berry, glossy buckthorn, European privet, multiflora rose, autumn and Russian olive, mock orange

Vines — Japanese honeysuckle, Oriental bittersweet

Trees — Norway maple, Amur cork

Another major invasive tree species of concern in Pennsylvania is tree-of-heaven also known as *Ailanthus*. It is not on the list of long-term green as it readily loses its leaves with the first frost.

Though not a full list, these are some of the mostly easily found and recognized. It is very easy to find pictures and information for identifying and containing all these species by searching the web, though you will find many on-line sources encourage purchasing and cultivating many of these non-native plants. From a landscaping perspective, these invasives have few pests and diseases and are non-preferred food for herbivores. Instead, look for objective websites from government, universities and extensions to learn about plants you want to identify and control. Penn State Extension has an excellent publication titled, "Invasive Plants of the Mid-Atlantic" at <https://extension.psu.edu/invasive-forest-plants-of-the-mid-atlantic>.

While many of these plants seem unthreatening, controlling and managing them is important to sustaining forest health and retaining our native species and all of the ecosystem values they provide. The most recent published inventory data by the US Forest Service for Pennsylvania found 61% of their nearly 3,000 inventory study plots had at least one exotic invasive plant present. Without intervention, the extent of this threat will continue to expand and our forests will continue to undergo significant negative changes.

Recognizing and identifying the lingering green you see this fall is a first step. If you own land, creating a management plan and taking steps to contain the spread of invasive exotic plants is a good starting point. Even homeowners choosing their landscape plants can help address this challenge by planting only native plants. Surprisingly, many of our public parks and woodlands are rapidly filling with exotic invasive species. It is important to act and address the challenge presented by changing plant communities as soon as possible. Healthy forests and woodlands are important to wildlife, water, and the many other benefits they provide us.

Source: http://www.bradfordera.com/bradford/looking-at-forests-is-forest-green-always-a-sign-of/article_d375c1a2-2a25-5b48-bc6b-0cfa1b8da1bc.html