

INVASIVE SPECIES THREATEN BUTTERFLIES -AND EVERYTHING ELSE!

MICHAEL VAN CLEF

For someone with a deep affection for nature, I seem to have spent a large portion of my career as a land steward killing plants—invasive plants, that is. Invasive species are widely considered to be one of the greatest threats to our flora and fauna, second only to outright habitat destruction. Nature’s losses over the last 50 years are staggering. For example, the Cornell Lab reports that we’ve lost one-third of the North American bird population, or 3 billion birds! A 2014 study published in *Science* showed a 40% decline in insects worldwide over the previous 40 years. To protect our natural heritage, and our world, we’ll have to do a lot better.

What is an invasive species?

From the National Invasive Species Council: “An invasive species is non-native to the ecosystem under consideration and causes or is likely to cause economic or environmental harm or harm to human health.” Non-native species are plants and animals living in areas where they do not naturally exist.” “Non-native species” and “invasive species” cannot be used interchangeably, because not every non-native plant species is invasive. Many commonly grown fruits and vegetables are not native to the U.S. For example, tomatoes and hot peppers originated from South America, while lettuce was first grown by the Egyptians. Domestic cows are non-native to North America and were introduced as a food source and considered to be a beneficial organism in an agricultural setting.

Why are invasive plants a problem?

In short, invasive plants break food webs.

Invasive plants often form dense stands that exclude a variety of native plants that would live together to form a healthy plant community that serves a whole host of butterflies, birds, bees, and other animals. It is generally true of invasive plants that the predators—herbivores and pathogens—with which they evolved and that keep them in check in their native environment aren’t present outside of their native range. In areas where such plants are invasive, the native insects, including caterpillars, typically cannot eat their leaves, buds, or other tissues.



Kudzu quickly covers and smothers other vegetation.

Photos ©Michael Van Cleff

In many parts of the country, overabundant deer that eat native plants usually do not eat invasive plants. Free from the browsing that native plants must endure, invasive plants are then poised to take over, displacing the native plants that would normally form the basis of a healthy, complete food web. Because invasive plants are taking up space and not providing food for native insects, the number of insects, including butterflies, declines. The invaded area will also support fewer birds and other animals, since insects are an essential source of food for them as well.

How are invasive species introduced?

Invasive species are introduced either purposely or accidentally. A large percentage of invasive plants come from our landscapes because they are pretty in gardens or serve a desired function. They are often promoted by nurseries as being “pest free,” which sounds good, but it means that caterpillars won’t eat them. No caterpillars means no butterflies or moths. In New Jersey, several invasive *Viburnum* species are widely planted for their beautiful displays of flowers and fruits in the garden. Garlic Mustard was brought to North America as a medicinal plant by early colonists. Mile-a-Minute was introduced accidentally as weed seeds in a shipment of ornamental holly seeds. The invasive Emerald Ash Borer, a beetle, arrived as a hitchhiker in raw, untreated wood packages and is on course to kill every ash tree in the country.

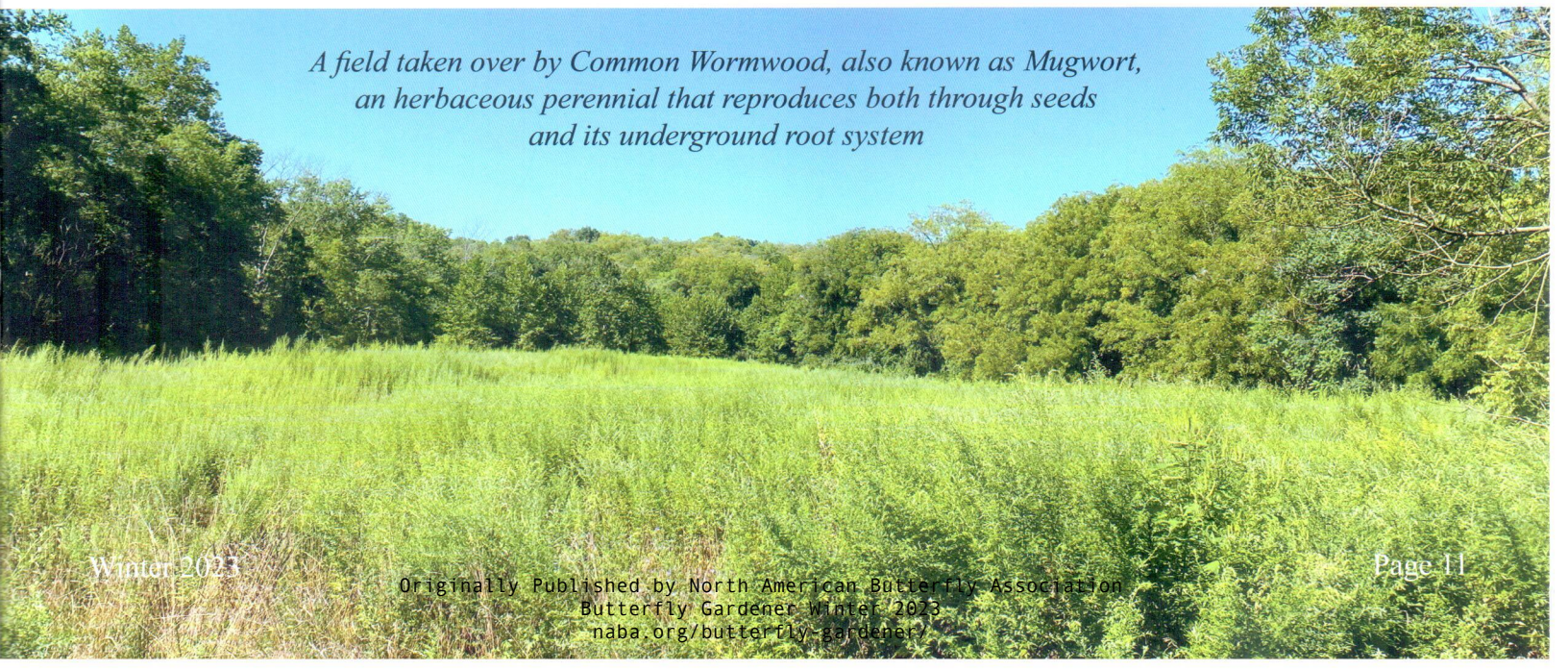
How can I learn what species are invasive in my area?

Lists of invasive species by country, region, and state have been put together by many groups, formally or informally and with greater or lesser amounts of scientific rigor. Fortunately, the U.S. Department of Agriculture has created a website where you can find lists for any state—see invasivespeciesinfo.gov/subject/lists. A listing of invasive plants in Canada can be found at ccipr.ca/canadian-invasive-plant-lists/.

Chances are very high that virtually every property owner has at least one or more invasive species in their yard, often planted on purpose. To provide some context, in New Jersey we have a Community Conservation Program where I visit homes and recommend native plants best for landscaping the site— and in more than 300 visits, I haven’t seen more than two or three that had no invasive species!

What should I do if I find unwanted invasive plants on my property or in nearby natural areas?

It depends on the species. Many invasive herbaceous plants can be pulled or repeatedly cut to the ground, eventually exhausting their resources. Trees can be girdled, which is the removal of a section of bark around the entire circumference of the tree, cutting off its food supply. Trees can also be cut down and stump-ground, or you can monitor and remove new sprouts growing from the stems.



*A field taken over by Common Wormwood, also known as Mugwort,
an herbaceous perennial that reproduces both through seeds
and its underground root system*

The control of invasive plants can be challenging. Digging or cutting can work, but many invasive plants will resprout from root fragments or respond to cutting by producing many new sprouts. Many “organic herbicides”—for example, concentrated vinegar or citrus oils—usually do not kill roots, therefore resprouting is likely. But repeated application can eventually “tire out” root systems. If there aren’t too many plants and you are persistent, these methods can work.

The use of chemical herbicide, using the correct formulations and application methods, is often the only practical solution for larger infestations. I’d recommend reaching out to the state cooperative extension offices or cooperative weed management areas for advice particular to the species you’d like to control. ALWAYS follow label instructions and avoid unnecessary or ineffective methods for your situation.

It is always a good idea to learn from those more experienced with the use of herbicides before beginning to use them yourself. Joining volunteer efforts and learning from experienced land stewards will both help you to effectively control invasive plants on your property and also help to improve the ecological health of natural areas near your home.



Japanese Barberry is used in landscaping, but can quickly expand into natural areas, taking over a woodland understory

Always get permission from the property owner before taking any action to combat invasive species in a natural area.

Regardless of the method you choose, follow-up may be necessary for a few years. Persistence pays off!

Any final advice?

It’s very valuable to remove invasive species where they are already present. But it is equally important to “pledge” not to purchase invasive species in the future. The majority of states have regulated lists of plants that cannot be purchased, but these lists are almost always incomplete. To play it safe, consider not buying any species considered invasive in your state or province.

But if we hope to avoid losing more butterflies, bees, and birds, then you really want to plant native species! Our native fauna and flora have lived together for many millennia, and they have adapted to each other—they need each other! We must work quickly and collectively to make sure that we don’t lose another 3 billion birds and untold numbers of butterflies and other insects over the next 50 years.

Michael Van Clef is Program Director for the New Jersey Invasive Species Strike Team, a project of Friends of Hopewell Valley Open Space (fohvos.info), a nonprofit land trust. Mike has more than 30 years of experience in land stewardship including invasive species, rare species, deer management, research, and restoration.