



HB979/SB915 2024 Biodiversity and Agriculture Protection Act

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Invasive Plant Legislation FAQs

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What is an invasive plant species?

An invasive plant species is a non-native plant, introduced intentionally or accidentally, that “causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health.” ([U.S. Executive Order 13751](#) of December 5, 2016) Non-native invasive plants spread rapidly without natural controls like herbivores and pathogens that exist in native ranges.

How does the 2011 Maryland invasive plant law define invasive plant?

Current Maryland invasive plant laws define “invasive plant” as “a terrestrial plant species” that: (a) did not evolve in the State; and (b) if introduced within the State, will cause or is likely to cause, as determined by the Secretary: (i) Economic harm; (ii) Ecological harm; (iii) Environmental harm; or (iv) Harm to human health.” COMAR 15.06.04.02. Furthermore, the only species looked at are those that are both terrestrial and commercial (i.e., sold in the nursery trade). This approach does not address that aquatic and non-commercial plants can also be invasive. The proposed legislation would broaden the definition to include all categories of invasive plants: terrestrial, aquatic, commercial, and non-commercial.

Why prohibit the sale and propagation of invasive plants?

Invasive plants destroy healthy natural environments, reduce outdoor recreational opportunities, depress crop yields, contribute to farmer bankruptcies, increase food costs by adding to agricultural costs, escalate use of toxic pesticides, and increase the incidence of human disease.

What do invasive plants cost us?

Invasive plants cost billions of dollars in economic and ecological harm each year. For example, at Shenandoah National Park, the director of invasive plant management estimated it would take at least \$27 million over a decade to get the invasives under control, and then \$1 million a year to keep them in check. These dollars are not available because the entire park budget is about \$20 million a year, and 85% of that goes to fixed costs. About 55,000 acres or 28% of park lands are infested with invasive plants, and these plants are present to some degree in about two-thirds of park lands. With available resources, park staff just try to slow the invasives down to give native plants a chance. These costs are an estimate for one U.S. Park. Imagine the annual costs to control invasive across all of our parks, natural lands and agricultural lands.

How do invasive plants affect the environment?

Invasive plants outcompete natives for resources like light, and can strangle and overwhelm even mature trees, thereby destroying entire ecosystems. Certain invasives can alter soil chemistry making it difficult for native plants to grow. Annuals that dry out after flowering or perennials with combustible oils can magnify fire risk. Invasives killing healthy trees that absorb CO₂ and smokey fires compound the effects of climate change. Furthermore, invasive plants create monocultures that deprive native pollinators and other wildlife of the food and shelter needed for survival. This loss of biodiversity threatens our very existence.

How do invasive plants affect agriculture?

Invasive plants reduced crop U.S. yields by 12%, causing \$32 billion in economic losses in 2000 according to a study by David Pimentel in BioScience. Over 95% of soybean and corn crops are regularly sprayed with herbicides to keep invasive plants under control, thereby increasing the costs of dealing with invasives even more. One particularly damaging invasive tree species, Tree of Heaven, hosts the spotted lanternfly, which is affecting the grape and wine industry in Maryland by killing vines and dramatically decreasing grape yields.

How do invasive plants affect Marylanders' health?

The health of humans is intertwined with the health of our environment. When invasive vines smother and destroy forests or urban oases, we lose the shade that cools heat islands, oxygen production, and the mental health contributions that natural areas provide. Additionally, mature trees sequester carbon to slow climate change, but trees killed by vines release it. Where invasives are widespread in natural settings and in agriculture, there is no alternative to using herbicides for management; however, these toxic chemicals spread throughout our land, air, and waters, ultimately damaging the health of Marylanders, native animals, and the Chesapeake Bay. In addition, infestations of one particular invasive plant species, Japanese barberry, increases the occurrence of Lyme disease by creating a protected, humid microclimate conducive to the proliferation of the pathogen's carriers—deer mice and black-legged ticks.

What is the source of the invasive plant problem?

The source for the invasive plant problem always comes back to one cause – us. Since the founding of our country, we have intentionally brought in plants from faraway places, and we have imported invasives by accident as contaminants. We enjoy using non-natives to create beauty in our gardens, grow food and building materials, or to solve problems like erosion. Many of these intentionally imported plants are not problematic and stay where we plant them, but we have an increasing number of species that are causing harm and overwhelming our native plants. It is time for us now to start to work toward a solution.

Why can't we just let our native wildlife adjust to these invasive plants?

The rate of species evolution, which occurs over millennia, can never keep up with the uncontrolled spread of invasive plants occurring over only a few years or decades. For example, the West Virginia white butterfly (*Pieris virginiensis*) has evolved over thousands of years to use native toothworts and rockcresses as its host plants. This butterfly is experiencing a number of stressors and is categorized as rare or very rare in Maryland and other states, so is at risk for extinction. The females confuse invasive garlic mustard with the native hosts and lay their eggs on the wrong species. However, garlic mustard is an ecological trap because the larvae cannot survive on the invasive plant. The West Virginia white could never adapt to the toxic chemicals in garlic mustard in time to avoid extinction. If we expect wildlife to switch to invasive plants, very few native animals will be left.

Why prohibit the sale of invasive plant species that are already widely established in our environment?

When we walk through our parks and forests and drive along our roadsides and see invasive plants overwhelming trees and all the other plants in the area, we may wonder if prohibiting the further sale of these invasive species can make a difference. The answer is a resounding yes. As we have realized the damage invasive plants are causing, groups have been organizing all around our state to fight back and start removing these invaders. This effort takes a tremendous dedication of time (and money when professionals are involved in the control) and for these efforts to have any success, we need to stop the sale of the very plants that are being removed.

Why make changes to the existing Maryland invasive plant species law?

Maryland's original invasive species law was passed in 2011 and put Maryland in the forefront of invasive species management at the time. The law adopted a science-based risk assessment to evaluate potentially invasive plants and place them into a two-tiered system. The law was initially successful and prohibited the sale of 6 invasive plants. In addition to the 6 prohibited from sale, 13 are currently sold with warning signage. However, no new invasive plants have been assessed since 2019 despite growing evidence of economic and ecological harm. The Maryland Invasive Species Council (MISC) lists approximately 300 terrestrial and aquatic plants causing ecological and economic harm in Maryland and the Mid-Atlantic Invaders Tool (MAIT) lists over 600 invasive species.

What was the purpose of a two-tiered system specified in the 2011 legislation?

Maryland's 2011 invasive plant legislation created a two-tier system where invasive plants could be assigned to either the most restrictive category, Tier 1, prohibiting those plants from sale and propagation, or a less restrictive category, Tier 2, which allows the invasive plant to continue to be sold commercially with a warning sign. This two-tiered system emphasized prohibiting plants that were potentially invasive and could harm threatened or endangered native species while allowing invasive plants that were established or had been in the state for longer than 50 years to continue to be sold (with a warning sign).

What changes are being proposed to the existing law?

In even the short time since the passage of the 2011 invasive species law, our environment has changed. Where the original law focused on assessing potentially invasive species to prevent or halt their spread in Maryland and protect rare or threatened native species, we now see a significant number of our natural areas overrun by aggressive invasives destroying entire ecosystems and causing huge declines in populations of native species. We now need to broaden our focus from potentially invasive plants to those that are established in an effort to stem their exponential growth. We also need to include all invasive plants – terrestrial and aquatic, commercial and non-commercial in our management of invasives. The new legislation

adds a “status” assessment protocol based on the NatureServe protocol to assess established invasive plants. The proposed legislation also revises the way we use a tiered system and recognizes that additional staff will be needed to timely assess invasive plants, manage the invasive plant list, and enforce the law.

Why include non-commercial species, which are not sold in the nursery industry?

There are several reasons to include non-commercial plants on Maryland’s Invasive Plant List. First, determining if a plant is commercial or non-commercial has become a difficult exercise with the large increase in on-line nursery sales. In our research, we were able to find an on-line seller for virtually all the invasive plants we analyzed. Unless prohibited, even a “non-commercial” plant could begin to be sold by nurseries at any time and could be purchased on-line and planted by residents in our state. Second, the Maryland Invasive Plant List has an educational function as well as a regulatory function. When a plant is placed on Tier 1 Prohibited status, it has gone through a rigorous assessment process, and its listing and prohibition from sale can help educate the public to the dangers the plant can cause to our environment and economy. Third, private organizations and local jurisdictions are more likely to get grant funding to combat species listed as prohibited.

Will there still be a two-tiered system in the proposed legislation?

In current law, the assessment process is a two-step process consisting of the risk assessment and the Maryland screen. The Maryland screen determines whether an invasive plant will be classified as Tier 1 (prohibited from sale, propagation, etc.) or Tier 2 (still allowed to be sold with a warning sign) and has unfortunately created a list of Tier 2 plants whose damaging effects to our state continue to grow, but the plants will never be prohibited from sale. This is a structural issue that must change if our state is ever to start reversing the economic and ecological harm that these plants are causing. With the new assessment protocol, we would establish a Tier 1 (prohibited) list for plants scoring above a certain threshold on the assessment and a Watch List for plants scoring below a certain threshold on the assessment.

How is a Watch List different from the current Tier 2 list?

The Watch List is a list of plants that show some invasive qualities but don’t yet score above the threshold on the plant assessment to be classified as a Tier 1 Prohibited plant. These plants need to be “watched” and will be reassessed within a predetermined time frame. If their score increases on subsequent assessments, they will be moved to Tier 1 Prohibited status. In comparison, plants on our current Tier 2 list achieve that designation if they will not harm threatened or endangered species, have been in the state for more than 50 years, or are so widespread that continuing to sell the plant won’t have an appreciable impact on the invasive population. These plants, even if reassessed under the current system, will never be banned from sale. So, even if efforts to remove these plants from forests and other natural areas show some success, more plants will continue to be sold and planted, and then will escape into those same natural areas, creating a never ending and very costly cycle.

Why does Maryland need to change the invasive plant assessment protocol?

While the current assessment protocol is a high-quality, scientific invasive plant risk assessment, this lengthy assessment can take a botanist or other plant expert 8-10 weeks to complete. It requires specialized software that is only available through paid subscription. At a rate of 6 plants assessed per year with an 8-10 week assessment time requirement, it would take an assessor over 15 years to assess the 92 invasive species listed in the 2022 edition of Plant Invaders of Mid-Atlantic Natural Areas. Assessing the approximately 300 invasive plants listed by MISC could take 50 years! With the amount of damage invasive plants are causing to our natural areas, that is just too long to wait. Additionally, the current risk assessment was chosen to focus on invasive plants that have the potential to cause harm in Maryland. A “status” assessment protocol is better suited to assess established invasives.

Why recommend a Maryland version of the NatureServe assessment for our state?

The NatureServe Invasive Species Assessment Protocol is a professionally recognized protocol that was developed in 2004 by NatureServe in cooperation with The Nature Conservancy and the U.S. National Park Service. This protocol assesses the invasive status of non-native plants by their ecological impact on native species and biodiversity over a large geographical area. It is designed to make the assessment process systematic and objective and to incorporate scientific documentation. Over the past 15-20 years, because the populations of many invasive species in Maryland and in the mid-Atlantic region have increased by several orders of magnitude, we need to move to a “status” assessment from the current “risk” assessment for these species. This proposed protocol can also work on EDRR (Early Detection Rapid Response) invasive species which have some establishment in the state.

What is EDRR and do invasive plants that aren't yet widespread need to be treated differently than established invasive plants?

Early detection and rapid response (EDRR) is a “key tenet of invasive species management” according to the U.S. Department of the Interior. By “detecting” invasive species before they have spread widely, they can be eradicated in a small area before they have a chance to cause harm. It is critical to continue to watch for and regulate these invasives as well as established invasives. An EDRR species can usually be assessed with a status assessment if it has already shown up in Maryland or can be assessed with a risk assessment if it does not yet occur in our state.

What is a risk assessment versus a status assessment?

An invasive species risk assessment is best for evaluating the level of risk posed by a invasive species not yet widely established in Maryland. This is the current type of assessment specified in Maryland law. A status assessment is more useful for quantifying the deleterious effects on native plant and animal biodiversity from established invasive species. Since the 2011 invasive

species legislation was passed in our state, the threat of invasive species in our environment has changed. More and more invasives have become established and widespread in our state. With very limited resources to combat this trend, populations continue to grow.

How are other nearby states assessing invasive plants?

Delaware is currently using a modified version of the NatureServe assessment, the assessment we have been testing with a group of terrestrial and aquatic plant experts. Virginia is also using a modified version of this assessment. Several other states, including Georgia, North Carolina, South Carolina, Tennessee, Alabama, Florida, and Kentucky are looking into adopting a version of the NatureServe protocol for their state assessments as well.

How were species chosen for testing the modified NatureServe protocol?

To test the new invasive plant assessment protocol, a range of plants were chosen: terrestrial and aquatic, commercial and non-commercial. The test group contains species in Plant Invaders of Mid-Atlantic Natural Areas (the reference specified in 2022's SB7/HB15), species that are banned in other mid-Atlantic states, and Early Detection Rapid Response (EDRR) species. The Maryland Invasive Species Council lists almost 300 terrestrial and aquatic invasive species of concern in Maryland. Maryland has currently banned only 6 of those species with another 13 listed as Tier 2, which can still be sold with a warning sign.

Why is it important to ban EDDR invasive plants?

By far the best way to combat invasive species is prevention. If a species is not yet sold in Maryland, preventing it from coming here only requires a small enforcement budget. When an invasive species is present but just at the early detection phase, it is possible to completely eradicate all populations. Invasive species infestations follow the classic "S" curve, and eradication at relatively low cost can occur at the beginning of the curve. As the species' population grows and reaches the top of the curve, long-term investments of resources are required for management, and complete eradication is no longer possible. With limited state and local resources for invasive species control, the more invasive plants that can be prohibited before they are established, the better chance we have to preserve biodiversity in our ecosystems.

How will banning more invasive plants affect nurseries selling those species?

When an invasive plant is placed on the Tier 1 Prohibited list, the prohibition from sale is phased in over a one to two-year period, depending on the type of plant, to allow the nursery to sell the last of its stock and give them time to research and grow alternative native (and non-invasive non-native) plants. Historically, when invasive plants were given a Tier 2 designation under the existing law, some nurseries started to transition away from those plants and offer alternatives that were not causing economic and ecological harm.

What other states have invasive plant species laws?

Many states in the U.S. now have laws to regulate invasive plant species. Delaware passed a law in 2022 banning the sale of 37 invasive plants, and continues to assess additional invasives to add to their prohibited list. New York passed a comprehensive invasive plant law in 2014 that included 68 species prohibited from sale. Virginia and Pennsylvania currently prohibit invasive plant species through their noxious weed laws. Pennsylvania has 60 species on their noxious weed list, and Virginia currently has 14. New Jersey has invasive species legislation in progress which would ban the sale of 29 invasive plant species.

What is the best way to deal with invasive plants?

One of the best ways to prevent infestations and damage from invasive species is prevention. We must continue to prevent new invasive species from getting to Maryland and starting to spread. Where invasives are established, we must stop “adding fuel to the fire” by planting even more of these species. Only when we stop selling and planting invasive species do we have a chance to begin to address the infestations in our parks, forests and natural lands and to rebuild the biodiversity that supports us.