

Office of Regulatory Management
Economic Review Form

Agency name	Board of Agriculture and Consumer Services
Virginia Administrative Code (VAC) Chapter citation(s)	2 VAC 5-317
VAC Chapter title(s)	Regulations for the Enforcement of the Noxious Weeds Law
Action title	Amend noxious weed list
Date this document prepared	October 3, 2022 Revised on 8/8/2023
Regulatory Stage (including Issuance of Guidance Documents)	Proposed

Cost Benefit Analysis

Complete Tables 1a and 1b for all regulatory actions. You do not need to complete Table 1c if the regulatory action is required by state statute or federal statute or regulation and leaves no discretion in its implementation.

Table 1a should provide analysis for the regulatory approach you are taking. Table 1b should provide analysis for the approach of leaving the current regulations intact (i.e., no further change is implemented). Table 1c should provide analysis for at least one alternative approach. You should not limit yourself to one alternative, however, and can add additional charts as needed.

Report both direct and indirect costs and benefits that can be monetized in Boxes 1 and 2. Report direct and indirect costs and benefits that cannot be monetized in Box 4. See the ORM Regulatory Economic Analysis Manual for additional guidance.

Table 1a: Costs and Benefits of the Proposed Changes (Primary Option)

<p>(1) Direct & Indirect Costs & Benefits (Monetized)</p>	<p>The regulatory action proposes to add 12 plant species to the noxious weeds list. Eleven plant species are proposed for placement on Tier 3 and one plant species, two-horned trapa (<i>Trapa bispinosa</i>), is proposed for placement on Tier 2.</p> <p>Direct Costs:</p> <p>Virginia’s Noxious Weeds Law (Va. Code § 3.2-800 <i>et seq.</i>) prohibits the movement of listed noxious weeds unless a permit is obtained from the Virginia Department of Agriculture and Consumer Services (VDACS) prior to the movement of such noxious weed. If a permit is not issued, articles subject to the provisions of the <i>Regulations for the Enforcement of the Noxious Weeds Law</i> must be inspected prior to movement to ensure such articles are free of noxious weeds. VDACS issues permits for the movement of noxious weeds at no cost to individuals. VDACS does not have reliable data on which to base an estimate as to the number of entities that will be required to inspect articles or obtain a permit. The inspection and the permit are not associated with any fees and have no direct cost for the entities who may require an inspection or permit.</p> <p>Entities that need to remove two-horned trapa from waterbodies in Virginia may incur costs related to moving this species that will be case-specific, dependent upon the quantity of plant material that the entity would like to move, and, thus, likely different for each entity. Two-horned trapa is being proposed to be added as a Tier 2 noxious weed, which will require specific mitigation efforts if permitted for movement in Virginia. As an example, if a developer or business entity wanted to remove 100 square feet of two-horned trapa from a waterbody, they would need to obtain a permit (no charge) and the permit would direct them to double-bag the plant material and dispose of the materials in a landfill. In this scenario, assuming one contractor trash bag can hold two square feet of two-horned trapa and its leaves, stems, roots, and seed pods and the average cost of a contractor trash bag is \$2.00, the developer will incur a cost of approximately \$200 in contractor trash bags to double-bag the two-horned trapa removed from the waterbody. This developer may also incur additional labor costs associated with the double-bagging of the species. The developer will likely have a commercial contract to use its local landfill, so the developer will not incur additional landfill costs specific to the movement of this species in this hypothetical.</p>
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	<p>The cost to VDACS to implement the proposed amendments is expected to be minimal, as amendments to the regulation add new noxious weed species to the existing list and, therefore, do not require the establishment of a new program or modification to the agency’s current processes. The issuance of the permit for movement of the newly listed species can be handled with current agency staff and at a minimal cost.</p> <p>Indirect Costs: The agency has not identified any indirect costs.</p> <p>Direct Benefits: There is benefit in protecting Virginia’s agricultural and natural resources and citizens from the harm and economic losses that invasive plant species can cause. The intent of the regulatory action is to prevent the introduction or slow the spread of these proposed noxious weed species into and within the Commonwealth and thereby protect the Commonwealth’s agricultural and natural resources from the detrimental impact of listed noxious weeds. Landowners will benefit from the proposed addition of plant species to the noxious weeds list, as the restrictions on the movement of noxious weeds will reduce the potential that a noxious weed will become established in an un-infested area and impact the use of such land or its value.</p> <p>Indirect Benefits: Prohibiting the movement of listed noxious weed species will provide protection to native plants and local ecosystems from pressures of proposed plant species that may negatively impact Virginia ecosystems. Noxious weed species have biological characteristics that make it difficult for native plants to be successful if they are both present in the same location. For example, Two-horned trapa has a rapid growth rate and a very high seed production rate, which leads to large populations of the plant species that out-compete native plants for space and resources in waterbodies found in Virginia. Adding the proposed plant species to the noxious weed list will prohibit additional movement into or within Virginia, unless permitted by VDACS.</p>
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(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
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	(a) The agency does not have data on which to base an estimate of the direct costs, which will be case-specific and likely different for each entity needing to move a listed noxious weed.	(b) The annual cost of invasive plant species in the U.S. is estimated to be \$35 billion. ¹ Estimates for the damages that invasive species cause in Virginia hover around \$1 billion; ² however, it is not known how much of those costs are specifically related to invasive plants or noxious weeds. The agency does not have any data on which to base an estimate of the direct or indirect benefits.
(3) Net Monetized Benefit	-	
(4) Other Costs & Benefits (Non-Monetized)	VDACS has determined that the benefits of adding these 12 plant species to the noxious weeds list will protect Virginia’s agriculture, forestry, natural resources, and citizens from the negative impacts of the species and outweighs the cost that may be associated with administering the regulations and for entities’ mitigation requirements.	
(5) Information Sources	<ol style="list-style-type: none"> Swearingen and Fulton, Plant Invaders of Mid-Atlantic Natural Areas, 2022, p. 10 Pimentel et al., Update on the Environmental and Economic Costs Associated with Alien-Invasive Species in the United States, 2005 	

Table 1b: Costs and Benefits under the Status Quo (No change to the regulation)

(1) Direct & Indirect Costs & Benefits (Monetized)	<p>If there were no changes to the regulation, the proposed 12 plant species would not be listed as noxious weeds.</p> <p>Direct Costs:</p> <p>If these plants are not added to the list of noxious weeds, Virginia’s agricultural and natural resources will be negatively affected, as these plants may spread to un-infested areas of the Commonwealth. If these plants are not listed as noxious weeds, the use of a landowner’s property may be impacted, the landowner may incur costs associated with controlling such plants, and the value of such property may be reduced as a result of the occurrence of one of these plants on their land. VDACS does not have data on estimated costs associated with controlling or eradicating these plant species, or the impact to land values, but these plants are known to negatively impact the environment and agriculture. Unchecked, invasive plant species propagate and spread to the detriment of native species that have not evolved competitive strategies or immunity that allow them to compete with the newly introduced species. When these invasions are not detected until the species are firmly established, the species no</p>
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	<p>longer respond to eradication efforts, except at tightly defined sites.^{1, 2}</p> <p>Indirect Costs: The agency has not identified any indirect costs.</p> <p>Direct Benefits: VDACS does not have reliable data on which to base an estimate as to the number of entities that will be affected by the amendments. There is no cost for obtaining a permit to move a noxious weed. The cost of inspecting or treating articles to ensure that they are free of noxious weeds is unknown. There would be less of an administrative burden on the agency if the 12 plant species were not added to the list; however, as previously mentioned, there are no permit fees or inspections fees, and the amount of time VDACS staff spend on handling these administrative tasks are minimal. There would be no management requirements for two-horned trapa removals, if the plant species is not added to the noxious weed list as a Tier 2 noxious weed. Businesses would not be required to obtain a permit, nor would they be required to following mitigation practices.</p> <p>Indirect Benefits: The agency has not identified any indirect benefits.</p>	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) The agency does not have data on which to base an estimate of the direct costs.	(b) The agency does not have data on which to base an estimate of the direct benefits. There would not be any additional costs to entities that remove two-horned trapa from waterbodies in Virginia, if it is not added to the noxious weeds list as a Tier 2 noxious weed.
(3) Net Monetized Benefit	N/A	
(4) Other Costs & Benefits (Non-Monetized)	VDACS has determined that the environmental impact and the potential economic losses that landowners would experience outweigh the minimal benefits associated with not listing the 12 plant species.	
(5) Information Sources	1. Biological invasions: recommendations for U.S. policy and management. Ecological Applications 16(6):2035–2054 (Lodge et al. 2006)	

	2. What we still don't know about invasion genetics. <i>Molecular Ecology</i> 24:2277–2297. (Bock et al. 2015)
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Table 1c: Costs and Benefits under Alternative Approach(es)

(1) Direct & Indirect Costs & Benefits (Monetized)	<p>The agency has determined that the only alternative approach to this regulatory action would be to list two-horned trapa (<i>Trapa bispinosa</i>) as a Tier 3 noxious weed, instead of the recommended Tier 2. Doing so would (i) deviate from the scientific evaluation process established in <i>Regulations for the Enforcement of the Noxious Weeds Law</i> (2VAC5-317) and the recommendations of the Board of Agriculture and Consumer Services to list the species as a Tier 2 noxious weed, and (ii) reduce the requirements which could be imposed if a permit was issued to move Two-horned trapa.</p> <p>Direct Costs: VDACS does not have data on estimated costs associated with controlling or eradicating these plant species, or the impact to land values, but these plants are known to negatively impact the environment and agriculture.</p> <p>Indirect Costs: The agency has not identified any indirect costs.</p> <p>Direct Benefits: The cost of inspecting or treating articles to ensure that they are free of noxious weeds is unknown. There would be less of an administrative burden on the agency if the two-horned trapa is listed as a Tier 3 noxious weed instead of a Tier 2; however, the agency does not have data on how many permits or removals would need to be issued for the removal of two-horned trapa from waterbodies in Virginia.</p> <p>Indirect Benefits: The agency has not identified any indirect benefits.</p>	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) N/A	(b) N/A
(3) Net Monetized Benefit	N/A	

(4) Other Costs & Benefits (Non-Monetized)	If two-horned trapa is listed as a Tier 3 noxious weed instead of a Tier 2, entities that may be removing two-horned trapa under a permit would not be required to follow specific mitigation measures and would only need to follow best management practices.
(5) Information Sources	N/A

Impact on Local Partners

Use this chart to describe impacts on local partners. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 2: Impact on Local Partners

(1) Direct & Indirect Costs & Benefits (Monetized)	The agency is not aware of any direct or indirect cost or benefit on local partners. Direct Costs: N/A Indirect Costs: N/A Direct Benefits: N/A Indirect Benefits: N/A	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) N/A	(b) N/A
(3) Other Costs & Benefits (Non-Monetized)	N/A	
(4) Assistance	N/A	
(5) Information Sources	N/A	

Impacts on Families

Use this chart to describe impacts on families. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 3: Impact on Families

(1) Direct & Indirect Costs & Benefits (Monetized)	The agency is not aware of any direct or indirect cost or benefit on families. Direct Costs: N/A Indirect Costs: N/A Direct Benefits: N/A Indirect Benefits: N/A	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) N/A	(b) N/A
(3) Other Costs & Benefits (Non-Monetized)	N/A	
(4) Information Sources	N/A	

Impacts on Small Businesses

Use this chart to describe impacts on small businesses. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 4: Impact on Small Businesses

(1) Direct & Indirect Costs & Benefits (Monetized)	<p>Direct Costs: The proposed amendments to add 12 plants to those that are listed as noxious weeds may impact small businesses; however, the agency does not have reliable data on which to base an estimate as to the number of entities, including small businesses, that will be affected, nor the cost incurred by an impacted small business. The agency anticipates that the cost incurred by small businesses will be minimal.</p> <p>Anyone desiring to move a noxious weed is required to obtain a permit issued by VDACS. The permit does not include specific requirements for movement of a Tier 3 noxious weed but, instead, contains suggested best management practices to prevent the inadvertent spread of the noxious weed. The permit for the movement of Tier 1 and Tier 2 noxious weeds</p>
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	<p>requires compliance with specific best management practices, such as double-bagging plant parts that will be removed from a site, to prevent the spread of the noxious weed.</p> <p>Indirect Costs: The agency has not identified any indirect costs.</p> <p>Direct Benefits: Small businesses that are landowners will benefit from the proposed addition of plant species to the noxious weeds list, as the restrictions on the movement of noxious weeds will reduce the potential that a noxious weed will become established in an un-infested area and impact the use of such land or its value.</p> <p>Indirect Benefits: The agency has not identified any indirect benefits.</p>	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) The agency does not have data on which to base an estimate of the direct costs.	(b) The agency does not have data on which to base an estimate of the direct benefits.
(3) Other Costs & Benefits (Non-Monetized)	N/A	
(4) Alternatives	N/A	
(5) Information Sources	N/A	

Changes to Number of Regulatory Requirements

Table 5: Regulatory Reduction

For each individual action, please fill out the appropriate chart to reflect any change in regulatory requirements, costs, regulatory stringency, or the overall length of any guidance documents.

Change in Regulatory Requirements

VAC Section(s) Involved	Initial Count	Additions	Subtractions	Net Change
2 VAC 5-317-20	0	0	0	0

*This regulatory action does not change the number of requirements with which a person must comply when moving a listed noxious weed. This regulatory action increases the number of plant species that must be moved in accordance with the existing requirements established in the regulation.

Cost Reductions or Increases (if applicable)

VAC Section(s) Involved	Description of Regulatory Requirement	Initial Cost	New Cost	Overall Cost Savings/Increases
2 VAC 5-317-20	*	0	*	*

*Two-horned trapra is being proposed to be added as a Tier 2 noxious weed, which will require specific mitigation efforts if permitted for movement in Virginia. The costs associated with mitigation will be case-specific and likely different for each entity needing to move two-horned trapra.

Other Decreases or Increases in Regulatory Stringency (if applicable)

VAC Section(s) Involved	Description of Regulatory Change	Overview of How It Reduces or Increases Regulatory Burden
N/A		

Length of Guidance Documents (only applicable if guidance document is being revised)

Title of Guidance Document	Original Length	New Length	Net Change in Length
N/A			