



***Plant Risk Evaluator -- PRE™
Evaluation Report***

Viburnum lantana 'Mohican' -- Minnesota

2017 Farm Bill PRE Project

PRE Score: 10 -- Accept (low risk of invasiveness)

Confidence: 70 / 100

Questions answered: 18 of 20 -- Valid (80% or more questions answered)

Privacy: Public

Status: Submitted

Evaluation Date: September 12, 2017

This PDF was created on June 15, 2018



Plant Evaluated

Viburnum lantana 'Mohican'



Image by Midwest Groundcovers



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Viburnum lantana* 'Mohican') in an effort to understand the invasive history, reproductive strategies, and the impact, if any, on the region's native plants and animals. This research reflects the data available at the time this evaluation was conducted.

Summary

Given that there is no reproductive difference between 'Mohican' and the parent species, the species was considered heavily in this evaluation. The PRE score of 10 was increased by the fact that it has naturalized in multiple US states including Wisconsin, which has a climate similar to Minnesota. It also has an invasive relative in *V. opulus*. It has been reported to be mildly toxic in high (perhaps very high) quantities, has the potential to displace native vegetation, and is dispersed by birds.

General Information

Status: Submitted

Screener: Mike Monterusso

Evaluation Date: September 12, 2017

Plant Information

Plant: *Viburnum lantana* 'Mohican'

If the plant is a cultivar, how does its behavior differ from its parent's?

a compact cultivar, with no reproductive difference between 'Mohican' and parent species

Regional Information

Region Name: Minnesota



Climate Matching Map

To answer four of the PRE questions for a regional evaluation, a climate map with three climate data layers (Precipitation, UN EcoZones, and Plant Hardiness) is needed. These maps were built using a toolkit created in collaboration with GreenInfo Network, USDA, PlantRight, California-Invasive Plant Council, and The Information Center for the Environment at UC Davis.

Click [here](#) to see the generated climate matching map for this region. This climate match database is hosted by GreenInfo Network and publicly accessible.



Evaluation Questions

These questions are based in an original article published at the University of California, Davis, and can be found on the PLOS One website, here: <https://doi.org/10.1371/journal.pone.0121053>

Invasive History and Climate Matching (Questions 1 - 6)

1. Has the species (or cultivar or variety, if applicable; applies to subsequent "species" questions) become naturalized where it is not native?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

The parent species has naturalized in Eastern North America and some Western US states.

Reference(s):

- United States Department of Agriculture (2017). Plants Profile for *Viburnum lantana* (wayfaringtree).
-

2. Is the species (or cultivar or variety) noted as being naturalized in the US or world in a similar climate?

- Answer: **Yes**, which contributes **2** points to the total PRE score.
- The *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

The parent species has naturalized in Wisconsin. There is also an EDDMapS report of naturalized *Viburnum lantana* in Minnesota. There are possibly 2 occurrences of naturalization in Minnesota according to The Bell Museum at the University of Minnesota -- 3 records, 1 a planted specimen.



Reference(s):

- United States Department of Agriculture (2017). Plants Profile for *Viburnum lantana* (wayfaringtree).
 - Holm, H. (2010). EDDMapS Record ID: 1301848 - wayfaringtree (*Viburnum lantana*).
 - University of Minnesota, Bell Museum of Natural History (0). Collection Search Parameters - Bell Museum of Natural History (*Viburnum lantana*).
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3. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

- Answer: **Yes**, which contributes **2** points to the total PRE score.
- The *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

The parent species is invasive in Illinois, Pennsylvania, and Wisconsin.

Reference(s):

- USDA Forest Service, Forest Health Staff (2008). Weed of the Week : Wayfaring tree .
-

4. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeners* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

The parent species was mentioned in one reference as being a potential problem in Wisconsin.

Reference(s):

- Wisconsin Department of Natural Resources (2008). Invasive Species - WDNR.



5. Are other species of the same genus (or closely related genera) invasive in a similar climate?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Viburnum opulus is noted as invasive in Wisconsin.

Reference(s):

- Wisconsin Department of Natural Resources (2010). Common Wetland Invasive Plants in WI.
-

6. Is the species (or cultivar or variety) found predominately in a climate matching the region of concern?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeners* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

According to GBIF, *Viburnum lantana* is found primarily in Europe.

Reference(s):

- GBIF (2016). *Viburnum lantana* L..
-



Impact on Native Plants and Animals (Questions 7 - 10)

7. Does this plant displace native plants and dominate (overtop or smother) the plant community in areas where it has established?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeener* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

It has a vigorous growth that over reaches intentional planting space and crowds out native species. Basal suckers grow beneath other species and quickly outgrow the area."

Reference(s):

- USDA Forest Service, Forest Health Staff (2008). Weed of the Week : Wayfaring tree .
-

8. Is the plant noted as promoting fire and/or changing fire regimes?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-



9. Is the plant a health risk to humans or animals/fish? Has the species been noted as impacting grazing systems?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeners* has a **Low** confidence in this answer based on the available literature.

Answer / Justification:

"The fruit is of very low or zero toxicity, it only causes mild upsets when eaten unripe or in large quantities."

Reference(s):

- Plants For A Future (PFAF) (2007). *Viburnum lantana* Wayfaring Tree, Wayfaring Tree
Viburnum PFAF Plant Database.
-

10. Does the plant produce impenetrable thickets, blocking or slowing movement of animals, livestock, or humans?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeners* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-



Reproductive Strategies (Questions 11 - 17)

11. Does this species (or cultivar or variety) reproduce and spread vegetatively?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-

12. If naturally detached fragments from this plant are capable of producing new plants, is this a common method of reproduction for the plant?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-

13. Does the species (or cultivar or variety) commonly produce viable seed?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.



Answer / Justification:

"The seeds are dispersed when birds eat the fruit, then deposit the seeds in another location in their droppings."

Reference(s):

- Wikipedia (2017). *Viburnum lantana*.
-

14. Does this plant produce copious viable seeds each year (> 1000)?

Reference(s):

- [Anonymous] .
-

15. Is there significant germination (>25%) of seeds the next growing season, with no requirement of an infrequent environmental condition for seeds to germinate (i.e. fire) or long dormancy period?

Reference(s):

- [Anonymous] .
-

16. Does this plant produce viable seed within the first three years (for an herbaceous species) to five years (for a woody species) after germination?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **Medium** confidence in this answer based on the available literature.



Answer / Justification:

It has been reported that it reaches reproductive maturity at five years.

Reference(s):

- Coder, K. D. (2015). Tree Gender: Tree Gender: Tree Gender: Sexual Reproduction Strategies Sexual Reproduction Strategies.
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17. Does this plant continuously produce seed for >3 months each year or does seed production occur more than once a year?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

" Small, creamy white flowers in cymes, usually 250–350 per inflorescence; bloom in late April to early May. Flowers appear with the expanding young leaves. Fruit: A drupe. The fruits ripen to a bright orange-red in early July and will remain effective for 4 or more weeks before finally ripening to black."

Reference(s):

- U.S. National Arboretum, U.S. Department of Agriculture, Agricultural Research Service (1999). *Viburnum lantana* 'Mohican'.
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Dispersal (Questions 18 - 20)

18. Are the plant's propagules frequently dispersed long distance (>100 m) by mammals or birds or via domestic animals?

- Answer: **Yes**, which contributes **1** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.



Answer / Justification:

"The seeds are dispersed when birds eat the fruit, then deposit the seeds in another location in their droppings."

Reference(s):

- Wikipedia (2017). *Viburnum lantana*.
-

19. Are the plant's propagules frequently dispersed long distance (>100 m) by wind or water?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-

20. Are the plant's propagules frequently dispersed via contaminated seed (agriculture or wildflower packets), equipment, vehicles, boats or clothing/shoes?

- Answer: **No**, which contributes **0** points to the total PRE score.
- The *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .



Total PRE Score

PRE Score: 10 -- Accept (low risk of invasiveness)

Confidence: 70 / 100

Questions answered: 18 of 20 -- Valid (80% or more questions answered)

PRE Score Legend

The PRE Score is calculated by adding the point totals for each (answered) question.

< 13 : accept (low risk of invasiveness)

13 - 15 : evaluate further

> 15 : reject (high risk of invasiveness)

Questions Answered Legend

It is important to answer at least 16 questions to consider a PRE Score as "valid".

>= 16 : valid (80% or more questions answered)

<= 15 : invalid (not enough questions answered)

Organization Ownership and Content Privacy

Organization: 2017 Farm Bill PRE Project

Content Privacy: Public



Evaluation Reviewers

The PRE approach is to base decisions on science and make decisions by consensus of diverse horticultural stakeholders. The literature review and process of answering PRE's questions are based on science; the decisions of which plants to prioritize are based on consensus. To ensure this process is in place and that PRE is collaborative, volunteer stakeholders are recruited from each region to review evaluations. The following experts in their profession (plant science, conservation, or horticultural trade) have participated as volunteer PRE reviewers for this evaluation:

- Chel Anderson December 27, 2017
- Tom Buechel November 9, 2017

This evaluation has a total of 2 reviewer(s).



Evaluation Issues

The following section lists all public issues for this evaluation. Issues provide a way for stakeholder reviewers to communicate any concerns or suggestions they might have with the plant or evaluation. Please email PlantRight@suscon.org if additional action is required to resolve open issues.

Issue ID # 6019

Date Created: November 30, 2017 - 6:52am

Date Updated: December 19, 2017 - 2:55pm

Submitted by: Laura Van Riper

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole

Issue Description

There is also an EDDMapS report of naturalized *Viburnum lantana* in Minnesota.

<https://www.eddmaps.org/distribution/point.cfm?id=1301848>

Issue Resolution (Screener's Response to Issue)

Issue resolved by PRE Data Manager -- source added to Q2. The answer was already yes, based on naturalization in Wisconsin.

Issue ID # 6018

Date Created: November 30, 2017 - 6:49am

Date Updated: December 19, 2017 - 3:11pm



Submitted by: Laura Van Riper

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole

Issue Description

The Bell Museum at the University of Minnesota has 3 records of *Viburnum lantana*. 1 of the records is a planted specimen, but the other two appear to be naturalized reports. Collections 919061, 905512, and 622039. <http://bellatlas.umn.edu/collections/harvestparams.php>

Issue Resolution (Screener's Response to Issue)

Issue resolved by PRE Data Manager -- source added to Q2. Question already answered yes based on naturalization in Wisconsin.

Issue ID # 5972

Date Created: November 27, 2017 - 10:50am

Date Updated: November 28, 2017 - 12:23pm

Submitted by: Laura Van Riper

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q16. Does this plant produce viable seed within the first three years (for an herbaceous species) to five years (for a woody species) after germination?

Issue Description

I don't understand why the answer is "no" the woody species doesn't reach reproductive maturity at 5 years, but the comment says that it does reach reproductive maturity at 5 years.

Yes or No: No



Points: 0

Confidence Level:Medium

Answer / Justification:It has been reported that it reaches reproductive maturity at five years.

Issue Resolution (Screener's Response to Issue)

It's a bit of a conundrum when a value is right on the threshold. In this case, I would maintain the "no" answer given that the plant likely demonstrates slower growth and development in Minnesota's climate.



About PRE and this Plant Evaluation Report

The PlantRight Plant Risk Evaluator -- PRE is an online database and platform enabling those involved in non-native, terrestrial plant production to know before they grow if a plant poses a regional invasive risk. This tool offers many benefits, and we encourage you to visit the PRE website (<https://pre.ice.ucdavis.edu>) for more information.

If you are a nursery trade association, or involved in the research, development or distribution of horticultural plants we invite you to join the PRE community. If you are a plant scientist, affiliated with a horticultural college or botanic garden, and would like to learn more about becoming a PRE Screener, please drop us an email, PlantRight@suscon.org, requesting a PRE Account.

PRE beta funding is provided by Sustainable Conservation (<http://www.suscon.org/>) and a USDA Farm Bill grant.