



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

Lonicera caerulea 'Tundra' -- Minnesota

2017 Farm Bill PRE Project

PRE Score: 5 -- Accept (low risk of invasiveness)

Confidence: 73 / 100

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

Privacy: Public

Status: Submitted

Evaluation Date: August 28, 2017

This PDF was created on June 15, 2018



Plant Evaluated

Lonicera caerulea 'Tundra'



Image by Kalisiak



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Lonicera caerulea 'Tundra'*) 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

While other species of *Lonicera* tend to be considered relatively invasive, multiple references state that *L. caerulea* is not one of them. That said, as more cultivars are developed and the plant increases in popularity, so to will the potential for one or more varieties to become invasive. Also, theoretically *L. caerulea* could promote invasiveness of the genus by hybridization with problematic *Lonicera* species. Going forward, the genus as a whole should be considered in the context of hybridization, assuming species/cultivars can successfully cross pollinate and produce viable offspring.

General Information

Status: Submitted

Screener: Mike Monterusso

Evaluation Date: August 28, 2017

Plant Information

Plant: *Lonicera caerulea 'Tundra'*

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

No reproductive differences. 'Tundra' has been described as a relatively early blooming variety.

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

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-

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

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

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-



3. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

- 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:

"*Lonicera caerulea* L. is distinctly non-invasive as compared to *Lonicera maaki* (Amur Honeysuckle), *Lonicera morrowii* (Morrow's honeysuckle), *Lonicera tatarica* (Tartarian honeysuckle), *Lonicera japonica*, (Japanese honeysuckle) and (Bell's honeysuckle/showy fly honeysuckle)."

Reference(s):

- Honeyberry USA (2017). About Honeyberry Shrub and Fruit.
-

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 *screeener* has a **High** confidence in this answer based on the available literature.

Answer / Justification:

No evidence found.

Reference(s):

- [Anonymous] .
-

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 *screeener* has a **Very High** confidence in this answer based on the available literature.



Answer / Justification:

Lonicera tatarica, *L. morrowii*, *L. x bella*, *L. maackii* are invasive in Minnesota. *L. maackii* is invasive in Wisconsin.

Reference(s):

- Wisconsin Department of Natural Resources (2015). Amur honeysuckle - Wisconsin DNR.
 - Minnesota Department of Natural Resources (2017). Exotic honeysuckles - Invasive species: Minnesota DNR.
-

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:

The majority of occurrences of *Lonicera caerulea* are in Northern Europe.

Reference(s):

- GBIF (2017). *Lonicera caerulea* 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: **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] .
-

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: **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] .
-



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 **Medium** 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: **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 plant can be propagated vegetatively. However, this is unlikely to happen very often without human intervention.

Reference(s):

- Royal Horticultural Society (2017). Honeyberry/RHS Gardening.
-



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 *screeners* 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 *screeners* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

"Radicles emerged within 2 months from 98% of seeds buried at soil depths of 2 cm and 10 cm in the field in August."

Reference(s):

- Phartyal, S. S., Kondo T., Hoshino Y., Baskin C. C., & Baskin J. M. (2009). Morphological dormancy in seeds of the autumn-germinating shrub *Lonicera caerulea* var. *emphylocalyx* (Caprifoliaceae). *Plant Species Biology*. 24, 20–26.
-

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?

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

Answer / Justification:

"Radicles emerged within 2 months from 98% of seeds buried at soil depths of 2 cm and 10 cm in the field in August."

Reference(s):

- Phartyal, S. S., Kondo T., Hoshino Y., Baskin C. C., & Baskin J. M. (2009). Morphological dormancy in seeds of the autumn?germinating shrub *Lonicera caerulea* var. *emphyllocalyx* (Caprifoliaceae). *Plant Species Biology*. 24, 20–26.
-

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?

Reference(s):

- [Anonymous] .
-



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:

Lonicera caerulea blooms and sets fruit once/year.

Reference(s):

- [Anonymous] .
-

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 **Low** confidence in this answer based on the available literature.

Answer / Justification:

"Spread mainly by frugivorous birds" (distance not given)

Reference(s):

- University of Alberta (2017). Scientific Name: *Rosa acicularis* Lindl - *Lonicera_caerulea*.pdf.
-



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 *screeners* 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 *screeners* 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: 5 -- Accept (low risk of invasiveness)

Confidence: 73 / 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:

- Laura Van Riper November 30, 2017
- Tom Buechel November 10, 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 # 6021

Date Created: November 30, 2017 - 7:49am

Date Updated: January 24, 2018 - 1:49pm

Submitted by: Laura Van Riper

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole

Issue Description

It is somewhat confusing because the University of Minnesota Bell Herbarium lists 120 records of *Lonicera caerulea* in Minnesota indicating that the species can naturalize in Minnesota's climate. It looks like there has been a name change and the records refer to a different species. It looks like some of the herbarium records are for *Lonicera caerulea* var. *villosa* which is no longer an accepted name and is now *Lonicera villosa* var. *villosa* which is considered native to Minnesota. This may be worth mentioning in the comments in case others do as I did and look for herbarium records of this species.

<http://bellatlas.umn.edu/collections/harvestparams.php>

I didn't see any records in EDDMapS.org.

Issue Resolution (Screener's Response to Issue)

Issue resolved by PRE Data Manager -- added to Evaluation Notes.

Issue ID # 5792



Date Created: November 10, 2017 - 6:11am

Date Updated: February 9, 2018 - 8:43am

Submitted by: Tom Buechel

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole

Issue Description

Lonicera species have been a problem in the past. PRE may be missing some variables such as plants not being in trade long enough or the use of the plant in landscapes. If the evaluator is recommending to revisit most would assume this fits the watch category even though it did not score that way.

Issue Resolution (Screener's Response to Issue)

Screener agrees regarding potential time variable. In this case, the "concern" is related to hybridization between cultivars and/or species, as is the case with *Pyrus* and *Miscanthus*. A genetically compatible individual is exactly that, and will therefore contribute to the invasiveness of the genus. So the question might be "do *Lonicera* species naturally and readily hybridize, and are the offspring fertile?"

11/28/17 - leaving this issue open for developer input. What about plants that seem to have the potential to be invasive (for example, through hybridization meaning they have invasive relatives), but don't score high enough in PRE to keep on the radar?

2/9/2018 -- Issue marked as resolved by PRE Data Manager. Screener/stakeholder concern about hybridization should be reflected in the Evaluation Summary, which Mike does here. The screener can also go into more detail in Eval Notes (at bottom of evaluation) if necessary.



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.