

# Plant Risk Evaluator -- PRE Evaluation Report

# Ulmus pumila -- Washington

2022 Western IPM Grant Project

PRE Score: 16 -- High Potential Risk

**Confidence:** 80 / 100

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

Privacy: Public Status: Completed

Evaluation Date: August 15, 2022

This PDF was created on August 05, 2025

This project was funded in part by the USDA National Institute of Food and Agriculture through the Western Integrated Pest Management Center, grant number 2018-70006-28881.

# **Plant Evaluated**

Ulmus pumila



Image by Wikipedia

## **Evaluation Overview**

A PRE $^{\text{TM}}$  screener conducted a literature review for this plant (*Ulmus pumila*) 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**

Siberian elm (Ulmus pumila) is a fast-growing deciduous tree to 70 feet tall, native to northern China, Korea, Mongolia, and Eastern Siberia. The species tolerates partial shade but is primarily sun-loving. U. pumila favors well-drained soils and is noted for its ability to tolerate droughty conditions, but can also tolerate seasonally moist soils. U. pumila reproduces primarily via the production of winged seeds that are adapted for wind dispersal and are also capable of long-distance dispersal via water. U. pumila was once widely planted in the U. S. because of its rapid growth and tolerance of cold and dry environments. It has escaped cultivation to colonize abandoned fields and other anthropogenically disturbed sites, prairies, and naturally disturbed sites such as riparian areas and floodplains. Ulmus pumila occurs as naturalized individuals and small populations on both sides of the Cascade Mountains in Washington and Oregon and appears well-adapted to expand its presence in the Pacific Northwest, especially in riparian areas.

## **General Information**

**Status:** Completed **Screener:** Jim Evans

**Evaluation Date:** August 15, 2022

## **Plant Information**

Plant: Ulmus pumila

## **Regional Information**

**Region Name:** Washington

# **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 <u>here</u> 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 on an article published by PLOS One, which can be found here: <a href="https://doi.org/10.1371/journal.pone.0121053">https://doi.org/10.1371/journal.pone.0121053</a>.

## **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** point(s) to the total PRE score.
  - The *screener* has a **High** confidence in this answer based on the available literature.

#### **Answer / Justification:**

Native to northern China, Korea, Mongolia, and Eastern Siberia, Ulmus pumila is naturalized across in nearly every state in the U.S., and in nearly every province across the southern tier of Canada.

#### **Reference(s):**

• USDA Plants Database (0). Ulmus pumila L..

# 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 point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

#### **Answer / Justification:**

PlantRight Climate Matching results indicate that U. pumila is naturalized in a similar climate in much of the western U.S., in scattered locations in the Appalachian Mountains, in central and eastern Europe, and in Russia near the northern end of the Caspian Sea. More than 30 naturalized occurrences of U. pumila have been documented in Washington and Oregon, from individual trees to small populations, on both sides of the Cascade Mountains.

#### **Reference(s):**

- University of Washington, Burke Museum of Natural History (2021). WTU Herbarium Database.
- [Anonymous] (0). PlantRight.

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

- Answer: **Yes**, which contributes **2** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

#### **Answer / Justification:**

U. pumila is widely reported as invasive in North America, including in Indiana (Jacquart et al. 2007), Iowa (Farrar 2001), and western states (Perry et al. 2018, Reynolds et al. 2022). The species is listed as a Class C noxious weed in New Mexico (Beck and Wanstall 2020).

#### **Reference(s):**

- Jacquart, E., O'Connor P., Collins K., Gorden D., Kiefer J., & Howe K. (2007). Assessment of Invasive Species in Indiana's Natural Areas: Siberian Elm (Ulmus pumila). 9 pp..
- Reynolds, L., Perry L., Shafroth P., Katz G., & Norton A. (2022). Invasion of Siberian Elm (Ulmus pumila) Along the South Platte River: the Roles of Seed Source, Human Influence, and River Geomorphology. Wetlands. 42, Article 10.
- Farrar, D. (2001). Exotic and Invasive Woody Plant Species in Iowa. Journal of the Iowa Academy of Science. 108(4), 154-157.
- Perry, L., Reynolds L., & Shafroth P. (2018). Divergent effects of land-use, propagule pressure, and climate on woody riparian invasion. Biological Invasions. 20, 3271–3295.
- Beck, L., & Wanstall J. (2020). Noxious and Troublesome Weeds of New Mexico. 2022,

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

- Answer: Yes, which contributes 3 point(s) to the total PRE score.
- The screener has a Very High confidence in this answer based on the available literature.

U. pumila is invasive in Colorado, especially in riparian areas (Perry et al. 2018, Reynolds et al. 2022), and in northern New Mexico, a state where where it is a Class C Noxious Weed (Beck and Wanstall).

#### **Reference(s):**

- Reynolds, L., Perry L., Shafroth P., Katz G., & Norton A. (2022). Invasion of Siberian Elm (Ulmus pumila) Along the South Platte River: the Roles of Seed Source, Human Influence, and River Geomorphology. Wetlands. 42, Article 10.
- Perry, L., Reynolds L., & Shafroth P. (2018). Divergent effects of land-use, propagule pressure, and climate on woody riparian invasion. Biological Invasions. 20, 3271–3295.
- Beck, L., & Wanstall J. (2020). Noxious and Troublesome Weeds of New Mexico. 2022,

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

- Answer: **No**, which contributes **0** point(s) to the total PRE score.
- The screener has a **Medium** confidence in this answer based on the available literature.

#### **Answer / Justification:**

Chinese elm (U. parvifolia) is considered an invasive species by some accounts but, in both its native and introduced ranges, is distributed almost exclusively in climates dissimilar to the Pacific Northwest.

#### **Reference(s):**

- Invasive Plant Atlas of the United States (2018). Chinese elm, Ulmus parvifolia Jacq...
- PlantRight (2022). Climate Matching Map for Ulmus parvifolia.

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

- Answer: No, which contributes 0 point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

PlantRight Climate Matching results show most of Ulmus pumila's worldwide distribution is mostly outside of climates similar to the Pacific Northwest. In the Western Hemisphere U. pumila is distributed primarily through the Midwest and southern tier of the U.S., while in the Eastern Hemisphere its distribution is primarily in the southern Iberian Peninsula, and in Eastern Europe and western Russia.

#### **Reference(s):**

• [Anonymous] (0). PlantRight.

## **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 point(s) to the total PRE score.
  - The screener has a Very High confidence in this answer based on the available literature.

#### **Answer / Justification:**

U. pumila is a significant invader of riparian areas in the western and midwestern U.S., where it competes with native cottonwood and willow species and preempts sites important to those species' establishment (Perry et al. 2018, Reynolds et al. 2022, Farrar 2001). The species also invades upland sites such as old fields, disturbed natural areas (Jacquart et al. 2007).

#### **Reference(s):**

- Jacquart, E., O'Connor P., Collins K., Gorden D., Kiefer J., & Howe K. (2007). Assessment of Invasive Species in Indiana's Natural Areas: Siberian Elm (Ulmus pumila). 9 pp..
- Reynolds, L., Perry L., Shafroth P., Katz G., & Norton A. (2022). Invasion of Siberian Elm (Ulmus pumila) Along the South Platte River: the Roles of Seed Source, Human Influence, and River Geomorphology. Wetlands. 42, Article 10.
- Perry, L., Reynolds L., & Shafroth P. (2018). Divergent effects of land-use, propagule pressure, and climate on woody riparian invasion. Biological Invasions. 20, 3271–3295.
- Farrar, D. R. (2001). Exotic and Invasive Woody Plant Species in Iowa. The Journal of the Iowa Academy of Science. 108, 154–157.

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

- Answer: No, which contributes 0 point(s) to the total PRE score.
- The *screener* has a **Low** confidence in this answer based on the available literature.

#### **Answer / Justification:**

None of the available literature suggested any influence of U. pumila on fire regimes.

#### **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** point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

#### **Answer / Justification:**

The Invasive Plant Atlas of the United States (2018) states that U. pumila "forms dense thickets that close open areas ...... thereby reducing forage for wild animals and livestock."

#### **Reference(s):**

• Invasive Plant Atlas of the United States (2018). Siberian elm, Ulmus pumila L. . 2022,

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

- Answer: Yes, which contributes 1 point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

The Invasive Plant Atlas of the United States (2018) states that U. pumila "forms dense thickets that close open areas ...... thereby reducing forage for wild animals and livestock."

#### **Reference(s):**

• Invasive Plant Atlas of the United States (2018). Siberian elm, Ulmus pumila L. . 2022,

## **Reproductive Strategies (Questions 11 - 17)**

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

- Answer: No, which contributes 0 point(s) to the total PRE score.
- The screener has a Very High confidence in this answer based on the available literature.

#### **Answer / Justification:**

U. pumila will resprout from the roots following damage to or cutting of the main stem, but this is not a significant mechanism of spread (Wesche et al. 2011).

#### **Reference(s):**

• Wesche, K., Walther D., von Wehrden H., & Hensen I. (2011). Trees in the desert: Reproduction and genetic structure of fragmented Ulmus pumila forests in Mongolian drylands. Flora. 206, 91–99.

# 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** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Multiple sources cite reproduction by seed as U. pumila's mechanism of reproduction, None of these sources mention fragmentation as a significant mechanism.

#### **Reference(s):**

- Barbour, J., & Brinkman K. (2005). Ulmus L. . Woody Plant Seed Manual. Agriculture Handbook 727, 1143-1149.
- Wesche, K., Walther D., von Wehrden H., & Hensen I. (2011). Trees in the desert: Reproduction and genetic structure of fragmented Ulmus pumila forests in Mongolian drylands. Flora. 206, 91–99.
- Blass, C., Ronnenberg K., Tackenberg O., Hensen I., & Wesche K. (2010). The relative importance of different seed dispersal modes in dry Mongolian rangelands. Journal of Arid Environments. 74, 991–997.

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

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

#### **Answer / Justification:**

Laboratory studies report 74-89% germination in seeds of U. pumila report germination in laboratory/greenhouse studies as 81%.

#### **Reference(s):**

- Hirsch, H., Wypior C., von Wehrden H., Wesche K., Renison D., & Hensen I. (2012). Germination performance of native and non-native Ulmus pumila populations. NeoBiota. 15, 53–68.
- Song, J., Lim H., & Jang K. (2011). Germination Behaviors and Seed Longevities of Three Ulmus Species in Korea. Korean Journal of Plant Research. 24(4), 438-444.

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

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

#### **Answer / Justification:**

Jacquart et al. (2007) state that "[e]ven small trees can have >1,000 seeds." This seems reasonable for mature trees, but the references provided by the authors either don't support this assertion quantitatively or could not be found. Thus confidence for this answer can only be Medium.

#### **Reference(s):**

• Jacquart, E., O'Connor P., Collins K., Gorden D., Kiefer J., & Howe K. (2007). Assessment of Invasive Species in Indiana's Natural Areas: Siberian Elm (Ulmus pumila). 9 pp..

# 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 point(s) to the total PRE score.
- The screener has a Very High confidence in this answer based on the available literature.

#### **Answer / Justification:**

We sche et al. (2011) reported germination rates of 48-74% (depending on substrate type) for U. pumila in field tests within the species native range in Mongolia. Given the high germination rates reported from laboratory studies (74-89 %; Hirsch et al. 2012, Song et al. 2011) it seems reasonable to infer that > 25% of seeds would germinate in the wild given appropriate substrate, temperature, and moisture habitats within the species' naturalized range.

#### **Reference(s):**

- Wesche, K., Walther D., von Wehrden H., & Hensen I. (2011). Trees in the desert: Reproduction and genetic structure of fragmented Ulmus pumila forests in Mongolian drylands. Flora. 206, 91–99.
- Song, J., Lim H., & Jang K. (2011). Germination Behaviors and Seed Longevities of Three Ulmus Species in Korea. Korean Journal of Plant Research. 24(4), 438-444.
- Hirsch, H., Wypior C., von Wehrden H., Wesche K., Renison D., & Hensen I. (2012). Germination performance of native and non-native Ulmus pumila populations. NeoBiota. 15, 53–68.

# 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** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

#### **Answer / Justification:**

Barbour and Brinkman (2008) report the minimum seed-bearing age of U. pumila as eight years.

#### **Reference(s):**

• Barbour, J., & Brinkman K. (2005). Ulmus L. . Woody Plant Seed Manual. Agriculture Handbook 727, 1143-1149.

# 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** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

Barbour and Brinkman (2008) report the flowering period of U. pumila as March-April, and the fruiting period as only two months, April-May. The Jepson eflora reports the flowering period for the species in California as March-April, supporting this data (Whittemore 2012).

#### **Reference(s):**

- Barbour, J., & Brinkman K. (2005). Ulmus L. . Woody Plant Seed Manual. Agriculture Handbook 727, 1143-1149.
- Whittemore, A. (2012). Ulmus pumila. 2022,

## 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: **No**, which contributes **0** point(s) to the total PRE score.
- The *screener* has a **High** confidence in this answer based on the available literature.

#### **Answer / Justification:**

U. pumila's winged seeds are adapted for wind dispersal and may also be water-dispersed. Blass et al. (2010) found no evidence of animal dispersal in field tests in Mongolia.

#### **Reference(s):**

• Blass, C., Ronnenberg K., Tackenberg O., Hensen I., & Wesche K. (2010). The relative importance of different seed dispersal modes in dry Mongolian rangelands. Journal of Arid Environments. 74, 991–997.

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

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

Field studies by Blass et al. (2010) found windborne dispersal of U. pumila seeds exceeded 100 m. The authors also found that 99% of U. pumila seeds remained afloat in water for 24 hours, suggesting a capacity for long-distance water-borne dispersal.

#### **Reference(s):**

• Blass, C., Ronnenberg K., Tackenberg O., Hensen I., & Wesche K. (2010). The relative importance of different seed dispersal modes in dry Mongolian rangelands. Journal of Arid Environments. 74, 991–997.

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

- Answer: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screener* has a **Medium** confidence in this answer based on the available literature.

#### **Answer / Justification:**

The U.S. Forest Service's 'Field Guide for Managing Siberian Elm in the Southwest' (2014) states that "[s]eed may be carried long distances by adhering to surfaces and undercarriages of logging equipment and vehicles." Vehicular transport of seeds is a widely recognized phenomenon; U. pumila's wind-dispersed seeds could be expected to be distributed to any number of locations where the tiny seeds in their papery samaras may adhere to muddy tire treads, frames or fenders.

#### **Reference(s):**

- US Forest Service (2014). Field Guide for Managing Siberian Elm in the Southwest.
- van Wychen, L. (2011). Unlikely Stowaways: Weed Seeds Travel to Faraway Places on Cars, Trucks and ATVs.
- Barbour, J., & Brinkman K. (2005). Ulmus L. . Woody Plant Seed Manual. Agriculture Handbook 727, 1143-1149.
- Missouri Botanical Garden PlantFinder (0). Ulmus pumila Plant Finder.

#### **Total PRE Score**

**PRE Score:** 16 -- High Potential Risk

**Confidence:** 80 / 100

**Questions answered:** 20 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 : Low Potential Risk

13 - 15 : Moderate Potential Risk

> 15 : High Potential Risk

## **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: 2022 Western IPM Grant 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:

• Jutta Burger

• Alex Simmons

• Wendy Descamp

September 5, 2022

September 2, 2022

August 25, 2022

This evaluation has a total of 3 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 info@plantright.org if additional action is required to resolve open issues.

#### **Issue ID #8111**

**Date Created:** September 2, 2022 - 5:39pm **Date Updated:** October 11, 2022 - 8:41am

**Submitted by:** Alex Simmons

**Status:** Fixed **Type:** Suggestion **Severity:** Minor

Scope: Q09. Is the plant a health risk to humans or animals/fish? Has the species been noted as impacting

grazing systems?

#### **Issue Description**

I agree with Jutta that the grazing part of this question may be answered. You included some of the answer in Q10. -Alex Simmons

#### **Issue Resolution (Screener's Response to Issue)**

Made the suggested change (highly warranted).

#### **Issue ID #8110**

**Date Created:** September 2, 2022 - 5:38pm **Date Updated:** October 11, 2022 - 12:10pm

**Submitted by:** Alex Simmons

Status: Fixed

**Type:** Suggestion **Severity:** Minor

**Scope:** Q05. Are other species of the same genus invasive in a similar climate?

#### **Issue Description**

You mention that U.parvifolia is considered invasive in some places. Can you please provide a reference for this? -Alex Simmons

#### **Issue Resolution (Screener's Response to Issue)**

Provided supporting reference and climate match link.

#### **Issue ID #8104**

**Date Created:** September 2, 2022 - 2:57pm **Date Updated:** October 11, 2022 - 10:01am

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor

Scope: Q20. Are the plant's propagules frequently dispersed via contaminated seed, equipment, vehicles,

boats or clothing/shoes?

#### **Issue Description**

Can you mention anything more about special appendages or the size / shape of seed that might enable them to be moved? -- Jutta Burger

#### **Issue Resolution (Screener's Response to Issue)**

Added the following language to the narrative: "Vehicular transport of seeds is a widely recognized phenomenon (van Wychen 2011); U. pumila's wind-dispersed seeds could be expected to be distributed to any number of locations where the tiny seeds in their papery samaras may adhere to muddy tire treads, frames or fenders (Missourri Botanical Garden no date, Barbour and Brinkman 2008).

#### **Issue ID #8103**

**Date Created:** September 2, 2022 - 2:51pm **Date Updated:** October 11, 2022 - 8:40am

Submitted by: Jutta Burger

**Status:** Fixed **Type:** Suggestion **Severity:** Minor

Scope: Q09. Is the plant a health risk to humans or animals/fish? Has the species been noted as impacting

grazing systems?

#### **Issue Description**

Based on your answer to question 10, there is some evidence that U. pumila does impact grazing systems by displacing vegetation. Is it unpalatable to grazers? If so, that might warrant a "yes" based on this help aid for the question -- "Species that are not palatable and replace more nourishing species in rangelands would be considered problematic due to reductions in pasture carrying capacity and would therefore warrant a yes answer."

There is probably not enough information to warrant changing your answer, but you might want to look into whether any more information is available on grazing. - Jutta Burger

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#### **Issue Resolution (Screener's Response to Issue)**

Made the suggested change (highly warranted).

#### **Issue ID #8102**

**Date Created:** September 2, 2022 - 2:44pm **Date Updated:** October 11, 2022 - 6:25am

Submitted by: Jutta Burger

Status: Fixed Type: Comment Severity: Minor

**Scope:** Q05. Are other species of the same genus invasive in a similar climate?

#### **Issue Description**

Since you have researched and not found any reports of other elms that are invasive in a similar climate, consider increasing your confidence to Medium. - Jutta

#### **Issue Resolution (Screener's Response to Issue)**

Increased confidence to medium as suggested.

#### **Issue ID #8038**

**Date Created:** August 25, 2022 - 1:17pm **Date Updated:** October 11, 2022 - 6:24am

Submitted by: Wendy Descamp

**Status:** Fixed **Type:** Suggestion **Severity:** Minor

Scope: Q20. Are the plant's propagules frequently dispersed via contaminated seed, equipment, vehicles,

boats or clothing/shoes?

#### **Issue Description**

Just another minor editing suggestion: The year of the reference is not included in the reference section (2014), possible to add? Also, there are brackets around the s in seed. Thanks! Wendy

#### **Issue Resolution (Screener's Response to Issue)**

Corrected date in reference. Brackets around the S in the quotation are intentional: it's a convention used to indicate that the letter isn't capitalized in the actual quote -- in this case the quotation is a phrase ot of a sentence in the publication, not from the beginning of a sentence.

#### **Issue ID #8037**

**Date Created:** August 25, 2022 - 12:52pm **Date Updated:** October 11, 2022 - 10:35am

Submitted by: Wendy Descamp

**Status:** Fixed **Type:** Suggestion **Severity:** Minor

**Scope:** Q14. Does this plant produce copious viable seeds each year (>1000)?

#### **Issue Description**

Hi, the brackets around the e in even and the hyphen in reasonable and assertion can be removed. thanks!

#### **Issue Resolution (Screener's Response to Issue)**

Removed hyphens (don't know how they crept in there). Brackets around the E in the quotation are intentional, a convention used to indicate that the letter isn't capitalized in the actual quote -- that is, the quotation is a phrase taken from a sentence in the publication, not from the beginning of a sentence.

#### **Issue ID #8036**

**Date Created:** August 25, 2022 - 12:42pm **Date Updated:** October 11, 2022 - 8:27am

Submitted by: Wendy Descamp

**Status:** Fixed **Type:** Suggestion **Severity:** Minor

Scope: Q07. Does this plant displace native plants and dominate the plant community in areas where it

has been established?

#### **Issue Description**

Hi, just a quick edit in the answer: the hyphen in species (spe-cies') and invades (in-vades) can be removed. Thanks!

#### **Issue Resolution (Screener's Response to Issue)**

Removed errant hyphens!

#### **Issue ID #8035**

**Date Created:** August 25, 2022 - 12:39pm **Date Updated:** October 11, 2022 - 12:11pm

Submitted by: Wendy Descamp

**Status:** Fixed **Type:** Suggestion **Severity:** Minor

**Scope:** Q05. Are other species of the same genus invasive in a similar climate?

#### **Issue Description**

Hi Jim, The reference listed - did you do a climate match or is there an evaluation done for U. parvifolia? When I click on PlantRight in the reference section, it doesn't take me to information that refers to the answer. Is there a way to reference this more specifically? Thanks, Wendy

#### **Issue Resolution (Screener's Response to Issue)**

Provided supporting reference and climate match link.

# **About PRE and this Plant Evaluation Report**

The Plant Risk Evaluator (PRE) is an online database and platform designed to assess the risk of a plant becoming invasive in a given region. This tool offers many benefits, and we encourage you to visit the PRE website (https://pretool.org) for more information.

If you would like to learn more about PRE, please email us at info@plantright.org, requesting a PRE Account.

PRE beta funding was provided by Sustainable Conservation (https://www.suscon.org/) and a USDA Farm Bill grant. Additional funding has been provided by the Western Integrated Pest Management Center.