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

# *Ulmus parvifolia* -- Nevada

*2023-2025 Western IPM Project*

**PRE Score:** 10 -- Low Potential Risk
**Confidence:** 69 / 100
**Questions answered:** 19 of 20 -- Valid (80% or more questions answered)

**Privacy:** Private
**Status:** Submitted

**Evaluation Date:** February 19, 2025

*This PDF was created on August 21, 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 parvifolia*

Image by Daderot

# Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Ulmus parvifolia*) 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

Ulmus parvifolia, Chinese elm, is valued in horticulture for its shade, ornamental bark, and disease resistance. Native to China, Korea and Japan the species has since naturalized in South Africa, southwestern Australia, New Zealand, and the US. Documentation of Ulmus parvifolia's invasiveness is sparse and inconsistent. Most records of Ulmus parvifolia escaping in the US are confined to wet or disturbed areas. This species has been confused with Ulmus pumila, Siberian elm, which has far more records of escaping naturalization. Ulmus parvifolia is a large, deciduous tree that produces many samaras and may have root suckers or saplings at its base. Due to its dispersal limited to wind-spread seeds, the limited documentation of significant environmental effects, and there being so few records in the climate matching region, Ulmus parvifolia is unlikely to be invasive in Nevada.

## General Information

**Status:** Submitted
**Screener:** Nicole Valentine
**Evaluation Date:** February 19, 2025

## Plant Information

**Plant:** *Ulmus parvifolia*

## Regional Information

**Region Name:** Nevada

## 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 on an article published by PLOS One, which can be found 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** point(s) to the total PRE score.
- The *screener* has a **Very High** confidence in this answer based on the available literature.

**Answer / Justification:**

Ulmus parvifolia is native to China, Korea and Japan. The species has several naturalized occurrences in South Africa, southwestern Australia, New Zealand, and the US (GBIF; Serviss and Serviss 2020).

**Reference(s):**


- Serviss, B. E., & Serviss T. K. (2020). NOTEWORTHY RECORDS OF PISTACIA CHINENSIS (ANACARDIACEAE) AND ULMUS PARVIFOLIA (ULMACEAE) IN ARKANSAS. Phytoneuron. 85,
- GBIF (2023). GBIF—the Global Biodiversity Information Facility, Ulmus parvifolia.


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### 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 **Very High** confidence in this answer based on the available literature.

**Answer / Justification:**

Ulmus parvifolia is native to China, Korea and Japan. The species has several naturalized occurrences in South Africa, southwestern Australia, New Zealand, and the US (GBIF; Serviss and Serviss 2020). Most occurrences in the US are in the southeastern US, outside of the climate match area. There are scattered occurrences in the US within the climate matching area in Nevada, California, Arizona, Idaho, Utah, Colorado, and Washington. The earliest naturalization record in California is from 1966 (Medley and Thieret 1991). The only other occurrences within the climate matching area are isolated records in Russia and Mexico.

**Reference(s):**


- GBIF (2023). GBIF—the Global Biodiversity Information Facility, Ulmus parvifolia.
- Serviss, B. E., & Serviss T. K. (2020). NOTEWORTHY RECORDS OF PISTACIA CHINENSIS (ANACARDIACEAE) AND ULMUS PARVIFOLIA (ULMACEAE) IN ARKANSAS. Phytoneuron. 85,
- Medley, M. E., & Thieret J. W. (1991). ULMUS PARVIFOLIA (ULMACEAE) NATURALIZED IN KENTUCKY. SIDA, Contributions to Botany. 14, 610–613.


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

**Answer / Justification:**

Ulmus parvifolia is reported invasive in the US in DC, NC, NE, NJ, VA, and WI but I could find no documentation of why the species is considered invasive in these states (USDA 2005; Soles 2024). I only found direct evidence of Ulmus parvifolia being listed as invasive in Virginia as part of a list of species likely to cause harm to the local economy, ecology, or human health (Soles 2024). Although this list was updated in 2024, I found no other documentation of Ulmus parvifolia being listed as invasive in Virginia. Ulmus parvifolia is usually found escaped in disturbed areas near urban or suburban settings (Medley and Thieret 1991; USDA 2000).

**Reference(s):**


- Medley, M. E., & Thieret J. W. (1991). ULMUS PARVIFOLIA (ULMACEAE) NATURALIZED IN KENTUCKY. SIDA, Contributions to Botany. 14, 610–613.
- Soles, J. (2024). NONNATIVE INVASIVE PLANTS OF ARLINGTON COUNTY, VIRGINIA.
- USDA (2005). Weed of the Week. Weed of the Week.
- USDA (2000). USDA NRCS Plant Guide.

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

**Answer / Justification:**

There is no evidence of Ulmus parvifolia being invasive in a similar climate. Usually Ulmus parvifolia is found escaped in disturbed areas near urban or suburban settings (Medley and Thieret 1991; USDA 2000). I found no documentation of Ulmus parvifolia invading wildlands in the climate matching areas. Most of the iNaturalist occurrences in Nevada appear to be horticultural/urban (iNaturalist).

**Reference(s):**


- Medley, M. E., & Thieret J. W. (1991). ULMUS PARVIFOLIA (ULMACEAE) NATURALIZED IN KENTUCKY. SIDA, Contributions to Botany. 14, 610–613.
- USDA (2000). USDA NRCS Plant Guide.
- iNaturalist Network (0). iNaturalist.


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

- 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:**

Ulmus pumila is considered invasive in several southwestern US states with reported occurrences that are within the climate matching area. Ulmus pumila is considered invasive in some parts of Arizona with several referenced invasive occurrences within the climate matching area (University of Arizona 2024). Ulmua pumila is listed as a Class C species in New Mexico, and many of the occurrences in New Mexico are within the climate matching area (New Mexico Department of Agriculture 2020). Ulmus pumila is considered invasive in Texas and several occurrences overlap with the climate matching area (Texas Invasives 2023).

**Reference(s):**


- New Mexico Department of Agriculture (2020). New Mexico Noxious Weed List Update.
- TexasInvasives (2023). Texas Invasives.
- University of Arizona (2024). Siberian Elm.


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### 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 **Very High** confidence in this answer based on the available literature.

**Answer / Justification:**

The bulk of Ulmus parvifolia occurrences are outside the climate matching region in less arid regions than Nevada such as South Africa, southwestern Australia, western China, and Japan (GBIF). The Ulmus parvifolia occurrences within the climate matching area are isolated to the Western US. And most of the iNaturalist occurrences in Nevada appear to be horticultural/urban (iNaturalist). When just looking at occurrences in the US, there are more occurrences outside the climate matching area, especially in the southeastern US (GBIF).

**Reference(s):**


- GBIF (2016). GBIF Backbone Taxonomy.
- iNaturalist Network (0). iNaturalist.


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## 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 **Medium** confidence in this answer based on the available literature.

**Answer / Justification:**

Ulmus parvifolia is a deciduous tree that reaches up to 25 meters tall and is likely to overtop the plant community given its size (Flora of North America). It is recommended as a shade and avenue tree in horticulture, which implicates its ability to shade out other plants (USDA 2000). Planted hedges of Ulmus parvifolia in a climate matching area near the Caspian Sea after decades of abandonment had a height of ~12 m, a mean trunk diameter of 1.3 m, and a crown width of ~2 m (Lepesko et al 2019). Ulmus parvifolia also has an aggressive root system that absorbs water, nutrients, and space (USDA 2000). Usually Ulmus parvifolia is found escaped in wet or disturbed areas near urban or suburban settings that are unlikely to consist of a native plant community in Nevada (Medley and Thieret 1991; USDA 2000; Jepson eFlora).

**Reference(s):**


- [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
- Medley, M. E., & Thieret J. W. (1991). ULMUS PARVIFOLIA (ULMACEAE) NATURALIZED IN KENTUCKY. SIDA, Contributions to Botany. 14, 610–613.
- Jepson Flora Project (2014). Jepson eFlora.
- USDA (2000). USDA NRCS Plant Guide.
- Lepesko, VV., Belyaev AI., Pleskachev Y. N., Fomin SD., Pugacheva AM., & Rybashlykova LP. (2019). Monitoring the state and ecological ameliorative effect of tree and shrub coulisse and row plantings on pastures in the arid conditions of the northern Caspian. IOP Conference Series: Earth and Environmental Science. 341(012103),


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## 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 **Medium** confidence in this answer based on the available literature.

**Answer / Justification:**

Ulmus parvifolia is a deciduous tree that is up to 25 meters tall (Flora of North America). Ulmus parvifolia is unlikely to promote fire since it is often found along streams and there is no evidence of this species forming thickets or dominating the landscape (Jepson eFlora). In Tennessee Ulmus parvifolia is recommended for firewise homes in part due to its disease resistance (Mercker et al 2023).

**Reference(s):**


- Mercker, D., Reese C., & Clatterbuck W. K. (2023). Landscaping Guidelines to Protect Your Home from Wildfire.
- Jepson Flora Project (2014). Jepson eFlora.
- [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).


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

**Answer / Justification:**

There is no evidence Ulmus parvifolia is a health risk to humans, animals, or fish. At most hay fever and increased asthma hospitalizations have been associated with Ulmus parvifolia pollen (Weber 2014). Ulmus parvifolia bark is used for several medicinal purposes. There is no evidence Ulmus parvifolia impacts grazing systems and this is unlikely since Ulmus parvifolia has not been documented in rangelands (Linex 2020). There is inconsistent anecdotal evidence that Ulmus parvifolia may be mildly toxic to dogs and cats when ingested; this was disregarded due to a lack of referenced evidence and insignificant toxicity impacts.

**Reference(s):**


- Weber, R. (2014). Allergen of the Month - Chinese Elm. Annals of Allergy Asthma and Immunology. 113(5),
- Linex, R. (2020). The Elms of Texas.


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

- 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:**

It is unlikely Ulmus parvifolia would produce impenetrable thickets. Ulmus parvifolia is a deciduous tree that reaches up to 25 meters tall (Flora of North America). A few seedlings growing underneath may produce the beginning of a thicket similar to a population observed in the much more mesic Arkansas (Serviss and Serviss 2020). However, this is not documented in more arid regions with a climate match to Nevada (Lepesko et al 2019). It is unlikely to form thickets in the Nevada wildlands since Ulmus parvifolia is usually found escaped in wet or disturbed areas near urban or suburban settings (Jepson eFlora; Medley and Thieret 1991; USDA 2000).

**Reference(s):**


- [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
- USDA (2000). USDA NRCS Plant Guide.
- Medley, M. E., & Thieret J. W. (1991). ULMUS PARVIFOLIA (ULMACEAE) NATURALIZED IN KENTUCKY. SIDA, Contributions to Botany. 14, 610–613.
- Lepesko, VV., Belyaev AI., Pleskachev Y. N., Fomin SD., Pugacheva AM., & Rybashlykova LP. (2019). Monitoring the state and ecological ameliorative effect of tree and shrub coulisse and row plantings on pastures in the arid conditions of the northern Caspian. IOP Conference Series: Earth and Environmental Science. 341(012103),
- Jepson Flora Project (2014). Jepson eFlora.
- Serviss, B. E., & Serviss T. K. (2020). NOTEWORTHY RECORDS OF PISTACIA CHINENSIS (ANACARDIACEAE) AND ULMUS PARVIFOLIA (ULMACEAE) IN ARKANSAS. Phytoneuron. 85,


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# 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 **Medium** confidence in this answer based on the available literature.

**Answer / Justification:**

There is limited documentation that Ulmus parvifolia develops root suckers at its base but this does not seem to be a method of spreading from its original location (USDA 2000).

**Reference(s):**


- USDA (2000). USDA NRCS Plant Guide.

## 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 **Medium** confidence in this answer based on the available literature.

**Answer / Justification:**

There is no evidence Ulmus parvifolia spreads from detached fragments.

**Reference(s):**

- [Anonymous] .

## 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 **High** confidence in this answer based on the available literature.

**Answer / Justification:**

Ulmus parvifolia is well documented reproducing from seed and this is it only known means of reproductively spreading (Murray 2023, USDA 2000). There is evidence that up to 80% of seeds may not be viable, but Ulmus parvifolia may still produce over 1,000 viable seeds given its large size (Storjohann and Whitcomb (1977) as cited in (Bonner and Karrfalt 2008)).

**Reference(s):**


- Murray, L. (2023). NEW SOUTH WALES FLORA ONLINE.
- USDA (2000). USDA NRCS Plant Guide.
- Bonner, F. T., & Karrfalt R. P. (2008). The Woody Plant Seed Manual. Agriculture Handbook 727,

## 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:**

Each samara contains a single seed (Jepson eFlora). A photo of Ulmus parvifolia in seed has well over 70 seeds visible for just a few branches (USDA 2000). Given that Ulmus parvifolia can reach up to 25 meters tall, it is likely that the tree produces well over 1,000 seeds per year (Jepson eFlora). There is evidence that up to 80% of Ulmus parvifolia seeds may not be viable (Storjohann and Whitcomb (1977) as cited in (Bonner and Karrfalt 2008)). It is possible Ulmus parvifolia could produce closer to 5,000 seeds given its large size, and still produce over 1,000 viable seeds.

**Reference(s):**


- Jepson Flora Project (2014). Jepson eFlora.
- USDA (2000). USDA NRCS Plant Guide.
- Bonner, F. T., & Karrfalt R. P. (2008). The Woody Plant Seed Manual. Agriculture Handbook 727,


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## 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: **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:**

Ulmus parvifolia has no unusual germination requirements. If sown in a cold frame as soon as it is ripe, it usually germinates within a few days (Huxley 1992). Ulmus parvifolia seeds had a 74% germination rate after being soaked in distilled water for 24 hours (Dukic et al 2014). One to two months of stratification can improve germination rates (USDA 2000). Despite there being no unusual germination requirements, Ulmus parvifolia has low seed viability. There is evidence that up to 80% of seeds may not be viable (Storjohann and Whitcomb (1977) as cited in (Bonner and Karrfalt 2008)). Ulmus parvifolia seed only has a viability period of 0.5 years (Bonner & Karrfalt, 2008). This would result in a germination rate of less than 25% in the next growing season.

**Reference(s):**


- ?UKI?, M., ?UNISIJEVI?-BOJOVI? D., & SAMUILOV SLA?ANA. (2014). THE INFLUENCE OF CADMIUM AND LEAD ON ULMUS PUMILA L. SEED GERMINATION AND EARLY SEEDLING GROWTH. Archives of Biological Science. 66(1), 253-259.
- USDA (2000). USDA NRCS Plant Guide.
- Huxley, A. (1992). The new RHS dictionary of gardening.
- Bonner, F. T., & Karrfalt R. P. (2008). The Woody Plant Seed Manual. Agriculture Handbook 727,


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## 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 / Justification:**

There is not enough evidence to answer this question. The growth rate of Chinese elm can be over 3 feet per year reaching 60 to 80 feet tall (USDA 2000). There has been a specimen found at 10 cm DBH with abundant fruit (Medley and Thieret 1991).

**Reference(s):**


- Medley, M. E., & Thieret J. W. (1991). ULMUS PARVIFOLIA (ULMACEAE) NATURALIZED IN KENTUCKY. SIDA, Contributions to Botany. 14, 610–613.
- USDA (2000). USDA NRCS Plant Guide.


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

**Answer / Justification:**

Ulmus parvifolia blooms for two months (August and September) in California (Calflora). This plant produces samaras for two months during September and October (USDA 2000).

**Reference(s):**


- Calflora (2023). CALFLORA Taxon Report - Ulmus parvifolia.
- USDA (2000). USDA NRCS Plant Guide.


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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: **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:**

The Ulmus parvifolia seedbearing samara is elliptical, 10 mm long with a broad pale yellow wing enclosing the thickened, glabrous, not inflated seed (Murray 2023; Weber 2014). Samaras enable wind dispersal and are not associated with morphological adaptations suited to long distance dispersal by animals.

**Reference(s):**


- Weber, R. (2014). Allergen of the Month - Chinese Elm. Annals of Allergy Asthma and Immunology. 113(5),
- Murray, L. (2023). NEW SOUTH WALES FLORA ONLINE.


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## 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.

**Answer / Justification:**

Ulmus parvifolia fruits are samaras, which enable long distance dispersal by wind (Flora of North America). The seeds are mostly dispersed by the wind (USDA 2005). Seed are thickened and not inflated (Flora of North America). I found no evidence to support that Ulmus parvifolia seeds are dispersed by water.

**Reference(s):**


- [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
- USDA (2005). Weed of the Week. Weed of the Week.


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

**Answer / Justification:**

Ulmus parvifolia is popular in horticulture and is likely to come into contact with humans in a horticultural setting. Ulmus parvifolia seeds nearly fill the samara, are notched at apex and glabrous (Murray 2023). The seeds do not have a mechanism by which they would attach and disperse through human contact.

**Reference(s):**


- Murray, L. (2023). NEW SOUTH WALES FLORA ONLINE.


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# Evaluation Notes

Question 7 was answered "Yes" with "Medium" confidence. Confidence was ranked "Medium" due to the lack of specific documentation of Ulmus parvifolia's effects on the plant community, the history of Ulmus pumila and parvifolia being confused for one another, and the question as to whether this species invades wildlands or is confined to disturbed and urban areas that are wetter than most Nevada wildland habitats.

# Total PRE Score

**PRE Score:** 10 -- Low Potential Risk
**Confidence:** 69 / 100
**Questions answered:** 19 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:** 2023-2025 Western IPM Project
**Content Privacy:** Private

## 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:

| | |
|---|---|
| • Scott Heacox | March 15, 2025 |
| • Michael Chamberland | March 13, 2025 |
| • Jutta Burger | March 10, 2025 |

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 # 11112

**Date Created:** March 15, 2025 - 11:35am
**Date Updated:** March 26, 2025 - 12:01pm

**Submitted by:** Scott Heacox

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Evaluation as a whole

**Issue Description**

Check through each question and make sure the in-text citations are all listed, and vice versa. I found a few instances where citations were missing.

**Issue Resolution (Screener's Response to Issue)** Thank you, I found quite a few instances that I have corrected -NV

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## Issue ID # 11110

**Date Created:** March 15, 2025 - 11:31am
**Date Updated:** March 26, 2025 - 11:46am

**Submitted by:** Scott Heacox

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

Minor
**Scope:** Q15. 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?

**Issue Description**

Double-check which species the 80% unviable seed observation refers to.

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

I was not able to access the original citation, but in the Bonner and Karrfalt (2008) they say lacebark elm which is one of the common names they defined for Ulmus parvifolia. -NV

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## Issue ID # 11109

**Date Created:** March 15, 2025 - 11:28am
**Date Updated:** March 26, 2025 - 11:55am

**Submitted by:** Scott Heacox

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Q14. Does this plant produce copious viable seeds each year (>1000)?

**Issue Description**

There are two contradictory statements in this sentence -- you say that the tree produces over 1000 seeds per year, but that 80% might not be viable (so approximately only 200 viable seeds), however in the next sentence you say that it may produce over 1000 viable seeds. Also, double-check which species are being discussed in your sources. From what I could tell, the metric discussed in Bonner and Karrfalt (2008) cited from Storjohann and Whitcomb (1977) refers to a different species of elm (lacebark elm).

**Issue Resolution (Screener's Response to Issue)** Thanks for checking this. I reworded my answer to better reflect my logic. Lacebark elm is another common name for Ulmus parvifolia. The authors in that paper define the common names for Ulmus parvifolia as Chinese elm and lacebark elm. -NV

## Issue ID # 11108

**Date Created:** March 15, 2025 - 11:17am
**Date Updated:** March 26, 2025 - 11:24am

**Submitted by:** Scott Heacox

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Q13. Does the species (or cultivar or variety) commonly produce viable seed?

**Issue Description**

Is the reason the confidence level for this question is not "very high" because 80% of the seeds may not be viable? Even if this is true, it still seems like the viable yield is enough to consider this species as "commonly" producing viable seed.

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

Yes, the reason confidence is lower here is because Michael Chamberland showed me the reference about viability in the issues and recommended lowering the confidence. Ulmus parvifolia is only known to spread from seed, but it may be less common with the lower viability so I did lower confidence from Very High to High. Confidence is typically based on sources, but it is not always used that way and this can incorporate other inferences made. I have left confidence as High for now. -NV

## Issue ID # 11107

**Date Created:** March 15, 2025 - 11:12am
**Date Updated:** March 26, 2025 - 9:44am

**Submitted by:** Scott Heacox

**Status:** Fixed

**Type:** Suggestion
**Severity:** Minor
**Scope:** General Information

**Issue Description**

In Q11 you state that the root suckers don't seem to be useful for reproduction. You mention the root suckers in the general info, so it might be good to clarify there a bit more clearly that they don't seem to play a role in spreading.

**Issue Resolution (Screener's Response to Issue)** I edited my response to Q9 to mention not spreading from its original location. I also edited the summary to say it may have root suckers or saplings at its base. -NV

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## Issue ID # 11106

**Date Created:** March 15, 2025 - 11:08am
**Date Updated:** March 26, 2025 - 9:12am

**Submitted by:** Scott Heacox

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Q10. Does the plant produce impenetrable thickets, blocking or slowing movement of animals, livestock, or humans?

**Issue Description**

Check citations -- a couple sources cited in-text appear to be missing from the list, and Lepesko et al. 2019 is not cited in-text.

**Issue Resolution (Screener's Response to Issue)** Added Serviss and Serviss to citations. Included reference to Lepesko in the text. -NV

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## Issue ID # 11105

**Date Created:** March 15, 2025 - 11:04am
**Date Updated:** March 26, 2025 - 11:21am

**Submitted by:** Scott Heacox

**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**

In Q8 you state that there is no evidence this species forms thickets or dominates the landscape, which seems to contradict the assessment that this tree is capable of dominating plant communities, except perhaps for very localized areas underneath.

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

I think these questions can overlap but in this case they do not. I do not believe this plant forms thickets in environments like Nevada. Individual plants may displace native plants through shading from its canopy and its aggressive roots. -NV

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## Issue ID # 11104

**Date Created:** March 15, 2025 - 10:58am
**Date Updated:** March 26, 2025 - 9:34am

**Submitted by:** Scott Heacox

**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**

(Lepesko et al. 2019) needs to be added to the list of citations for this question.

**Issue Resolution (Screener's Response to Issue)** Added in the reference. -NV

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## Issue ID # 11103

**Date Created:** March 15, 2025 - 10:56am
**Date Updated:** March 26, 2025 - 11:37am

**Submitted by:** Scott Heacox

**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**

Your answer to this question gives several good reasons why this tree could potentially smother a plant community. Is the reason you listed this as "medium" confidence due to the assumption that this plant will usually not cooccur with native plants due to proximity to urban areas? Maybe clarify your reasoning behind the confidence level.

**Issue Resolution (Screener's Response to Issue)** Added an explanation for the Medium confidence in the Notes section. -NV

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## Issue ID # 11092

**Date Created:** March 13, 2025 - 3:31pm
**Date Updated:** March 13, 2025 - 4:03pm

**Submitted by:** Michael Chamberland

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Q13. Does the species (or cultivar or variety) commonly produce viable seed?

**Issue Description**

Reports in the literature (Bonner, F. T., & Karrfalt R. P. (2008). The Woody Plant Seed Manual.) suggest Ulmus parvifolia seeds have viability and longevity issues.  While the tree must reproduce from seed, it is worth examining and considering a lower confidence level. - M. Chamberland

**Issue Resolution (Screener's Response to Issue)** I added in this reference and lowered confidence from "Very High" to "High." -NV

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## Issue ID # 11091

**Date Created:** March 13, 2025 - 3:12pm
**Date Updated:** March 13, 2025 - 4:01pm

**Submitted by:** Michael Chamberland

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Q04. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar climate?

**Issue Description**

It would be useful to cite Bugwood (2018). Invasive Plant Atlas of the United States - Chinese Elm, which maps Ulmus parvifolia as present in three Nevada counties, for this question and/or other questions about naturalization. - M. Chamberland

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

Thank you- I reworded this and added in the sentence about most of the occurrences in Nevada seeming to be urban/hort. The iNat occurrences are feeding the Bugwood map.  -NV

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## Issue ID # 11090

**Date Created:** March 13, 2025 - 3:08pm
**Date Updated:** March 13, 2025 - 4:32pm

**Submitted by:** Michael Chamberland

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Q03. Is the species (or cultivar or variety) noted as being invasive in the U.S. or world?

**Issue Description**

Does the species meet the criteria for being considered invasive, according the definition of invasive employed by the PRE?  This could use closer examination. - M. Chamberland

**Issue Resolution (Screener's Response to Issue)** I was on the fence for this answer. I have kept the answer as Yes for now. I updated the answer with the requirements for being on the VA invasive list, which is still vague. -NV

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## Issue ID # 11059

**Date Created:** March 10, 2025 - 3:57pm
**Date Updated:** March 11, 2025 - 11:57am

**Submitted by:** Jutta Burger

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Q15. 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?

**Issue Description**

You might want to add something about the low viability here and reduce confidence to medium. I get why you answered "yes" here, but there do appear to be issues w/ the seeds. Check out Michael Chamberland's "no" answer to this question. - JB

**Issue Resolution (Screener's Response to Issue)** Changed my answer to "no" with medium confidence and included an explanation. -NV

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## Issue ID # 11058

**Date Created:** March 10, 2025 - 3:46pm
**Date Updated:** March 11, 2025 - 11:49am

**Submitted by:** Jutta Burger

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Q19. Are the plant’s propagules frequently dispersed long distance (>100 m) by wind or water?

**Issue Description**

Any evidence of dispersal by water? - JB

**Issue Resolution (Screener's Response to Issue)** I added in that I found no evidence to support that. -NV

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## Issue ID # 11056

**Date Created:** March 10, 2025 - 3:42pm
**Date Updated:** March 11, 2025 - 1:53pm

**Submitted by:** Jutta Burger

**Status:** Fixed

**Type:** Comment
**Severity:** Minor
**Scope:** Q07. Does this plant displace native plants and dominate the plant community in areas where it has been established?

**Issue Description**

Can you add any more evidence for it overtopping and smothering? The justification gives evidence of its stature and ability to compete underground, but not of its ability to outcompete for light. - JB

**Issue Resolution (Screener's Response to Issue)** I was really on the fence with this answer, but I kept a Yes answer and I added in a sentence about how this species is recommended as a shade tree. -NV

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## Issue ID # 11055

**Date Created:** March 10, 2025 - 3:38pm
**Date Updated:** March 11, 2025 - 11:34am

**Submitted by:** Jutta Burger

**Status:** Fixed
**Type:** Suggestion
**Severity:** Minor
**Scope:** Q06. Is the species found predominately in a climate matching the region of concern?

**Issue Description**

The justification is confusing. The climate match map indicates that most of the occurrences of U. parvifolia are outside of Nevada's climate, and in the SE rather than the SW (contra the first sentence). - JB

**Issue Resolution (Screener's Response to Issue)** I reworded it- hopefully it is clearer now, otherwise I will revisit. -NV

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# 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.

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