

# Plant Risk Evaluator -- PRE Evaluation Report

# Geranium robertianum -- Oregon

2021 Western IPM Grant Project

PRE Score: 16 -- High Potential Risk

**Confidence:** 77 / 100

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

Privacy: Public Status: Completed

Evaluation Date: September 7, 2021

This PDF was created on April 22, 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**

Geranium robertianum



Image by Amadej Trnkoczy

## **Evaluation Overview**

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

Geranium robertianum having a PRE score of 16 indicates a high potential risk of invasiveness to Oregon. This species reproduces solely by seed and has been noted in peer-reviewed literature to produce up to 3100 seeds square meters underwood canopies (Tofts, 2004). The seeds are very sticky and can hitchhike on animals such as ants, people, and almost any other surfaces that may make contact with the seeds. These sticky seeds can be dormant for up to six years or germinate in the right conditions within two months (Tofts, 2004). Geranium robertianum is listed on the Oregon Noxious Weed list as a B-listed weed. A B-listed weed is considered an economic concern but may have limited distribution and therefore are controlled or eradicated when an invasion occurs. Geranium robertianum should not be considered for planting in Oregon in order to prevent invasion, when observed in natural areas this species should be pulled and disposed carefully. Soil in the areas where Geranium robertianum are or were once located should not be introduced to other areas due to seed dispersal.

## **General Information**

**Status:** Completed **Screener:** Tony Lind

**Evaluation Date:** September 7, 2021

#### **Plant Information**

Plant: Geranium robertianum

## **Regional Information**

Region Name: Oregon

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

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

The species Geranium robertianum is native to Europe, Asia, and Northern Africa. This species has become naturalized United States, Australia, Japan, Brazil, Chile, Georgia, and the Falkland Islands ("GBIF.ORG," n.d.; "Washington State Noxious Weed Control Board," n.d.; Vandelook & Assche, 2010).

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

- Vandelook, F., & Van Assche J. A. (2010). A combined physical and physiological dormancy controls seasonal seedling emergence of Geranium robertianum. Plant Biology. 12, 765–771.
- [Anonymous] (0). GBIF.
- [Anonymous] (0). Washington state weed control board.

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

When comparing the GBIF map of species records to similar climates according to the climate match results indicate species becoming neutralized in areas with similar climates ("Global Biodiversity Information Facility (GBIF)," 2021)

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

•	[Anonym	ous] (0).	<b>GBIF</b>
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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 **High** confidence in this answer based on the available literature.

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

Geranium robertianum has invaded the Pacific Northwest in the last twenty years, thriving in full canopy areas, pushing out and competing with native species, especially in disturbed areas such as ivy removal areas. Capable of producing up to 250 plants per square meter and considered an ecological threat ("State of Oregon: Oregon Noxious Weeds—Oregon Noxious Weed Profiles," 2020). This plant has been noted as invasive in the United States, Australia, Japan, Brazil, Chile, Georgia, and the Falkland Islands, according to GBIF.org.

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

- OSWB (2020). Oregon Noxious Weed Profile.
- [Anonymous] (0). GBIF.

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

Geranium robertianum is noted for being invasive in The United States, Australia, Japan, Chile, Georgia, and the Falkland Islands. When comparing Oregon's climate match map with the georeferenced records map, most locations where this species grows and is labeled as naturalized or invasive have a similar climate to Oregon's.

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

•	Anony	vmous	(0)	).	GBIF.

# 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:**

The genus Geranium has several species that are considered invasive such as G. carolinianum, where it has become invasive in areas it is not native to ("GBIF.ORG," n.d.; Shirk & Hamrick, 2014). Comparing the Oregon similar climate map to other species in the genus Geranium occurrences indicate these species are found in the same climate and outside the parallel climates.

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

- [Anonymous] (0). GBIF.
- Shirk, R. Y., & Hamrick J. L. (2014). High but variable outcrossing rates in the invasive Geranium carolinianum (Geraniaceae). American Journal of Botany. 101, 1200–1206.

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

This plant resides in greater than fifty percent outside similar climates to Oregon, extending beyond Oregon's climate. However, many occurrences are found outside Oregon's climate, such as Northern Europe, Alaska, and southeast South America ("GBIF.ORG," 2020).

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

• [Anonymous] (0). GBIF.

## **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:**

Geranium robertianum can grow in monocultures up to 250 plants per square meter, out-competing native plants (Geranium\_robertianum\_BIO\_GERO, 2010; Thurston County Environmental Health division, 2009).

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

- Thurston County Environmental Health Division (2009). Herb Robert (Geranium robertanium).
- Alaska Natural Heritage Program (2010). herb Robert Geranim robertianum L.. 2021,

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

No evidence was found of the species Geranium robertianum promoting fire. However, Geranium robertianum was noted for resprouting as a first succession species decreasing species richness in the first year after a forest fire (Ladd et al., 2005). Geranium robertianum is known to resprout and alter species richness after a fire by outcompeting resources from other species. However still, no evidence was found indicating an increase in promoting fires or changing fire regimes.

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

• Ladd, P. G., Crosti R., & Pignatti S. (2005). Vegetative and Seedling Regeneration after Fire in Planted Sardinian Pinewood Compared with That in Other Areas of Mediterranean-Type Climate. Journal of Biogeography. 32, 85–98.

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

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

When crushed, geranium robertianum makes an unpleasant smell, potentially affecting grazing, but unlikely to have a noticeable difference to grazing species (Tofts, 2004). This plant does not pose a health risk to humans or animals/fish and has been used historically for medicinal purposes.

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

• Tofts, R. J. (2004). Geranium robertianum L.. Journal of Ecology. 92, 537–555.

# 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.

Geranium robertianum grows primarily by seed-producing up to 250 plants within a square meter, covering up to 90 percent of the surrounding surfaces (Thurston County Washington, 2009). This species grows from 8 to 24 inches tall, and does not no evidence was found indicating dense thickets obstructing passages (Thurston County Washington, 2009).

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

• Thurston County Environmental Health Division (2009). Herb Robert (Geranium robertanium).

## **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:**

Geranium robertianum main reproduction process is Soley by seed as an annual or biennial depending on geographical growing conditions ("State of Oregon: Oregon Noxious Weeds—Oregon Noxious Weed Profiles," 2020; "Washington State Noxious Weed Control Board," n.d.; Tofts, 2004).

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

- Tofts, R. J. (2004). Geranium robertianum L.. Journal of Ecology. 92, 537–555.
- OSWB (2020). Oregon Noxious Weed Profile.
- [Anonymous] (0). Washington state weed control board.

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

Geranium robertianum main reproduction process is by seed ("State of Oregon: Oregon Noxious Weeds—Oregon Noxious Weed Profiles," 2020; "Washington State Noxious Weed Control Board," n.d.; Tofts, 2004).

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

- Tofts, R. J. (2004). Geranium robertianum L.. Journal of Ecology. 92, 537–555.
- OSWB (2020). Oregon Noxious Weed Profile.
- [Anonymous] (0). Washington state weed control board.

## 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:**

Seeds have been noted to stay viable in the soil for up to six-year ("Geranium\_robertianum\_BIO\_GERO.pdf," 2010)

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

• Alaska Natural Heritage Program (2010). herb Robert Geranim robertianum L.. 2021,

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

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

Geranium robertianum in its native location produces 50 to 1,550 seeds per plant. In locations where invasive such as Washington state this species has been known to produce over 3,000 seeds per square meter ("Geranium\_robertianum\_BIO\_GERO.pdf," 2010; Robert, 2009)

- Thurston County Environmental Health Division (2009). Herb Robert (Geranium robertanium).
- Alaska Natural Heritage Program (2010). herb Robert Geranim robertianum L.. 2021,

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

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

Geranium robertianum produces copious amounts of seeds, and greater than 25% germinate. However, this plant's seeds can be dormant for over six years from seed dispersal to germination (Bertin, 2001; "Geranium\_robertianum\_BIO\_GERO.pdf," 2010.; "Herb robertianum profile," 2009).

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

- Thurston County Environmental Health Division (2009). Herb Robert (Geranium robertanium).
- Alaska Natural Heritage Program (2010). herb Robert Geranim robertianum L.. 2021,

# 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: 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:**

Geranium robertianum flowers the following year after germination, and the seeds can stay dormant for up to six years but commonly germinates in as few as two months (Tofts, 2004).

• Tofts, R. J. (2004). Geranium robertianum L.. Journal of Ecology. 92, 537–555.

# 17. Does this plant continuously produce seed for >3 months each year or does seed production occur more than once a year?

- 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:**

Geranium robertianum flowers and produces fruit from May to September (Tofts, 2004)

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

• Tofts, R. J. (2004). Geranium robertianum L.. Journal of Ecology. 92, 537–555.

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

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

Geranium robertianum seeds are projected short distances up to 20 feet by carpel projection and then often dispersed by epizoology. The seeds produced are sticky and can easily be attached to clothing and or animals with fur, indicating a greater likelihood of seed dispersal greater than 100 meters. However, no direct evidence was found to confirm long-distance seed dispersal by humans or animals. ("State of Oregon: Oregon Noxious Weeds—Oregon Noxious Weed Profiles," 2020; Van Rossum, Raspe, & Vandelook, 2021)

- Van Rossum, F., Raspe O., & Vandelook F. (2021). Evidence of spontaneous selfing and disomic inheritance in Geranium robertianum. Ecology and Evolution. 11,
- OSWB (2020). Oregon Noxious Weed Profile.

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

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

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

No evidence of species Geranium robertianum propagules dispersed greater than 100 m by water or wind was 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: **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:**

Geranium robertianum, when seeding, projects the seeds up to 20 feet away. The seeds are sticky, adhering to most surfaces they land on, such as animals and clothing (Thurston County Washington, 2009; Tofts, 2004; Washington State Noxious Weed Control Board, n.d.)

- Tofts, R. J. (2004). Geranium robertianum L.. Journal of Ecology. 92, 537–555.
- Thurston County Environmental Health Division (2009). Herb Robert (Geranium robertanium).
- [Anonymous] (0). Washington state weed control board.

#### **Total PRE Score**

PRE Score: 16 -- High Potential Risk

**Confidence:** 77 / 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: 2021 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 Lynn Sweet

• Alex Simmons

December 5, 2022 October 17, 2021 October 6, 2021

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 #7538**

**Date Created:** November 9, 2021 - 9:40am **Date Updated:** December 6, 2021 - 1:49pm

Submitted by: Jutta Burger

Status: Fixed Type: Comment Severity: Minor

**Scope:** Q11. Does this species (or cultivar or variety) reproduce and spread vegetatively?

#### **Issue Description**

It would be helpful to mention that it has an annual / biennial habit.

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

I changed the answer to:

Geranium robertianum main reproduction process is Soley by seed as an annual or biennial depending on geographical growing conditions

#### **Issue ID # 7537**

**Date Created:** November 9, 2021 - 9:35am **Date Updated:** December 6, 2021 - 2:28pm

Submitted by: Jutta Burger

**Status:** Fixed **Type:** Comment **Severity:** Minor

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

boats or clothing/shoes?

#### **Issue Description**

If your references are formally published and clearly state dispersal by this means, then it's ok to keep confidence "very high". Else consider going down to "high" or "medium" (medium is for circumstantial evidence. - Jutta Burger

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

I changed the confidence level from very high to medium since the references did not clearly state disperse by equipment, vehicles, boats, or clothing.

#### **Issue ID # 7535**

**Date Created:** November 9, 2021 - 9:18am **Date Updated:** December 6, 2021 - 2:10pm

Submitted by: Jutta Burger

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

Scope: Q18. Are the plant's propagules dispersed long distance (>100 m) by mammals or birds or via

domestic animals?

#### **Issue Description**

In the Evaluation Summary, you mention that the seeds are sticky and easily attach to clothing and fur. This information should be added as evidence by which you can help to support your "yes" answer through evidence. Also, you may want to restate that there is no "direct" evidence of long distance dispersal rather than "no evidence". The latter contradicts your "yes" answer. - Jutta Burger

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

I changed the answer to yes and included summary information on sticky seeds and likely transported

long distances by humans and or animals with fur. I also change the confidence level to low since there is no direct evidence supporting my answer.

#### **Issue ID # 7534**

**Date Created:** November 9, 2021 - 9:11am **Date Updated:** December 6, 2021 - 1:56pm

Submitted by: Jutta Burger

**Status:** Fixed **Type:** Comment **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**

Might be good to specifically mention that it has high dormancy (looks like the Tofts ref also showed that). - Jutta Burger

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

I changed my answer to:

Geranium robertianum produces copious amounts of seeds, and greater than 25% germinate. However, this plant's seeds can be dormant for over six years from seed dispersal to germination

#### **Issue ID #7530**

**Date Created:** November 9, 2021 - 9:06am **Date Updated:** December 6, 2021 - 1:28pm

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**

The reference might be listed incorrectly in text ("Robert 2009"). - Jutta Burger

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

Corrected reference in the text.

#### **Issue ID #7529**

**Date Created:** November 9, 2021 - 9:05am **Date Updated:** March 9, 2022 - 7:32pm

Submitted by: Jutta Burger

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

**Scope:** General Information

#### **Issue Description**

Make sure that all information listed in the summary is mentioned in the answers to questions. - Jutta Burger

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

I changed the summary to relate better to the results of the evaluation.

#### **Issue ID # 7391**

**Date Created:** October 17, 2021 - 3:31pm **Date Updated:** December 6, 2021 - 2:22pm

**Submitted by:** Lynn Sweet

**Status:** Fixed **Type:** Comment **Severity:** Minor

**Scope:** Q19. Are the plant's propagules frequently dispersed long distance (>100 m) by wind or water?

#### **Issue Description**

I think the evaluator is correct that this is a "yes" based on the evidence presented and the reference cited. The last statement undermines it unnecessarily but I think it was meant to say there was no note of a specific distance, and I think it could be deleted. The evidence is strongly stated in the peer reviewed source. "Besides, plants only reproduce by seeds, which are dispersed not only at short distances by carpel projection but also at long distances by epizoochory (Tofts, 2004; Yeo, 1973)." The word "long distances" and even discussion of dispersion via adhering to animals (as opposed to in many cases where you might doubt it would be >100m because there is no attachment) makes this strong. -- Lynn Sweet

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

I think this issue is for question 18. I changed the answer to a yes with low confidence since I could not find direct evidence on seed dispersal distance.

#### **Issue ID #7390**

**Date Created:** October 17, 2021 - 3:14pm **Date Updated:** December 6, 2021 - 12:32pm

Submitted by: Lynn Sweet

Status: Fixed Type: Suggestion Severity: Major

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

grazing systems?

#### **Issue Description**

This does not seem to be a strong enough statement to justify a "Yes" to affecting grazing; after reading the primary source reference, it is stated rather as a conjecture that the scent "may" impact grazing, at least according to my read. It isn't really citing evidence, and the citation they use (Grime) is more for theoretical support. In my opinion, it would be either a "No" (keeping the information if it is all we have) or a Low Confidence "Yes" could be OK, since although it's from published literature it's not really a definitive statement. To be a strong yes, it should be a documented impact or at least a strong case for a hypothetical (stinging/thorny or toxic plant, not just unpleasant). If there is more evidence making this more strongly a factor in impacting grazing, please add more detail. --Lynn Sweet

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

I changed my answer to no with low confidence:

When crushed, geranium robertianum makes an unpleasant smell, potentially affecting grazing, but unlikely to have a noticeable difference to grazing species (Tofts, 2004).

#### **Issue ID #7388**

**Date Created:** October 17, 2021 - 8:31am **Date Updated:** December 6, 2021 - 12:22pm

Submitted by: Jutta Burger

Status: Fixed Type: Suggestion Severity: Major

**Scope:** Q06. Is the species found predominately in a climate matching the region of concern?

#### **Issue Description**

Not sure I would agree with that. The bulk of this species distribution in GBIF is in northern Europe and Scandanavia, extending far beyond Oregon's climate match. It is also distributed in South America (very little of which matches OR) and Alaska. Please re-review maps. - Jutta Burger

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

I reviewed the maps and fixed my answer to indicate plant species extend outside Oregon's climate.

#### **Issue ID # 7387**

**Date Created:** October 17, 2021 - 8:23am **Date Updated:** December 6, 2021 - 1:13pm

Submitted by: Jutta Burger

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

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

#### **Issue Description**

In order to have a "very high" confidence you will need to provide more supporting information and references. Check out the "frequently used references" page in the PRE help site. Go to primary references cited in GBIF for invasiveness/status rather than GBIF itself here, since it only shows distribution, not invasiveness. - Jutta Burger

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

changed confidence level from very high to high.

#### **Issue ID #7386**

**Date Created:** October 17, 2021 - 8:03am **Date Updated:** December 6, 2021 - 12:07pm

Submitted by: Jutta Burger

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

**Scope:** Q04. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar

climate?

#### **Issue Description**

Elaborate and provide references. Also always good to make mention that you are using the climate match map for OR. - Jutta Burger

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

I must not have saved my original answer. I added my answer and included references.

#### **Issue ID # 7385**

**Date Created:** October 17, 2021 - 7:59am **Date Updated:** December 6, 2021 - 12:48pm

Submitted by: Jutta Burger

**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**

Any other areas that it is recorded as being invasive in? - Jutta Burger

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

added other areas where this plant is noted as invasive.

#### **Issue ID #7281**

**Date Created:** October 6, 2021 - 3:43pm **Date Updated:** December 6, 2021 - 12:43pm

**Submitted by:** Alex Simmons

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

Scope: Q18. Are the plant's propagules dispersed long distance (>100 m) by mammals or birds or via

domestic animals?

#### **Issue Description**

Based on your justification, it seems like the answer should be "No" -Alex Stubblefield

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

Yes, you are right. I don't know how that happened. I changed it to no, as the answer already reflects no evidence for greater than 100m of seed dispersal.

#### **Issue ID #7280**

**Date Created:** October 6, 2021 - 3:39pm **Date Updated:** December 6, 2021 - 12:40pm

Submitted by: Alex Simmons

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

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

grazing systems?

#### **Issue Description**

Please answer the first-half of the question 'Is the plant a health risk to humans or animals/fish'? -Alex Stubblefield

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

I added to the answer to include no risk to humans and or animals/fish.

#### **Issue ID #7279**

**Date Created:** October 6, 2021 - 3:36pm **Date Updated:** December 6, 2021 - 12:08pm

**Submitted by:** Alex Simmons

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

Scope: Q04. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar

climate?

#### **Issue Description**

Please provide reference(s). -Alex Stubblefield

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

I added references.

#### **Issue ID #7278**

**Date Created:** October 6, 2021 - 3:35pm **Date Updated:** December 6, 2021 - 12:09pm

**Submitted by:** Alex Simmons

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

Severity: Major

Scope: Q04. Is the species (or cultivar or variety) noted as being invasive in the US or world in a similar

climate?

#### **Issue Description**

Must provide Answer/Justification. List examples of 'similar climate' (including OR). -Alex Stubblefield

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

I must have not saved my original answer. I added my answer and references.

#### **Issue ID #7277**

**Date Created:** October 6, 2021 - 3:34pm **Date Updated:** December 6, 2021 - 2:36pm

**Submitted by:** Alex Simmons

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

Scope: Q02. Is the species (or cultivar or variety) noted as being naturalized elsewhere in the US or world

in a similar climate?

#### **Issue Description**

Please list examples of similar climates. -Alex Stubblefield

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

I added examples of countries with a similar climate to Oregon's and are also listed them as naturalized or invasive on GBIF.org.

# **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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