



***Plant Risk Evaluator -- PRETM
Evaluation Report***

Spartium junceum -- Nevada

2023-2025 Western IPM Project

PRE Score: 14 -- Moderate Potential Risk

Confidence: 84 / 100

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

Privacy: Private

Status: Submitted

Evaluation Date: March 10, 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

Spartium junceum



Image by Neal Kramer



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Spartium junceum*) 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

Spartium junceum, commonly known as Spanish broom and is a deciduous shrub that has been known to grow along disturbed sites in Mediterranean climates. It was introduced as an ornamental to California and other locations outside of its native range of Southwestern Europe and has since become naturalized across the Pacific Coast. *S. junceum* is noted as being invasive along the West Coast of the United States and is included in the CCR Section 4500 list of California State Noxious Weeds. *S. junceum* is found predominantly in areas that do not match that of Nevada's climate. This plant is well adapted to fire and negatively impacts grazing systems. This plant regularly blooms from April to May the and seeds it produces as a result are mainly distributed by water.

General Information

Status: Submitted

Screener: Oscar Hernandez

Evaluation Date: March 10, 2025

Plant Information

Plant: *Spartium junceum*

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

Answer / Justification:

Spartium junceum is native to Southwestern Europe, including locations such as Spain, Morocco, and the Canary Islands. It was introduced as an ornamental to California in the 19th century and has since become naturalized across parts of the U.S. (Zouhar, 2005)(USDA, 2005)(GBIF, 2025). Other areas where this plant has naturalized include Central and South America, Southern Africa, and Australia (Weedwise, 2023)(Geerts, 2013).

Reference(s):

- Government, NSW. (2023). NSW WeedWise.
- Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
- Facility, GBIF—the. Global Bio (2025). *Spartium junceum* L..
- Geerts, S., Botha P. W., Visser V., Richardson D. M., & Wilson J. R. U. (2013). Montpellier broom (*Genista monspessulana*) and Spanish broom (*Spartium junceum*) in South Africa: An assessment of invasiveness and options for management. *South African Journal of Botany*. 87, 134–145.

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



Answer / Justification:

Populations that match the climate of Nevada are few and dispersed. Most of the recorded observations appear to be from populations that are cultivated rather than naturalized however there are two research grade wild observations. Both of these observations occur within El Paso, Texas along trails.

Reference(s):

- Facility, GBIF—the. Global Bio (2025). *Spartium junceum* L..
-

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

Answer / Justification:

Spartium junceum is noted as being invasive along the West Coast of the United States and is included in the CCR Section 4500 list of California State Noxious Weeds (CAL-IPC, 2022)(Zouhar, 2005). This plant has been referred to as a "transformer species" in the Sierra Nevada ecosystem for its impact on resources and disturbance to regimes (D'Antonio, 2004). It's invasive qualities include copious seed production, alteration of soil nutrients, and self-seeding tendencies (Missouri Botanical Garden, 2025).

Reference(s):

- D'Antonio, C. M., Berlow E. L., & Haubensak K. L. (2004). Invasive exotic plant species in Sierra Nevada ecosystems. In: Murphy, Dennis D. and Stine, Peter A., editors. Proceedings of the Sierra Nevada Science Symposium. Gen. Tech. Rep. PSW-GTR-193. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture: 175-184. 193,
 - Missouri Botanical Garden (2025). *Spartium junceum* - Plant Finder.
 - Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
 - Cal-IPC (0). *Spartium junceum* Profile – California Invasive Plant Council.
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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 *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Populations that match the climate of Nevada are few and dispersed. Most of the recorded observations appear to be from populations that are cultivated rather than naturalized however there are two research grade wild observations. Both of these observations occur within El Paso, Texas along trails. There is no specific mention of these occurrences exhibiting invasive behavior but the pictures do depict several towering stands of *S. junceum*.

Reference(s):

- Facility, GBIF—the. Global Bio (2025). *Spartium junceum* L..
-

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

Answer / Justification:

No other closely related species belonging to the same genus has been noted to be invasive in a similar climate to the Nevada Region(GBIF, 2025).

Reference(s):

- Facility, GBIF—the. Global Bio (2025). *Spartium junceum* L..
-



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

Answer / Justification:

Spartium junceum is found predominantly in areas that do not match that of Nevada's climate. The vast majority of incidences are recorded in Mediterranean and Tropical climates (GBIF, 2025).

Reference(s):

- Facility, GBIF—the. Global Bio (2025). *Spartium junceum* L..
-

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

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

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

Answer / Justification:

Yes, *Spartium junceum* is known to displace native plants by crowding them as well as outcompeting plants in disturbed habitats (Zouhar, 2005) (Missouri Botanical Garden, 2025). Once established, *S. junceum* has been known to form monospecific stands (Cal-IPC).

Reference(s):

- Missouri Botanical Garden (2025). *Spartium junceum* - Plant Finder.
 - Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
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8. Is the plant noted as promoting fire and/or changing fire regimes?

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

Answer / Justification:

Spanish broom is considered a fire hazard during the dry season (Bossard, 2000). As a result, fire appears to promote the growth of this species as it thrives in disturbed areas. This plant is noted as having fire-adapted morphological traits such as storing the majority of its dead fuel at its base, favoring fire ignition (Castagneri, 2013). Finally, in an experiment testing seedling germination under varying dry heat temperatures it was found that conditions of 50 degrees celsius to 110 degrees celsius promoted *S. junceum* seed germination (Travlos, 2007). The temperatures selected were based on the aboveground and slightly below ground soil temperatures during fires in Africa.

Reference(s):

- Bossard, C. C., Randall J. M., & Hoshovsky M. C. (2000). Invasive Plants of California's Wildlands. 306-309.
- Castagneri, D. (2013). Fuel vertical structure affects fire sustainability and behaviour of prescribed burning in *Spartium junceum* shrublands \textbar Annals of Forest Science \textbar Full Text. Annals of Forest Science.
- Travlos, IS., Economou G., & Karamanos AJ. (2007). Seed germination and seedling emergence of *Spartium junceum* L. in response to heat and other pre-sowing treatments. Journal of Agronomy. 6, 152.

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

Answer / Justification:

This species has been noted to be unpalatable to most livestock thus decreasing rangeland value (CAL-IPC, 2023). Aside from causing allergies, this plant is toxic to humans (Geerts, 2013)(Calflora, 2025).



Reference(s):

- .org, C. (2025). *Spartium junceum* Calflora.
 - Geerts, S., Botha P. W., Visser V., Richardson D. M., & Wilson J. R. U. (2013). Montpellier broom (*Genista monspessulana*) and Spanish broom (*Spartium junceum*) in South Africa: An assessment of invasiveness and options for management. *South African Journal of Botany*. 87, 134–145.
 - Cal-IPC (0). *Spartium junceum* Profile – California Invasive Plant Council.
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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 *screeners* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Yes, this plant forms dense thickets that intertwine and create barriers to animals that can be taller than 5 feet. (Zouhar, 2005)(Geerts, 2013)(Bossard, 2000).

Reference(s):

- Geerts, S., Botha P. W., Visser V., Richardson D. M., & Wilson J. R. U. (2013). Montpellier broom (*Genista monspessulana*) and Spanish broom (*Spartium junceum*) in South Africa: An assessment of invasiveness and options for management. *South African Journal of Botany*. 87, 134–145.
 - Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
 - Bossard, C. C., Randall J. M., & Hoshovsky M. C. (2000). Invasive Plants of California's Wildlands. 306-309.
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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 *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Spartium junceum seems to reproduce almost exclusively through seed, regularly self-seeding and spreading its propagules via water (Geerts, 2013)(Missouri Botanical Garden, 2025). It can however, resprout from damaged or disconnected root crowns (CAL-IPC, 2023)

Reference(s):

- Geerts, S., Botha P. W., Visser V., Richardson D. M., & Wilson J. R. U. (2013). Montpellier broom (*Genista monspessulana*) and Spanish broom (*Spartium junceum*) in South Africa: An assessment of invasiveness and options for management. *South African Journal of Botany*. 87, 134–145.
 - Missouri Botanical Garden (2025). *Spartium junceum* - Plant Finder.
 - Cal-IPC (0). *Spartium junceum* Profile – California Invasive Plant Council.
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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 *screeners* has a **Medium** confidence in this answer based on the available literature.

Answer / Justification:

Spartium junceum can resprout from the root crown if it is cut or grazed but this doesn't seem to be a method of reproduction that the plant relies on (CAL-IPC, 2023).

Reference(s):

- Cal-IPC (0). *Spartium junceum* Profile – California Invasive Plant Council.
-



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

Answer / Justification:

This plant is known for its copious seed production (Bossard, 2000). Just one plant can produce up to 10,000 seeds in a single season (Zouhar, 2005).

Reference(s):

- Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
 - Bossard, C. C., Randall J. M., & Hoshovsky M. C. (2000). Invasive Plants of California's Wildlands. 306-309.
-

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

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

Answer / Justification:

This plant is known for its copious seed production (Bossard, 2000). Just one plant can produce up to 10,000 seeds in a single season (Zouhar, 2005).

Reference(s):

- Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
 - Bossard, C. C., Randall J. M., & Hoshovsky M. C. (2000). Invasive Plants of California's Wildlands. 306-309.
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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: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screeners* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

Several experiments testing the germination rate of Spanish Broom found a nearly 100% germination with little pretreatment (Zouhar, 2005).

Reference(s):

- Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
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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: **Yes**, which contributes **1** point(s) to the total PRE score.
- The *screeners* has a **Very High** confidence in this answer based on the available literature.

Answer / Justification:

This plant is known to produce seed after about two or three years of growth (Bassard, 2000)(Zouhar, 2005).

Reference(s):

- Bassard, C. C., Randall J. M., & Hoshovsky M. C. (2000). Invasive Plants of California's Wildlands. 306-309.
 - Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
-



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

Answer / Justification:

The bloom period of *Spartium junceum* in Mediterranean climates is through April to June yearly (Calflora, 2025)(Zouhar, 2005).

Reference(s):

- Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
 - .org, C. (2025). *Spartium junceum* Calflora.
-

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

Answer / Justification:

The plants propagules are not spread by birds or mammals (Geerts, 2013). There is evidence to suggest that seeds are dispersed somewhat by ants but what distance is covered as a result is unknown (Zouhar, 2005).



Reference(s):

- Geerts, S., Botha P. W., Visser V., Richardson D. M., & Wilson J. R. U. (2013). Montpellier broom (*Genista monspessulana*) and Spanish broom (*Spartium junceum*) in South Africa: An assessment of invasiveness and options for management. *South African Journal of Botany*. 87, 134–145.
 - Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
-

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

Answer / Justification:

Yes, rainwash is noted as a significant form of dispersal for this plant's propagules. The seeds are buoyant in water (Bossard, 2000)(Zouhar, 2005)(Geerts, 2013).

Reference(s):

- Bossard, C. C., Randall J. M., & Hoshovsky M. C. (2000). Invasive Plants of California's Wildlands. 306-309.
 - Geerts, S., Botha P. W., Visser V., Richardson D. M., & Wilson J. R. U. (2013). Montpellier broom (*Genista monspessulana*) and Spanish broom (*Spartium junceum*) in South Africa: An assessment of invasiveness and options for management. *South African Journal of Botany*. 87, 134–145.
 - Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
-

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



Answer / Justification:

Seeds are found within a dehiscent legume. Neither seed nor seedpod appears to have any appendages that would suggest dispersal through strictly anthropogenic means (Bossard, 2000)(Zouhar, 2005).

Reference(s):

- Bossard, C. C., Randall J. M., & Hoshovsky M. C. (2000). Invasive Plants of California's Wildlands. 306-309.
 - Service, USDA. Forest, & Zouhar K. (2005). Fire Effects Information System (FEIS) Species: *Spartium junceum*.
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Total PRE Score

PRE Score: 14 -- Moderate Potential Risk

Confidence: 84 / 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: 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:

- | | |
|--------------------|----------------|
| • Jutta Burger | April 1, 2025 |
| • Nicole Valentine | March 27, 2025 |

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



Evaluation Issues

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

Issue ID # 11194

Date Created: April 2, 2025 - 11:29am

Date Updated: April 2, 2025 - 11:29am

Submitted by: Jutta Burger

Status: Not Fixed

Type: Suggestion

Severity: Minor

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

Issue Description

Rephrase to more accurately describe the distribution of *Spartium junceum*. It does not occur in tropical climates, but rather temperate as well as subtropical Mediterranean climates. - JB

Issue Resolution

No resolution has been entered for this issue.

Issue ID # 11190

Date Created: April 1, 2025 - 3:32pm

Date Updated: April 2, 2025 - 10:05am

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion



Severity: Minor

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

Issue Description

Might be helpful to also add another about this species' ability to crown sprout for this question. - JB

Issue Resolution

No resolution has been entered for this issue.

Issue ID # 11189

Date Created: April 1, 2025 - 3:29pm

Date Updated: April 2, 2025 - 10:54am

Submitted by: Jutta Burger

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

If you agree with my issue with #2 then you'll want to adjust justification for #4 accordingly (making reference to some cases of apparent naturalization). - JB

Issue Resolution

No resolution has been entered for this issue.

Issue ID # 11188



Date Created: April 1, 2025 - 3:27pm

Date Updated: April 2, 2025 - 10:47am

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Major

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

I get that there is relatively minimal overlap in SPJU's current range with Nevada climate, however I do see occurrences that appear to be naturalized and overlap. For instance, this research grade iNat record west of El Paso :<https://www.inaturalist.org/observations/111361780> and another https://www.inaturalist.org/observations/74852915#data_quality_assessment to the east of El Paso. Both are tagged as wild (and look to be so from photos/description). - JB

Issue Resolution

No resolution has been entered for this issue.

Issue ID # 11187

Date Created: April 1, 2025 - 3:13pm

Date Updated: April 2, 2025 - 11:39am

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q01. Has the species (or cultivar or variety, if applicable) become naturalized where it is not native?

Issue Description



I know this isn't in the Help Menu, but we like to include information about the native range of each species that we are evaluating. That information is best placed as part of the justification for Q1. Can you add? - JB

Issue Resolution

No resolution has been entered for this issue.

Issue ID # 11177

Date Created: March 27, 2025 - 11:38am

Date Updated: April 2, 2025 - 10:05am

Submitted by: Nicole Valentine

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

You sort of made this point but I would also specifically add in that *Spartium junceum* forms monocultures (Zouhar 2005) (Cal-IPC). -NV

Issue Resolution

No resolution has been entered for this issue.



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.