



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

Euphorbia hypericifolia -- California

2022 Western IPM Grant Project

PRE Score: 13 -- Moderate Potential Risk

Confidence: 78 / 100

Questions answered: 19 of 20 -- Valid (80% or more questions answered)

Privacy: Public

Status: Completed

Evaluation Date: September 23, 2022

This PDF was created on May 23, 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

Euphorbia hypericifolia



Image by Ron Vanderhoff



Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Euphorbia hypericifolia*) 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

Euphorbia hypericifolia (graceful spurge) is an herbaceous short-lived perennial that only reproduces by seed. This species is native to the tropical Americas. This species has naturalized in HI, CA, AZ, NM, and the eastern US as well as in other areas of the world. *Euphorbia hypericifolia* occurrences in California are confined to more urban areas. In California, *Euphorbia hypericifolia* is "a pest of known economic or environmental detriment" and lowers nursery productivity (CDFA). *Euphorbia hypericifolia* is allelopathic and has been documented to dominate the plant community in a couple of instances. The plant's sap contains an irritant to humans. This species is also toxic and unpalatable to certain livestock. There are *Euphorbia hypericifolia* cultivars (ex. Diamond Frost), but this evaluation does not consider cultivars.

General Information

Status: Completed

Screener: Nicole Valentine

Evaluation Date: September 23, 2022

Plant Information

Plant: *Euphorbia hypericifolia*

Regional Information

Region Name: California



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:

Euphorbia hypericifolia is native to the tropical Americas (CABI). It is uncertain whether this species is native to or has naturalized in the tropical, Southern USA (efloras, CABI). It has naturalized outside its native range in the US (HI, CA, AZ, NM, eastern US), France, South Africa, the Mediterranean basin, India, Thailand, Indonesia, and Taiwan (GBIF, iNaturalist).

Reference(s):

- GBIF (2016). GBIF Backbone Taxonomy.
- [Anonymous] (2021). iNaturalist Observations.
- CABI (2007). CABI Invasive Species Compendium.
- Preston, R. E., & McClintock E. (2012). Jepson eFlora - Meliaceae.

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



Answer / Justification:

Euphorbia hypericifolia is native to the tropical Americas including the southern US (CABI). Although it is unclear exactly where the native boundaries are in the southeastern US, *Euphorbia hypericifolia* has been introduced into other parts of the US (CABI, GBIF). This plant has naturalized in areas matching California's climate including the US (CA, AZ, NM, AL, and TN), Mediterranean basin, South Africa, Saudi Arabia, southeastern China, and one record in Afghanistan (GBIF, iNaturalist). In California, *Euphorbia hypericifolia* occurrences are confined to more urban areas (GBIF, iNaturalist).

Reference(s):

- CABI (2007). CABI Invasive Species Compendium.
 - GBIF (2016). GBIF Backbone Taxonomy.
 - [Anonymous] (2021). iNaturalist Observations.
-

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

Answer / Justification:

Euphorbia hypericifolia is an invasive weed in many of the Pacific Islands, especially Hawaii, where it is rated 'high risk' (CABI, PIER). It is also a weed in Singapore and Taiwan, though the situations in which it is causing problems are not well documented (CABI). *E. hypericifolia* is a known weed in sugar cane, tomato, soybean, cotton, lettuce, and maize farming (CABI, Ndam et al 2021). *Euphorbia hypericifolia* is currently an A-rated weed, "a pest of known economic or environmental detriment," in California although this rating alone is not enough to be considered invasive in California (CDFA). *Euphorbia hypericifolia* can lower nursery productivity in California; however, there are no given accounts of this occurring (CDFA). Cattle avoid foraging on spurge when possible, which affects grazing systems (CDFA). However, this species is confined to more urban areas in California and may be unlikely to affect rangeland grazing systems.



Reference(s):

- CDFA (0). CDFA's Division of Plant Health's Pest Ratings and Proposals.
 - CABI (2007). CABI Invasive Species Compendium.
 - Ndam, LM., Ngone AM., Nkongho RN., Fongod AGN., & Fujii Y. (2021). Allelopathic Potentiality of *Euphorbia hypericifolia* L. on Germination and Seedling Development of Sympatric Crops and Weeds. *International Annals of Science*. 10(1), pp. 134–150.
 - Pacific Island Ecosystems at Risk (PIER) (0). Pacific Island Ecosystems at Risk (PIER) Risk Assessments.
-

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:

Euphorbia hypericifolia is currently an A-rated weed, "a pest of known economic or environmental detriment," in California although this alone is not enough to be considered invasive in California (CDFA). *Euphorbia hypericifolia* can lower nursery productivity in California; however, there are no given accounts of this occurring (CDFA). Cattle avoid foraging on spurge when possible, which affects grazing systems (CDFA). However, this species is confined to more urban areas in California and may be unlikely to affect rangeland grazing systems.

Reference(s):

- CDFA (0). CDFA's Division of Plant Health's Pest Ratings and Proposals.
 - CABI (2007). CABI Invasive Species Compendium.
 - Pacific Island Ecosystems at Risk (PIER) (0). Pacific Island Ecosystems at Risk (PIER) Risk Assessments.
-



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

Answer / Justification:

There are several Euphorbias that are invasive in a similar climate. Euphorbia oblongata, E. terracina, and E. virgata are listed as invasive in California (Cal-IPC). Euphorbia myrsinites is an A-rated weed in California that is also listed as invasive in matching climates including Oregon, Washington, Utah, Colorado, and New Mexico (CDFA, Invasive Plant Atlas). Euphorbia esula is also listed as invasive in the Western US in matching climates including Oregon, Washington, Nevada, Utah, Idaho, Colorado, and New Mexico (Invasive Plant Atlas). Many more Euphorbia species are either naturalized or invasive in California including: E. characias, dendroides, graminea, helioscopia, lathyris, maculata, nutans, peplus, prostrata, serpens (Calflora and iNaturalist).

Reference(s):

- CDFA (0). CDFA's Division of Plant Health's Pest Ratings and Proposals.
 - The University of Georgia - Center for Invasive Species and Ecosystem Health, National Park Service (2015). Invasive Plant Atlas.
 - California Invasive Plant Council (2022). The Cal-IPC Inventory access 9-2022.
 - [Anonymous] (2021). iNaturalist Observations.
 - Calflora (0). Calflora: Plant Search.
-

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



Answer / Justification:

Less than 50% of *Euphorbia hypericifolia* occurrences are in areas that match California's climate. Most occurrences of *Euphorbia hypericifolia* are concentrated in its native range in areas more tropical than CA including the southeastern US, Central America, and South America (CABI, GBIF). It has also naturalized in several areas more tropical than CA including Madagascar, India, Thailand, Taiwan, several Pacific Islands, central Africa, and southern China (GBIF, iNaturalist). Occurrences that match California's climate are more scattered and include South Africa, Chile, eastern China, the Mediterranean basin, and US (southern California, Arizona, New Mexico, Alabama, and Tennessee) (GBIF, iNaturalist).

Reference(s):

- CABI (2007). CABI Invasive Species Compendium.
 - GBIF (2016). GBIF Backbone Taxonomy.
 - [Anonymous] (2021). iNaturalist Observations.
-

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

Answer / Justification:

Euphorbia hypericifolia forms disproportionately dense, virtually monospecific stands in Mount Bambouto Caldera, Cameroon, which may be attributed to its allelopathic potential (Ndam et al 2021). There is no evidence of this species dominating the plant community in areas with a similar climate to California.

Reference(s):

- Ndam, LM., Ngone AM., Nkongho RN., Fongod AGN., & Fujii Y. (2021). Allelopathic Potentiality of *Euphorbia hypericifolia* L. on Germination and Seedling Development of Sympatric Crops and Weeds. *International Annals of Science*. 10(1), pp. 134–150.
-



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

Answer / Justification:

There was no evidence of *Euphorbia hypericifolia* affecting fire regimes. Since *E. hypericifolia* is an herbaceous annual with latex sap, it is unlikely to promote fire (Flora of North America, NCSU Extension).

Reference(s):

- North Carolina State University (2014). North Carolina State University Cooperative Extension.
 - [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
-

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:

Euphorbia hypericifolia is a health risk to humans and potentially animals. *Euphorbia hypericifolia* contains a milky sap that is a skin and eye irritant to humans and may cause nausea in humans if eaten (NCSU Extension). *E. hypericifolia* may be able to poison livestock but goats and sheep are generally immune to its irritant properties (CDFA). *Euphorbia hypericifolia* also affects grazing systems as cattle avoid foraging on *E. hypericifolia* (CDFA). However, this species is confined to more urban areas in California and may be unlikely to affect rangelands. The latex in several *Euphorbia* species is toxic to fish (Neuwinger 2004).

Reference(s):

- North Carolina State University (2014). North Carolina State University Cooperative Extension.
- CDFA (0). CDFA's Division of Plant Health's Pest Ratings and Proposals.
- Neuwinger, H. D. (2004). Plants used for poison fishing in tropical Africa. *Toxicon*. 44, 417–430.



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

Answer / Justification:

No evidence that *Euphorbia hypericifolia* produces impenetrable thickets. This is unlikely as *E. hypericifolia* is a short-lived perennial that grows up to 2 ft tall (CABI, NCSU Extension).

Reference(s):

- CABI (2007). CABI Invasive Species Compendium.
 - North Carolina State University (2014). North Carolina State University Cooperative Extension.
-

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

Answer / Justification:

Euphorbia hypericifolia is an herbaceous short-lived perennial with a taproot that spreads by seeds (Flora of North America).

Reference(s):

- [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
-



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

Answer / Justification:

Euphorbia hypericifolia is an herbaceous short-lived perennial with a taproot that spreads by seeds (Flora of North America). There is no evidence of naturally detached fragments producing new plants.

Reference(s):

- [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
-

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:

Euphorbia hypericifolia is a short-lived perennial that reproduces by seed (Flora of North America).

Reference(s):

- [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
-

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



Answer / Justification:

There is not enough evidence to answer this question. There are accounts of "prolific seed production" and "numerous seeds" but without more evidence I will leave this question unanswered (Chormanski et al 2022; CDFA).

Reference(s):

- Chormanski, T., Marble C., & Gettys L. (2022). BIOLOGY AND MANAGEMENT OF GRACEFUL SANDMAT (EUPHORBIA HYPERICIFOLIA) IN ORNAMENTAL CROP PRODUCTION. 2022,
 - CDFA (0). CDFA's Division of Plant Health's Pest Ratings and Proposals.
-

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

Answer / Justification:

Euphorbia hypericifolia seeds have no dormancy requirement and can germinate immediately (Chormanski et al 2022). The seedbank is also moderately persistent (CDFA). However, CDFA also noted that *Euphorbia hypericifolia* is not likely to spread widely beyond disturbed, human-mediated landscapes, as California is too dry to favor its growth.

Reference(s):

- Chormanski, T., Marble C., & Gettys L. (2022). BIOLOGY AND MANAGEMENT OF GRACEFUL SANDMAT (EUPHORBIA HYPERICIFOLIA) IN ORNAMENTAL CROP PRODUCTION. 2022,
 - CDFA (0). CDFA's Division of Plant Health's Pest Ratings and Proposals.
-



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:

Euphorbia hypericifolia is a short-lived perennial that reproduces by seed (Flora of North America).

Reference(s):

- [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
-

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

Answer / Justification:

Euphorbia hypericifolia has more reports of flowering over >3 months a year than less than 3 months a year. Flowering and fruiting early spring–late fall in North America (Flora of North America). Seeds are generally produced from late spring to the end of fall in Florida (Chormanski et al 2022). This plant is reported to flower in August and September in California, however, photos from observations show this plant flowering in July, October, and November (Calflora).

Reference(s):

- [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
 - Chormanski, T., Marble C., & Gettys L. (2022). BIOLOGY AND MANAGEMENT OF GRACEFUL SANDMAT (EUPHORBIA HYPERICIFOLIA) IN ORNAMENTAL CROP PRODUCTION. 2022,
 - Calflora (0). Calflora: Plant Search.
-



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:

There is no evidence of *Euphorbia hypericifolia* spreading by mammals or birds. *Euphorbia hypericifolia* seeds are 0.8 mm long with poorly defined transverse ribs and a very thin whitish mucilaginous coat (Sciandrello et al 2016; Flora of North America). Although the layer of mucilage may facilitate transport by humans and animals, there is no evidence of this occurring for *Euphorbia hypericifolia*.

Reference(s):

- Sciandrello, S., del Galdo G. Giusso, & Minissale P. (2016). *Euphorbia hypericifolia* L. (Euphorbiaceae), a new Alien Species for Italy. *Webbia*. 71(1), 1-6.
 - [Anonymous] (0). Flora of North America. (Barkworth, M., Ed.).
-

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

Answer / Justification:

There is no evidence of *Euphorbia hypericifolia* spreading long distances by wind or water. The seeds do not have any features that typically contribute to long distance wind or water dispersal. *Euphorbia hypericifolia* seeds are 0.8 mm long with poorly defined transverse ribs and a very thin whitish mucilaginous coat (Sciandrello et al 2016; Flora of North America).



Reference(s):

- Sciandrello, S., del Galdo G. Giusso, & Minissale P. (2016). *Euphorbia hypericifolia* L. (Euphorbiaceae), a new Alien Species for Italy. *Webbia*. 71(1), 1-6.
 - [Anonymous] (0). *Flora of North America*. (Barkworth, M., Ed.).
-

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

Answer / Justification:

There is no evidence that *Euphorbia hypericifolia* is frequently dispersed via contamination. CDFA notes that *Euphorbia hypericifolia* seeds are able to spread via nursery stock and other means (CDFA). This species is a "VERY common weed in nursery stock," which supports *Euphorbia hypericifolia* frequently dispersing via nursery stock (per. comm. Ron Vanderhoff).

Reference(s):

- CDFA (0). CDFA's Division of Plant Health's Pest Ratings and Proposals.
 - Vanderhoff, R. (2022). Ron Vanderhoff.
-



Evaluation Notes

The common horticultural container plant *Euphorbia* ‘Diamond Frost’ is sometimes attributed to *Euphorbia hypericifolia* but it is not closely related (CDFA). Ron Vanderhoff suspects that *Euphorbia* is marginally adapted to xeric conditions and will likely become a common urban weed but will only marginally establish in wildlands (2022).

CABI:

<https://www.cabi.org/isc/datasheet/119929>

Accessed 09/23/2022

CDFA

<https://blogs.cdfa.ca.gov/Section3162/?p=4339>

Accessed 09/23/2022

Flora of North America

http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242321438

Accessed 09/26/2022

GBIF:

<https://www.gbif.org/species/3066321>

Accessed 09/23/2022

iNaturalist:

https://www.inaturalist.org/observations?place_id=any&subview=map&taxon_id=275384

Accessed 09/23/2022

NCSU Extension:

<https://plants.ces.ncsu.edu/plants/euphorbia-hypericifolia/>

Accessed 09/26/2022

PIER:

http://www.hear.org/pier/wra/pacific/Euphorbia_hypericifolia_PMC.pdf

Accessed 09/26/2022

Total PRE Score

PRE Score: 13 -- Moderate Potential Risk

Confidence: 78 / 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: 2022 Western IPM Grant Project

Content Privacy: Public



Evaluation Reviewers

The PRE approach is to base decisions on science and make decisions by consensus of diverse horticultural stakeholders. The literature review and process of answering PRE's questions are based on science; the decisions of which plants to prioritize are based on consensus. To ensure this process is in place and that PRE is collaborative, volunteer stakeholders are recruited from each region to review evaluations. The following experts in their profession (plant science, conservation, or horticultural trade) have participated as volunteer PRE reviewers for this evaluation:

- | | |
|------------------------|-------------------|
| • Tom Reyes | February 20, 2023 |
| • Elizabeth D. Brusati | February 10, 2023 |
| • Katherine Brafford | December 16, 2022 |
| • Jutta Burger | November 13, 2022 |
| • Ron Vanderhoff | November 10, 2022 |

This evaluation has a total of 5 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 # 8908

Date Created: February 26, 2023 - 9:06am

Date Updated: February 27, 2023 - 12:27pm

Submitted by: Ron Vanderhoff

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q17. Does this plant continuously produce seed for >3 months each year or does seed production occur more than once a year?

Issue Description

I think this could be a Very High confidence. A quick glance through the images of the sp. on Calflora shows flowering during at least 10 of the 12 months. My own experience (which cannot be used) also supports essentially year-round flowering and fruiting. - Ron

Issue Resolution (Screener's Response to Issue) Switched from high to very high confidence. Mentioned photos of flowering on Calflora. -NV

Issue ID # 8907

Date Created: February 26, 2023 - 8:57am

Date Updated: February 27, 2023 - 12:37pm

Submitted by: Ron Vanderhoff

Status: Fixed



Type: Suggestion

Severity: Minor

Scope: Q08. Is the plant noted as promoting fire and/or changing fire regimes?

Issue Description

Given its morphology as a completely herbaceous, small, a wiry plant with a small amount of leaf litter and a milky latex sap I think its fire impacts would be minimal. Could be a High confidence. - Ron

Issue Resolution (Screener's Response to Issue)

Changed from medium to high confidence. -NV

Issue ID # 8906

Date Created: February 26, 2023 - 8:52am

Date Updated: March 2, 2023 - 11:32am

Submitted by: Ron Vanderhoff

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

I think you should have more justification for "invasive". CDFA's A rating does not necessarily imply invasiveness and in this instance I am pretty sure it is based upon economic impacts to production nurseries and perhaps agriculture only. I think there should be some references supporting invasiveness - if there is. - Ron

Issue Resolution (Screener's Response to Issue) Updated answer from yes to no since there was not more evidence. -NV



Issue ID # 8905

Date Created: February 26, 2023 - 8:46am

Date Updated: February 27, 2023 - 12:35pm

Submitted by: Ron Vanderhoff

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Plant Information

Issue Description

I think it is important to mention *E. hypericifolia* 'Inneuphdia', aka 'Diamond Frost'. This is a cultivar in the nursery trade that has become fairly common through most of the country. It is generally sold under the trademarked name 'Diamond Frost'. I believe there are now a couple of competing cultivars as well, but this one still dominates the marketplace. It is reported as sterile and I have not seen any seedlings, but I have nothing to support its "sterile" claim.

Oops, after I wrote this I see you mentioned this in the Notes section. Excellent. It might be worthy of just a very brief mention here as well, with something like "See Notes for a further discussion". This way a reader will have that knowledge prior to working through the questions and scores. Just a thought. - Ron

Issue Resolution (Screener's Response to Issue) Put last sentence in that this evaluation does not consider cultivars. -NV

Issue ID # 8846

Date Created: February 20, 2023 - 2:05pm

Date Updated: March 1, 2023 - 11:49am

Submitted by: Tom Reyes

Status: Fixed

Type: Comment

Severity: Minor

Scope: Evaluation as a whole



Issue Description

Based on the information in this assessment, it seems like this is problematic within horticultural operations and in managed areas, and not really in wildlands. Calflora and iNaturalist observations are mostly limited to urban areas, with any observations within wildlands restricted to WUI areas.

The Since the CDFA rating already covers the invasiveness within horticultural systems, I'm not sure that this warrants a high Cal-IPC rating until we have more evidence that this can become naturalized and problematic in CA wildlands.

Issue Resolution (Screener's Response to Issue)

I added a sentence in general info and Q4 that *E. hypericifolia* occurrences are confined to more urban areas in California. PRE has its own definition of invasive based on economic or environmental impacts. This species may score no for Q4, which would exclude it from a higher rating. -NV

<https://pretool.org/glossary>

<https://pretool.org/help/how-answer-pre-questions>

Issue ID # 8801

Date Created: February 10, 2023 - 12:04pm

Date Updated: February 27, 2023 - 12:32pm

Submitted by: Elizabeth D. Brusati

Status: Fixed

Type: Suggestion

Severity: Minor

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

Issue Description

Typo in "perennial"

Issue Resolution (Screener's Response to Issue) fixed! -NV



Issue ID # 8800

Date Created: February 10, 2023 - 12:02pm

Date Updated: March 1, 2023 - 4:19pm

Submitted by: Elizabeth D. Brusati

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

Given that you have one reference about overtopping from an area that is not similar to climate in California, I would reduce the confidence level.

Issue Resolution (Screener's Response to Issue) I left confidence as high because the source is published information and this question is not specific to CA. I noted that there were no accounts of this happening in CA. -NV <https://pretool.org/help/how-choose-confidence-levels>

Issue ID # 8799

Date Created: February 10, 2023 - 11:58am

Date Updated: March 2, 2023 - 11:32am

Submitted by: Elizabeth D. Brusati

Status: Fixed

Type: Comment

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

I agree with Jutta's comment on the CDFA A list. Also, from the "How to Answer" document: "Being on a state or federal noxious weed list may not be enough to warrant a yes answer, since this does not necessarily mean the plant has established or been introduced to this area." So if you're going to use a noxious weed list as a citation, the answer needs to include details beyond the plant simply being on the list.

Issue Resolution (Screener's Response to Issue) Updated answer from yes to no since there wasn't more robust evidence. -NV

Issue ID # 8798

Date Created: February 10, 2023 - 11:52am

Date Updated: March 1, 2023 - 11:12am

Submitted by: Elizabeth D. Brusati

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

To make the answer easier for a reader to understand, focus on the areas that are similar to California. Eliminate extraneous information about where it's native and naturalized areas that don't match California.

Issue Resolution (Screener's Response to Issue) removed parts about non-climate matching areas. I have been reading this question incorrectly for a while! -NV

Issue ID # 8567



Date Created: December 16, 2022 - 8:55pm

Date Updated: January 10, 2023 - 9:09am

Submitted by: Katherine Brafford

Status: Fixed

Type: Comment

Severity: Minor

Scope: General Information

Issue Description

To me, the phrase, "and has naturalized outside its range in the US (HI, CA, AZ, NM, eastern US)" could be read as saying that the plant's native range is HI, CA, AZ etc. Perhaps say instead, "it has naturalized in HI, CA, AZ, NM, and the eastern US as well as in other areas of the world".

Issue Resolution (Screener's Response to Issue) changed wording as suggested. NV

Issue ID # 8372

Date Created: November 13, 2022 - 8:03am

Date Updated: December 5, 2022 - 4:47pm

Submitted by: Jutta Burger

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q20. Are the plant's propagules frequently dispersed via contaminated seed, equipment, vehicles, boats or clothing/shoes?

Issue Description

Given Ron's account of this species likely spread through at least the nursery industry, you could cite personal communication with him and change this to "yes" with medium confidence. - Jutta Burger

Issue Resolution (Screener's Response to Issue) Changed the answer to yes and added this info to the answer and included Ron as a reference. Also changed confidence to High due to CDFA evidence for ability and now Ron's account of this occurring frequently. -NV



Issue ID # 8371

Date Created: November 13, 2022 - 7:53am

Date Updated: December 2, 2022 - 3:12pm

Submitted by: Jutta Burger

Status: Fixed

Type: Comment

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

Careful about using CDFA ratings as evidence for invasiveness specifically in California because "A" ratings are now pretty much restricted to species that have a very limited distribution in CA (and therefore are considered a high risk for invasiveness/impact here but not invasive per se yet). No need to really change anything, just keep that in mind.- Jutta Burger

Issue Resolution (Screener's Response to Issue) Thanks Jutta it is easy for me to lose sight of that. -NV

Issue ID # 8370

Date Created: November 13, 2022 - 7:50am

Date Updated: December 2, 2022 - 1:46pm

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

Eliminate reference to Hawaii here because it is not a similar climate. - Jutta Burger

Issue Resolution (Screener's Response to Issue) Removed reference to Hawaii. -NV

Issue ID # 8369

Date Created: November 13, 2022 - 7:47am

Date Updated: December 2, 2022 - 5:07pm

Submitted by: Jutta Burger

Status: Fixed

Type: Comment

Severity: Minor

Scope: Regional Information

Issue Description

You can add in the direct link to the Climate Match search in PRE by clicking the "Share Link" button next in "Share and Download" once you've selected species and region in the Climate. - Jutta Burger

Issue Resolution (Screener's Response to Issue) Updated link -NV

Issue ID # 8344

Date Created: November 10, 2022 - 11:14am

Date Updated: December 5, 2022 - 5:21pm

Submitted by: Ron Vanderhoff

Status: Fixed

Type: Suggestion



Severity: Minor

Scope: Evaluation as a whole

Issue Description

Another anecdotal comments, with no reference base other than my own experience . . . but I sense that this sp is scoring probably a point or two higher than it possibly warrants. This is probably due to it being somewhat marginally adapted to our principal habitats and xeric conditions. I suspect it will become a rather common garden and urban weed (it already is in some places) but will marginally establish in wildlands and cause only mild impacts.

Issue Resolution (Screener's Response to Issue) I added this to the Evaluation notes. -NV

Issue ID # 8343

Date Created: November 10, 2022 - 11:04am

Date Updated: December 5, 2022 - 4:46pm

Submitted by: Ron Vanderhoff

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q20. Are the plant's propagules frequently dispersed via contaminated seed, equipment, vehicles, boats or clothing/shoes?

Issue Description

Being in the retail nursery business I have unique perspective, on the movement of this plant through CA. However, I know this is anecdotal, and cannot be used in the scoring. Nonetheless, this is now a VERY common weed in nursery stock. Via this mode of distribution it has move extremely quickly through the state (although rather sparingly into wildlands beyond urban edges, due to it water requirements.

Not sure if this mode of dispersal defined in this question, but is so perhaps a stronger mention. If so you could reference CDFA's mention in their Pest Ration Proposal of it as a "significant nursery weed". And if so, consider raising confidence to at least a High.

Issue Resolution (Screener's Response to Issue) Changed answer to yes and added this info in the answer and included you as a reference :) Also changed confidence to High due to CDFA evidence for ability and now Ron's account of this occurring frequently.



Issue ID # 8342

Date Created: November 10, 2022 - 10:52am

Date Updated: February 26, 2023 - 9:15am

Submitted by: Ron Vanderhoff

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Q17. Does this plant continuously produce seed for >3 months each year or does seed production occur more than once a year?

Issue Description

Glancing through the Calflora and iNaturalist records with images I see records with flowering plants in all months except December and January. This would pretty strongly suggest seed production well over three months per year in CA. This matches my personal experience with the plant as well. Consider raising the confidence level of this question to high or very high. - Ron

Issue Resolution (Screener's Response to Issue)

Updated confidence from Medium to High. -NV

Issue ID # 8341

Date Created: November 10, 2022 - 10:41am

Date Updated: December 2, 2022 - 4:58pm

Submitted by: Ron Vanderhoff

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

Maybe "annual to short-lived perennial".

Issue Resolution (Screener's Response to Issue) update -NV

Issue ID # 8340

Date Created: November 10, 2022 - 10:39am

Date Updated: December 2, 2022 - 5:31pm

Submitted by: Ron Vanderhoff

Status: Fixed

Type: Suggestion

Severity: Minor

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

Issue Description

There is pretty good published evidence of various *Euphorbia* species (*E. antiquorum*, *tirucalli*, *ingens*, others) being toxic to fish. Several spp. were and still are being used by indigenous peoples in parts of the world for this purpose.

Issue Resolution (Screener's Response to Issue) Added in sentence about *Euphorbias* being toxic to fish. -NV

Issue ID # 8339

Date Created: November 10, 2022 - 10:30am



Date Updated: December 2, 2022 - 5:11pm

Submitted by: Ron Vanderhoff

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: Evaluation as a whole

Issue Description

Suggest "annual to short-lived perennial". Consider this for questions 11, 12, 13 and 16 as well.

Issue Resolution (Screener's Response to Issue) -updated these-NV

Issue ID # 8338

Date Created: November 10, 2022 - 10:29am

Date Updated: December 2, 2022 - 5:02pm

Submitted by: Ron Vanderhoff

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

Although the question is answered and scored correctly, it might be worth noting that there is no documentation of the plant significantly displacing or dominating the plant community in California or similar climate areas.

Issue Resolution (Screener's Response to Issue) Added sentence saying this behavior not observed in similar climate to CA. -NV



Issue ID # 8337

Date Created: November 10, 2022 - 10:23am

Date Updated: December 5, 2022 - 5:07pm

Submitted by: Ron Vanderhoff

Status: Fixed

Type: Suggestion

Severity: Minor

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

Issue Description

I think it might be worthy of mentioning several other members of the *Euphorbia* genus that are well documented as either naturalized or invasive in CA. Some are similar in stature and annual/short-term perennial status, while others are larger and more clearly perennial. These include *E. characias*, *dendroides*, *graminea*, *helioscopia*, *lathyris*, *maculata*, *nutans*, *oblongata*, *peplus*, *prostrata*, *serpens* and *terraccina*, *virgata* (Calflora and iNaturalist). *lathyris*, *oblongata*, *terraccina* and *virgata* are already Cal-IPC listed.

Issue Resolution (Screener's Response to Issue) Mentioned the status of these *Euphorbias*. -NV

Issue ID # 8336

Date Created: November 10, 2022 - 10:01am

Date Updated: December 2, 2022 - 5:13pm

Submitted by: Ron Vanderhoff

Status: Fixed

Type: Suggestion

Severity: Minor

Scope: General Information

Issue Description

Some references, including CDFA (<https://blogs.cdfa.ca.gov/Section3162/?p=4339>) suggest this as a



perennial, at least in CA. My own experience also tends toward some populations being perennial. Perhaps better to state "annual to perennial".

Issue Resolution (Screener's Response to Issue) Updated this to short-lived perennial -NV

Issue ID # 8335

Date Created: November 10, 2022 - 9:46am

Date Updated: December 2, 2022 - 4:53pm

Submitted by: Ron Vanderhoff

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

To me, this phrasing says that the species is native to parts of the US. Seems like there is some conjecture about that. Flora of North America (efloras) suggests that it is adventive in all parts of the US. Perhaps a mention here of in uncertainty re US nativity.

Issue Resolution (Screener's Response to Issue) Mentioned is unclear whether is native to or naturalized in the tropical, Southern US. Added in efloras reference.



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.