Plant Risk Evaluator -- PRE™
Evaluation Report

Rhinanthus minor -- Oregon

2022 Western IPM Grant Project

PRE Score: 16 -- High Potential Risk
Confidence: 78 / 100
Questions answered: 20 of 20 -- Valid (80% or more questions answered)

Privacy: Private
Status: Completed

Evaluation Date: December 15, 2022

This PDF was created on June 06, 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

Rhinanthus minor

Evaluation Overview

A PRE™ screener conducted a literature review for this plant (*Rhinanthus minor*) 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

Rhinanthus minor, commonly known as yellow-rattle, is a annual plant that is native to the British Isles. It is widespread throughout Europe and has been introduced and become naturalized in North America. It has the ability to grow in a variety of climates and is typically found in meadows, grasslands, mires, sand dunes and along roadways. Rhinanthus minor is noted as being invasive in the US and Canada, which is attributed to it's high fecundity, ability to reduce hay production, and toxicity. According to the Center for Invasive Species and Ecosystem Health, Rhinanthus minor is listed as an invasive species in New Hampshire. It is noted a Rhinanthus minor is a root hemi-parasite and it relies on allogamy between hermaphraditic flowers for reproduction. As a root hemi-parasitic plant, it is reliant on host species for both carbon and mineral nutrition. It has been shown to reduce the performance of grass species and can shift the vegetation community structure, which can impact grazing systems. Rhinanthus minor reproduction only occurs through seed and the species population is based on the seed production of the previous year. As an annual, Rhinanthus minor produces highly viable seeds each year; however, the seeds do not persist in the soil. Although the Rhinanthus minor does not produce copious amounts of seeds per year (approximately 240 seeds per year), the seed germination rate is very high. The seeds are not commonly ingested by animals; however, due to their flat, smooth structure it possible for seeds to be dispersed great distances by water or adhering to flat surfaces, such as farm equipment. Based on the results of this evaluation, Rhinanthus minor received a PRE score of 16, which puts it at the high potential risk level.

General Information

Status: Completed
Screener: Justine Casebolt
Evaluation Date: December 15, 2022

Plant Information

Plant: *Rhinanthus minor*

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 here to see the generated climate matching map for this region. This climate match database is hosted by GreenInfo Network and publicly accessible.

Evaluation Questions

These questions are based on an article published by PLOS One, which can be found here: https://doi.org/10.1371/journal.pone.0121053.

Invasive History and Climate Matching (Questions 1 - 6)

1. Has the species (or cultivar or variety, if applicable; applies to subsequent "species" questions) become naturalized where it is not native?

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

Answer / Justification:

Rhinanthus minor, commonly known as yellow-rattle, is an annual root hemi-parasite that is relies on allogamy between hermaphroditic flowers for reproduction (Westbury, 2004; Magda et al. 2004; Van Hust et al., 1987). The species is native to the British Isles and is typically found in meadows, but can also be found in grasslands, mires, sand-dunes, and along roadways (Westbury, 2004). It is widespread throughout Europe and has been introduced to North America, where it has become naturalized (Westbury, 2004; Jelbert et al. 2015).

Reference(s):

- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.
- Jelbert, K., Stott I., McDonald R. A., & Hodgson D. (2015). Invasiveness of plants is predicted by size and fecundity in the native range. Ecology and Evolution. 5, 1933–1943.
- Van Hulst, R., Shipley B., & Thériault A. (1987). Why is Rhinanthus minor (Scrophulariaceae) such a good invader?. Canadian Journal of Botany. 65, 2373–2379.
- Magda, D., Duru M., & Theau J-P. (2004). Defining management rules for grasslands using weed demographic characteristics. Weed Science. 52, 339–345.

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2. Is the species (or cultivar or variety) noted as being naturalized in the US or world in a similar climate?

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

Answer / Justification:

Yes, R. minor is found in other parts of the US with a climate similar to Oregon (temperate mountain and temperate desert, from zone 4 to 11) such as Colorado, Washington, Idaho, and the northeast states. It is also found in Canada, Europe, and Asia in areas with similar climate to Oregon (Van Hulst et al. 1987; ter Borg 1985 as cited in Westbury, 2004).

Reference(s):

- GBIF—the Global Biodiversity Information Facility (0). Rhinanthus minor L..
- Van Hulst, R., Shipley B., & Thériault A. (1987). Why is Rhinanthus minor (Scrophulariaceae) such a good invader?. Canadian Journal of Botany. 65, 2373–2379.
- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.

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

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

Answer / Justification:

Yes, Rhinanthus minor is noted as being invasive in Canada and the US due to it's high fecundity, ability to reduce hay production, and toxicity (Van Hulst et al. 1987; Jelbert et al. 2015; Smith & Cox, 2014). According to the Center for Invasive Species and Ecosystem Health, Rhinanthus minor is listed as an invasive species in New Hampshire.

Reference(s):

- Van Hulst, R., Shipley B., & Thériault A. (1987). Why is Rhinanthus minor (Scrophulariaceae) such a good invader?. Canadian Journal of Botany. 65, 2373–2379.
- Jelbert, K., Stott I., McDonald R. A., & Hodgson D. (2015). Invasiveness of plants is predicted by size and fecundity in the native range. Ecology and Evolution. 5, 1933–1943.
- CABI (2019). Rhinanthus minor.
- Smith, R. G., & Cox D. A. (2014). Effects of Soil Amendments on the Abundance of a Parasitic Weed, Yellow Rattle (Rhinanthus minor) in Hay Fields. Weed Science. 62, 118–124.
- Center for Invasive Species and Ecosystem Health (0). little yellow rattle, Rhinanthus minor ssp. minor Scrophulariales: Scrophulariaceae.

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

Answer / Justification:

Yes, it is noted as being invasive in regions of Canada and the US with similar climate to Oregon (Van Hulst et al. 1987; Jelbert et al. 2015; Smith & Cox, 2014). More specifically, it is listed as invasive in New Hampshire, which does have areas of climates similar to Oregon. It is also widespread throughout Canada, but it also found in areas with similar climate to Oregon such as northwest and northeast Canada.

Reference(s):

- Smith, R. G., & Cox D. A. (2014). Effects of Soil Amendments on the Abundance of a Parasitic Weed, Yellow Rattle (Rhinanthus minor) in Hay Fields. Weed Science. 62, 118–124.
- Jelbert, K., Stott I., McDonald R. A., & Hodgson D. (2015). Invasiveness of plants is predicted by size and fecundity in the native range. Ecology and Evolution. 5, 1933–1943.
- Van Hulst, R., Shipley B., & Thériault A. (1987). Why is Rhinanthus minor (Scrophulariaceae) such a good invader?. Canadian Journal of Botany. 65, 2373–2379.
- GBIF—the Global Biodiversity Information Facility (0). Rhinanthus minor L..
- Center for Invasive Species and Ecosystem Health (0). little yellow rattle, Rhinanthus minor ssp. minor Scrophulariales: Scrophulariaceae.

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

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

Answer / Justification:

There are other Rhinanthus species including Rhinanthus alectorolophus and Rhinanthus major (syn. R. angustifolius, R. serotinus) (Randall, 2017) that are found in regions of Europe with similar climate to Oregon, but I could not find any evidence that the other species are considered invasive. Rhinanthus alectorolophus in particular has a greater restricted distribution mainly in Central Europe (Hartl, 1974 as cited in Matthies, 2021).

Reference(s):

- Matthies, D. (2021). Closely related parasitic plants have similar host requirements and related effects on hosts. Ecology and Evolution. 11, 12011–12024.
- Randall, R.P. (2017). A Global Compendium of Weeds. Third Edition..

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

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

Answer / Justification:

Based on the climate matching tool and GBIF, R. minor is widespread and grows in a variety of climates. Less than half of the places where the R. minor grows match the climate in Oregon.

Reference(s):

- GBIF—the Global Biodiversity Information Facility (0). Rhinanthus minor L..
- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.

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

Answer / Justification:

Rhinanthus minor is a root hemi-parasitic plant, therefore, it is reliant on host species for carbon and mineral nutrition (Cameron et al. 2009). Using a spatial theoretical model and the results from a controlled greenhouse study, Cameron et al. (2009) found that R. minor reduces the performance of grass species, and due to this there is a potential for shifts in the vegetation community structure. Grasses are an ideal host for R. minor, and Ameloot et al. (2006) found that in the Netherlands grass cover was negatively associated R. minor.

Reference(s):

- Ameloot, E., Verheyen K., Bakker J. P., De Vries Y., & Hermy M. (2006). Long-term dynamics of the hemiparasite Rhinanthus angustifolius and its relationship with vegetation structure. Journal of Vegetation Science. 17, 637–646.
- Cameron, D. D., White A., & Antonovics J. (2009). Parasite–grass–forb interactions and rock–paper– scissor dynamics: predicting the effects of the parasitic plant Rhinanthus minor on host plant communities. Journal of Ecology. 97, 1311–1319.

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

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

Answer / Justification:

There is a lack of evidence that Rhinanthus minor promotes fire or changes the fire regime. It grow primarily in open, dry to moist grasslands and is not shade tolerant (Westbury, 2004). Based on it's habitat, it can be inferred that there is a low probability that Rhinanthus minor promotes fire or changes fire regime.

Reference(s):

- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.

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

- Answer: **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:

Yes, it is toxic to livestock and is typically not consumed by animals (Magda et al. 2004). Through its parasitism of grasses, it has been shown to impact grazing systems (Ameloot et al., 2006; Cameron et al. 2009). I could not find any information on whether it is toxic to humans, fish, or other wildlife.

Reference(s):

- Magda, D., Duru M., & Theau J-P. (2004). Defining management rules for grasslands using weed demographic characteristics. Weed Science. 52, 339–345.
- Ameloot, E., Verheyen K., Bakker J. P., De Vries Y., & Hermy M. (2006). Long-term dynamics of the hemiparasite Rhinanthus angustifolius and its relationship with vegetation structure. Journal of Vegetation Science. 17, 637–646.
- Cameron, D. D., White A., & Antonovics J. (2009). Parasite–grass–forb interactions and rock–paper– scissor dynamics: predicting the effects of the parasitic plant Rhinanthus minor on host plant communities. Journal of Ecology. 97, 1311–1319.

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

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

Answer / Justification:

Rhinanthus minor can grow up to 500mm (about 20 inches) (Westerbury, 2004), therefore, the chances of it inhibiting movement of animals, livestock, or humans are minimal. There is a lack of evidence to support this, which is why the confidence level is low.

Reference(s):

- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.

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

Answer / Justification:

Rhinanthus minor reproduction only occurs through seed (Westbury, 2004). As a annual, its population is based on the seed production from the previous year (Magda et al. 2004; Coulson et al., 2001)

Reference(s):

- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.
- Coulson, S. J., Bullock J. M., Stevenson M. J., & Pywell R. F. (2001). Colonization of grassland by sown species: dispersal versus microsite limitation in responses to management. Journal of Applied Ecology. 38, 204–216.
- Magda, D., Duru M., & Theau J-P. (2004). Defining management rules for grasslands using weed demographic characteristics. Weed Science. 52, 339–345.

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

Answer / Justification:

The evidence suggests that Rhinanthus minor reproduction only occurs through seed.

Reference(s):

- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.
- Coulson, S. J., Bullock J. M., Stevenson M. J., & Pywell R. F. (2001). Colonization of grassland by sown species: dispersal versus microsite limitation in responses to management. Journal of Applied Ecology. 38, 204–216.
- Magda, D., Duru M., & Theau J-P. (2004). Defining management rules for grasslands using weed demographic characteristics. Weed Science. 52, 339–345.

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

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

Answer / Justification:

As an annual, Rhinanthus minor has a high level of fecundity, with each plant producing up to 240 seeds each. Every year the population renewal is based on the recruitment of new individuals and the seed production from the previous year (Magda et al. 2004; Coulson et al., 2001)

Reference(s):

- Magda, D., Duru M., & Theau J-P. (2004). Defining management rules for grasslands using weed demographic characteristics. Weed Science. 52, 339–345.
- Coulson, S. J., Bullock J. M., Stevenson M. J., & Pywell R. F. (2001). Colonization of grassland by sown species: dispersal versus microsite limitation in responses to management. Journal of Applied Ecology. 38, 204–216.

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

- 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:

According to Magda et al. (2004) each plant produces up to 240 seeds each year. The lifespan of dormant seeds in the soil is 2-3 years max. According to Westbury (2004), the seeds do not persist in the soil. Coulson et al. (2001) found that R. minor had a mean of 92.9 seeds per plant.

Reference(s):

- Magda, D., Duru M., & Theau J-P. (2004). Defining management rules for grasslands using weed demographic characteristics. Weed Science. 52, 339–345.
- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.
- Coulson, S. J., Bullock J. M., Stevenson M. J., & Pywell R. F. (2001). Colonization of grassland by sown species: dispersal versus microsite limitation in responses to management. Journal of Applied Ecology. 38, 204–216.

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

Answer / Justification:

Seed germination is found to be high (greater than 25%) in the next growing season. In comparing different germination rates in various temperature, it was found that 90% of fresh seeds germinated, 46% in moist storage germinated, and 69% in dry per-storage germinates (Westbury, 2001 as cited in Westbury, 2004).

Reference(s):

- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.

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

Answer / Justification:

As an annual, Rhinanthus minor reproduction only occurs through seed and relies on seed production from the previous year (Westbury, 2004).

Reference(s):

- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.

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

- Answer: **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:

It flowers from May to August and mature seeds begin to be dispersed in May (Magda et al., 2004). According to Westbury (2004), R. minor flowering can occur from early May through September and indicate that seeds can set in June in it's native range, the British Isles. Ether way, flowering occurs for greater than 3 months suggesting that seed production can also occur for more than 3 months of the year.

Reference(s):

- Magda, D., Duru M., & Theau J-P. (2004). Defining management rules for grasslands using weed demographic characteristics. Weed Science. 52, 339–345.
- Westbury, D. B. (2004). Rhinanthus minor L.. Journal of Ecology. 92, 906–927.

Dispersal (Questions 18 - 20)

18. Are the plant's propagules frequently dispersed long distance (>100 m) by mammals or birds or via domestic animals?

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

Answer / Justification:

In a study analyzing the dispersal of R. minor propagules, Bullock et al. (2003) found that sheep did not eat any of the R. minor plants which showed a lack of seed dispersal from ingestion by sheep. Bullock et al. (2003) also discuss the potential for seeds getting trapped in the sheep's wool, but they consider this unlikely due to the large size and smooth, flat structure of the seeds. Additionally, Coulson et al. (2001) did not find seed dispersal ingestion by grazing animals and claims that R. minor seeds do not have specialized structures that would facilitate epizoochory (dispersal through animal fleece or hoofs).

Reference(s):

- Bullock, J. M., Moy I. L., Coulson S. J., & Clarke R. T. (2003). Habitat-specific dispersal: environmental effects on the mechanisms and patterns of seed movement in a grassland herb Rhinanthus minor. Ecography. 26, 692–704.
- Coulson, S. J., Bullock J. M., Stevenson M. J., & Pywell R. F. (2001). Colonization of grassland by sown species: dispersal versus microsite limitation in responses to management. Journal of Applied Ecology. 38, 204–216.

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

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

Answer / Justification:

Bullock et al. (2003) found the maximum dispersal distance of R. minor seeds by wind to be 1.3 meters for a plant with the maximum height of 0.3 meters. The flat seed structure does allow it to float so it can potentially be dispersed longer distances by floods (Ridley, 1930, as cited in Bullock et al., 2003), however, the evidence to support this claim is lacking, which is why the confidence level is low. In A Global Compendium of Weeds, Randall (2017) mentions that R. minor is dispersed by wind and water, but the distance of dispersal is not indicated.

Reference(s):

- Bullock, J. M., Moy I. L., Coulson S. J., & Clarke R. T. (2003). Habitat-specific dispersal: environmental effects on the mechanisms and patterns of seed movement in a grassland herb Rhinanthus minor. Ecography. 26, 692–704.
- Randall, R.P. (2017). A Global Compendium of Weeds. Third Edition..

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

- Answer: **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:

Based on field observations by Bullock et al. (2003) the flat seed structure of R. minor allows it to adhere to flat surfaces (i.e. farm equipment). In A Global Compendium of Weeds, Randall (2017) mentions that R. minor can be dispersed by humans.

Reference(s):

- Bullock, J. M., Moy I. L., Coulson S. J., & Clarke R. T. (2003). Habitat-specific dispersal: environmental effects on the mechanisms and patterns of seed movement in a grassland herb Rhinanthus minor. Ecography. 26, 692–704.
- Randall, R.P. (2017). A Global Compendium of Weeds. Third Edition..

Total PRE Score

PRE Score: 16 -- High Potential Risk
Confidence: 78 / 100
Questions answered: 20 of 20 -- Valid (80% or more questions answered)

PRE Score Legend

The PRE Score is calculated by adding the point totals for each (answered) question.
< 13 : Low Potential Risk
13 - 15 : Moderate Potential Risk
> 15 : High Potential Risk

Questions Answered Legend

It is important to answer at least 16 questions to consider a PRE Score as "valid".
>= 16 : valid (80% or more questions answered)
<= 15 : invalid (not enough questions answered)

Organization Ownership and Content Privacy

Organization: 2022 Western IPM Grant Project
Content Privacy: 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:

• Troy Abercrombie	February 14, 2023
• Nicole Valentine	January 27, 2023
• Alex Simmons	January 6, 2023

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 # 8745

Date Created: January 27, 2023 - 1:39pm
Date Updated: February 18, 2023 - 11:24am

Submitted by: Nicole Valentine

Status: Fixed
Type: Comment
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

Does it say where were these observations of its flowering period? -NV

Issue Resolution (Screener's Response to Issue)

Added that the flowering observations are based on it's native range

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Issue ID # 8744

Date Created: January 27, 2023 - 1:31pm
Date Updated: February 18, 2023 - 11:25am

Submitted by: Nicole Valentine

Status: Fixed
Type: Suggestion

Severity: Minor
Scope: Regional Information

Issue Description

To get the Climate Match link with the GBIF overlay you have to hit share and download.

https://weedmap.cal-ipc.org/climatematch/?areaType=states&areaList=41&mapView=2%2C-397.61719%2C32.84267&datalayer=PRE+Combined&datalayeropacity=60&gbif_taxonkey=3172043&gbif_search=Rhinanthus+minor

-NV

Issue Resolution (Screener's Response to Issue)

Fixed the link. Thanks for noticing that

Issue ID # 8730

Date Created: January 9, 2023 - 7:45pm
Date Updated: February 18, 2023 - 10:03am

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Major
Scope: Q16. Does this plant produce viable seed within the first three years (for an herbaceous species) to five years (for a woody species) after germination?

Issue Description

Because this species is a seed-producing annual and there are published studies on its seed viability, confidence that it produces viable seed w/in the first 3 years should be higher. - Jutta Burger

Issue Resolution (Screener's Response to Issue)

Changed confidence to very high, I think I forgot to define the confidence level for this one. Thanks for catching that!

Issue ID # 8729

Date Created: January 9, 2023 - 7:43pm
Date Updated: February 18, 2023 - 11:10am

Submitted by: Jutta Burger

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

Inference here could warrant a "medium" confidence. Your call. - Jutta Burger

Issue Resolution (Screener's Response to Issue)

Changed confidence from low to medium

Issue ID # 8728

Date Created: January 9, 2023 - 7:41pm
Date Updated: February 18, 2023 - 10:45am

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Q08. Is the plant noted as promoting fire and/or changing fire regimes?

Issue Description

Its growth habit and growing conditions (moist habitat) could be used as inference in answering this question (and could bring confidence up to medium). - Jutta

Issue Resolution (Screener's Response to Issue)

Added information on habitat and "it can be inferred that there is a low probability that Rhinanthus minor promotes fire or changes fire regime." Changed confidence to medium.

Issue ID # 8727

Date Created: January 9, 2023 - 7:37pm
Date Updated: February 18, 2023 - 10:32am

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

Specify whether observations were made in its introduced range? - Jutta Burger

Issue Resolution (Screener's Response to Issue)

Added more information on where the referenced studies performed their research. The observations did not occur in introduced range. Lowered confidence from very high to high.

Issue ID # 8726

Date Created: January 9, 2023 - 7:33pm
Date Updated: February 15, 2023 - 2:41pm

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

Provide more justification for the status of Rhinanthus minor as an invasive plant in areas with matching climate to support your "yes" answer. If no region with Oregon climate considers Rhinanthus invasive (not just having invasive characteristics) then you may have insufficient evidence for a "yes". Confidence should not be "very high" if based on inference. Risk based on plant characteristics is not equivalent to actual invasiveness. - Jutta Burger

Issue Resolution (Screener's Response to Issue)

Lowered confidence to medium and added additional information about invasiveness and distribution.

Issue ID # 8725

Date Created: January 9, 2023 - 7:21pm
Date Updated: February 18, 2023 - 11:39am

Submitted by: Jutta Burger

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

If there is ample published and peer reviewed evidence of this species being naturalized, then confidence would be "very high". - Jutta Burger

Issue Resolution (Screener's Response to Issue)

Changed confidence to very high

Issue ID # 8724

Date Created: January 9, 2023 - 7:04pm
Date Updated: February 15, 2023 - 2:33pm

Submitted by: Jutta Burger

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

Issue Description

I'm not seeing the justification for "very high" confidence here and only limited evidence for invasiveness. You have found some good peer-reviewed publications that describe invasive or weedy behavior, but are there any regions that formally list this species as invasive?. Consider reducing confidence to "medium" if answer t is largely based on inference (even if in peer-reviewed articles). List any regions that formally designate Rhinanthus as invasive. If there are none, then reconsider the answer. - Jutta Burger

Issue Resolution (Screener's Response to Issue)

Lowered confidence to medium, added additional information about invasive listing in New Hampshire (referenced from website-not peer reviewed)

Issue ID # 8723

Date Created: January 9, 2023 - 6:41pm
Date Updated: February 18, 2023 - 10:05am

Submitted by: Jutta Burger

Status: Fixed
Type: Comment
Severity: Minor
Scope: Q01. Has the species (or cultivar or variety, if applicable) become naturalized where it is not native?

Issue Description

Correct “an root-hemiparasite, annual” to “an annual root hemi-parasite” - Jutta Burger

Issue Resolution (Screener's Response to Issue)

Changed wording to: "is an annual root hemi-parasite that..."

Issue ID # 8721

Date Created: January 9, 2023 - 6:38pm
Date Updated: February 18, 2023 - 11:38am

Submitted by: Jutta Burger

Status: Fixed
Type: Suggestion
Severity: Minor
Scope: Plant Information

Issue Description

Make sure that the summary reflects any changes in the evaluation. Specifically, the statement “. Rhinanthus minor is invasive in the US and Canada” would need to be justified in the body of the PRE. - Jutta Burger

Issue Resolution (Screener's Response to Issue)

Updated the summary to reflect the invasive species status in New Hampshire

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Issue ID # 8720

Date Created: January 6, 2023 - 5:12pm
Date Updated: February 18, 2023 - 11:09am

Submitted by: Alex Simmons

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

Issue Description

Any impacts on fish or humans? -Alex Simmons

Issue Resolution (Screener's Response to Issue)

I could not find any information on whether it is toxic to humans, fish, or other wildlife. Lowered confidence from very high to high.

Issue ID # 8719

Date Created: January 6, 2023 - 5:11pm
Date Updated: February 18, 2023 - 10:07am

Submitted by: Alex Simmons

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

Any particular states of concern? -Alex Simmons

Issue Resolution (Screener's Response to Issue)

Added: "it is listed as invasive in New Hampshire, which does have areas of climates similar to Oregon. It is also widespread throughout Canada, but it also found in areas with similar climate to Oregon such as northwest and northeast Canada."

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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