CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Profile for

Baccharis halimifolia L.: sea-myrtle, Family

Asteraceae

Pest Rating: A

Comment Period: 4/20/2020 through 6/4/2020

Initiating Event:

This species has been rated Q and has not previously undergone the pest rating proposal process.

History & Status:

Background: Sea-myrtle, *Baccharis halimifolia*, is a robust shrub or small tree that can grow up to 6 meters in height (Fried et al., 2016; Sundberg and Bogler, 2006). The plants are dioecious, and during the flowering and fruiting period the female plants appear white due to the color of the pappus, while the male plants appear yellow in flower due to abundant production of pollen. The leaves are short-petioled or sessile, gland-dotted and resinous on the lower surface, thick and firm in texture, and rhombic in shape with coarse teeth. The leaves are approximately 2-8 cm in length and 1-6 cm in width. The sessile or short-stalked heads are approximately 4-6 mm in length and borne in clusters of one to five in the leaf axils and at stem tips. The one-seeded cypsela fruits are 1.5-2 mm in length, glabrous, with 8 to 10 longitudinal ribs, and a pappus of whitish, minutely barbed bristles approximately 8-9 mm in length.

In its native habitat the species occurs in moist woods, swamps, marshes, old fields, and beaches on the Coastal Plain of the southeastern United States (Sundburg and Bogler, 2006) and is a relatively rare plant in the northeastern United States and southeastern Canada where winters are much colder. The plant can tolerate a wide range of salinities and is also able to resprout after fire (Fried et al., 2016).

Worldwide Distribution: Sea-myrtle is native to the eastern coastal states of the U.S. and north to Nova Scotia, west along the Gulf Coastal Plain to Texas, Arkansas, and Oklahoma, and south to eastern Mexico and the Bahamas and Cuba (Sundberg and Bogler, 2006; USDA NPGS GRIN database; USDA

PLANTS database). The species has become widely naturalized in coastal Queensland and northern New South Wales in Australia (Queensland Government). It has also become naturalized in areas of coastal New Zealand, and in Eurasia in parts of Georgia (Black Sea coast), England, Belgium, the Netherlands, France, Italy, and Spain. It was introduced into the Old World as a cultivated ornamental, but this use is now strongly discouraged outside of its native range due to its invasive behavior in natural habitats (Fried et al., 2016). It is invasive in coastal salt marsh communities in areas of both the Atlantic and Mediterranean coasts of France and Spain.

Official Control: The species is listed as a harmful weed species by New Zealand (USDA PCIT database) and in Australia is listed as a noxious weed in Queensland and New South Wales and is prohibited entry into Western Australia and the Northern Territory (Queensland Government, 2020). It is not under official control in the United States.

California Distribution: Sea-myrtle has not been documented to occur in the state of California (Calflora; Consortium of California Herbaria; USDA PLANTS database).

California Interceptions: Sea-myrtle has been intercepted at a California Border Inspection Station in 2019 as seedlings in potted plants in a vehicle coming from the eastern United States and as a weed in a nursery plant shipment from Florida that was intercepted in Santa Barbara County in 2020 (CDFA PDR database).

The risk sea-myrtle would pose to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** 1) Climate/Host Interaction: Most populations of the species in the native habitat in North America occur in a warm climate with summer rainfall, but the species has proved invasive in the Mediterranean climate zone of coastal Europe. Therefore, sea-myrtle receives a **Medium (2)** in this category.

   Evaluate if the pest would have suitable hosts and climate to establish in California.

   Score: **2**

   - Low (1) Not likely to establish in California; or likely to establish in very limited areas.
   - **Medium (2) may be able to establish in a larger but limited part of California.**
   - High (3) likely to establish a widespread distribution in California.

2) **Known Pest Host Range:** Risk is **High (3)** as sea-myrtle does not require any one host, but grows wherever ecological conditions are favorable.

   Evaluate the host range of the pest.

   Score: 3

- Low (1) has a very limited host range.
- Medium (2) has a moderate host range.
- **High (3) has a wide host range.**

3) **Pest Dispersal Potential:** Sea-myrtle produces abundant wind-dispersed propagules and thus has high reproductive and dispersal potential in the areas in which it is climatically suited. Longer distance dispersal appears most likely to occur by vehicular movement or shipment of plants, or as seed or seedling contaminants in potted plants of other species. Therefore, sea-myrtle receives a **High (3)** in this category.

Evaluate the natural and artificial dispersal potential of the pest.

Score: 3

- Low (1) does not have high reproductive or dispersal potential.
- Medium (2) has either high reproductive or dispersal potential.
- **High (3) has both high reproduction and dispersal potential.**

4) **Economic Impact:** Sea-myrtle has sometimes been planted in various parts of the world as an ornamental shrub, but this is now strongly discouraged outside of the native range of the species in eastern North America since the plant is invasive in coastal areas with suitable climate regimes (Queensland Government, 2020; EPPO, 2014). The foliage of the plant is toxic to sheep and cattle due to cardiotoxic glycoside compounds, but amounts of leaves large enough to cause poisoning are not often eaten due to their unpalatable taste (Everist, 1981; Kingsbury, 1964). Sea-myrtle receives a **Medium (2)** in this category.

Evaluate the economic impact of the pest to California using the criteria below.

Economic Impact: D, F

A. The pest could lower crop yield**.**
B. The pest could lower crop value (includes increasing crop production costs).
C. The pest could trigger the loss of markets (includes quarantines).
D. The pest could negatively change normal cultural practices.
E. The pest can vector, or is vectored, by another pestiferous organism.
F. The organism is injurious or poisonous to agriculturally important animals.
G. The organism can interfere with the delivery or supply of water for agricultural uses.

Economic Impact Score: **2**

- Low (1) causes 0 or 1 of these impacts.
- **Medium (2) causes 2 of these impacts.**
- High (3) causes 3 or more of these impacts.

5) **Environmental Impact:** Sea-myrtle can be invasive in saltmarsh and wetland habitats and in disturbed habitats, but has not yet established in the state of California, which has a significantly different rainfall

regime than the native habitat in the gulf and eastern states of the U.S. Salt marshes are one of the most highly governmentally regulated plant communities in California, as they comprise jurisdictional wetlands and coastal waterfront acreage and support a number of endangered species dependent on the habitat (e.g., salt marsh harvest mouse, California Clapper Rail, Salt Marsh bird's beak, and other potentially threatened native species). In addition, their acreage has decreased significantly in the 20th century due to filling for development and flood control. Therefore, any negative impacts that occur due to a new invasive species would have high significance. If it became established in coastal California it would be a significant threat to the integrity of current wetland and saltmarsh plant associations. Therefore, it receives a **High (3)** in this category.

Environmental Impact: ABCD

A. The pest could have a significant environmental impact such as lowering biodiversity, disrupting natural communities, or changing ecosystem processes.
B. The pest could directly affect threatened or endangered species.
C. The pest could impact threatened or endangered species by disrupting critical habitats.
D. The pest could trigger additional official or private treatment programs.
E. The pest significantly impacts cultural practices, home/urban gardening or ornamental plantings.

Environmental Impact Score:
- Low (1) causes none of the above to occur.
- Medium (2) causes one of the above to occur.
- High (3) causes two or more of the above to occur.

Consequences of Introduction to California for sea-myrtle*:* High (13)

Add up the total score and include it here.
-Low = 5-8 points
-Medium = 9-12 points
-High = 13-15 points

6) **Post Entry Distribution and Survey Information**: This plant is not established in California. It receives a score of **not established (0)** in this category.

Score: 0
-Not established (0) Pest never detected in California or known only from incursions.
-Low (-1) Pest has a localized distribution in California or is established in one suitable climate/host area (region).
-Medium (-2) Pest is widespread in California but not fully established in the endangered area, or pest established in two contiguous suitable climate/host areas.
-High (-3) Pest has fully established in the endangered area, or pest is reported in more than two contiguous or non-contiguous suitable climate/host areas.

7) **The final score is** the consequences of introduction score minus the post entry distribution and survey information score:

Final Score: *Score of Consequences of Introduction – Score of Post Entry Distribution and Survey Information* ***= High (13)***

Uncertainty:

It is unclear to what degree this species would be able to establish under natural conditions in California due to differences in climate from the native habitat of the species.

Conclusion and Rating Justification:

Sea-myrtle is a shrub or small tree species native to coastal areas of the eastern United States. It has in the past been cultivated as an ornamental shrub, but it can be invasive in coastal wetland and saltmarsh habitats of Mediterranean climate in Europe and Australasia and has a very high reproductive potential. The species is toxic but unpalatable to livestock. Thus a rating of "A" is justified.

References:

California Department of Food and Agriculture. Pest and Damage Record database (PDR). Accessed February 20, 2020:

https://pdr.cdfa.ca.gov/PDR/pdrmainmenu.aspx

Calflora. 2020. Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals. Accessed February 20, 2020.

https://www.calflora.org//

Consortium of California Herbaria. Accessed February 20, 2020:

http://ucjeps.berkeley.edu/consortium

EPPO (European Plant Protection Organization). 2014. *Baccharis halimifolia* L. Asteraceae – groundsel bush. OEPP/EPPO Bulletin 44: 5-10.

Everist, S. L. 1981. Poisonous Plants of Australia, ed. 2. Angus and Robertson, Sydney, Australia.

Fried, G. et al. 2016. Monographs on invasive plants in Europe: *Baccharis halimifolia* L. Botany Letters, 2016: 1-27. Accessed 27 February 2020.

http://dx.doi.org/10.1080/23818107.2016.1168315

Kingsbury, J. M. 1964. Poisonous Plants of the United States and Canada. Prentice-Hall, Inc., Englewood Cliffs, N. J.

Queensland Government. Weeds of Australia - Biosecurity Queensland Edition Fact Sheet. *Baccharis halimifolia*. Accessed February 20, 2020

https://keyserver.lucidcentral.org/weeds/data/media/Html/baccharis_halimifolia.htm

Sundberg, S. D., and D. J. Bogler. 2006. *Baccharis* L. Pp. 23-34 in Flora of North America Editorial Committee (eds.), Flora of North America North of Mexico, Vol. 20, Magnoliophyta: Asteridae (in part): Asteraceae, part 2. Oxford University Press, New York, NY.

USDA Agricultural Research Service. National Plant Germplasm System. Germplasm Resources Information Network (GRIN). Accessed February 20, 2020. https://npgsweb.ars-grin.gov/gringlobal/taxon/taxonomysimple.aspx

USDA Natural Resources Conservation Service. PLANTS database. Accessed February 20, 2020:

https://plants.sc.egov.usda.gov

USDA PCIT (Phytosanitary Certificate Issuance and Tracking System) Phytosanitary Export Database. 2020. Accessed February 20, 2020.

Responsible Party:

Robert Price, Primary Botanist, California Department of Food and Agriculture, 3294 Meadowview Rd., Sacramento, CA 95832. Phone: 916-738-6700, permits[@]cdfa.ca.gov.

***Comment Period: 4/20/2020 through 6/4/2020**

***NOTE:**

You must be registered and logged in to post a comment. If you have registered and have not received the registration confirmation, please contact us at permits[@]cdfa.ca.gov.

Comment Format:

- Comments should refer to the appropriate California Pest Rating Proposal Form subsection(s) being commented on, as shown below.

  Example Comment:

  Consequences of Introduction: 1. Climate/Host Interaction: [Your comment that relates to "Climate/Host Interaction" here.]

- Posted comments will not be able to be viewed immediately.

- Comments may not be posted if they:

  Contain inappropriate language which is not germane to the pest rating proposal;

  Contains defamatory, false, inaccurate, abusive, obscene, pornographic, sexually oriented, threatening, racially offensive, discriminatory or illegal material;

Violates agency regulations prohibiting sexual harassment or other forms of discrimination;

Violates agency regulations prohibiting workplace violence, including threats.

- Comments may be edited prior to posting to ensure they are entirely germane.
- Posted comments shall be those which have been approved in content and posted to the website to be viewed, not just submitted.

Pest Rating: A