

Weed Risk Assessment Form

Botanical name: *Sorbaria sorbifolia*
 Common name: False spiraea

2026 Assessors and Reviewers
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2026 Outcome score:

A. Climatic Comparison

This species is present or may potentially establish in the following eco-geographic regions:

1. South Coastal..... Yes
2. Interior-Boreal..... Yes
3. Arctic-Alpine.....No
0. This species is unlikely to establish in any region in Alaska

B.	Invasiveness Ranking	Total (Total Answered*) Possible	Total
1	Ecological impact	40 (40)	16
2	Biological characteristic and dispersal ability	25 (20)	6
3	Ecological amplitude and distribution	25 (25)	18
4	Feasibility of control	10 (5)	5
	Outcome score	100 (93) ^b	45
	Relative maximum score [†]	93	0.48

* For questions answered “unknown” do not include point value for the question in parentheses for “Total Answered Points Possible.”

† Calculated as ^a/_b.

A. CLIMATIC COMPARISON:

1.1. Has this species ever been collected or documented in Alaska?

Yes

1.2. From which eco-geographic region has it been collected or documented?

Proceed to Section B. INVASIVENESS RANKING

– If “No” is answered for 1.1, proceed to 2.1

South Coastal Yes
Interior-Boreal..... Yes
Arctic-AlpineNo

Documentation:

The taxon has been documented in AKEPIC from Fairbanks, the Alaska Range, Anchorage Mat-Su Valley, Naknek, and Dawson City (AKEPIC 2026). Has also been observed in Kodiak though not officially documented (Palhof pers. Obs).

2.1. Is there a 40% or higher similarity (based on CLIMEX climate matching) between climates anywhere the species currently occurs and:

a. Juneau (Pacific-maritime)?

Yes – record locations and percent similarity; proceed to Section B.

No

b. Fairbanks (Interior-Boreal region)?

Yes – record locations and percent similarity; proceed to Section B.

No

c. Nome (Arctic-Alpine region)?

Yes – record locations and percent similarity; proceed to Section B.

No

– If “No” is answered for all regions, reject species from consideration

Documentation:

Modelling is not needed since the taxon is currently active and spreading in Alaska.

B. INVASIVENESS RANKING

1. ECOLOGICAL IMPACT

1.1. Impact on Natural Ecosystem Processes

- A. No perceivable impact on ecosystem processes0
- B. Influences ecosystem processes to a minor degree (e.g., has a perceivable but mild influence on soil nutrient availability)3
- C. Significant alteration of ecosystem processes (e.g., increases sedimentation rates along streams or coastlines, reduces open water that are important to waterfowl)7
- D. Major, possibly irreversible, alteration or disruption of ecosystem processes (e.g., the species alters geomorphology; hydrology; or affects fire frequency, altering community composition; species fixes substantial levels of nitrogen in the soil making soil unlikely to support certain native plants or more likely to favor non-native species)10
- U. Unknown

Documentation:

Often planted for erosion control (Calkins 2023). Leaves are slow to decompose and contain high levels of hydrogen cyanide (Lanta et al. 2015). No perceived changes to ecosystem processes in Alaska.

Score: 0

1.2. Impact on Natural Community Structure

- A. No perceived impact; establishes in an existing layer without influencing its structure0
- B. Influences structure in one layer (e.g., changes the density of one layer)3
- C. Significant impact in at least one layer (e.g., creation of a new layer or elimination of an existing layer)7
- D. Major alteration of structure (e.g., covers canopy, eradicating most or all layers below)10
- U. Unknown

Documentation:

Sorbaria thickets can lower the abundance of the forb/dwarf shrub layer in forest communities by a factor of 10 to 20 (Veselkin et al. 2020). Observed to be growing up to 4 ft tall in Anchorage and over 6 ft tall in Kodiak but uncertain whether it is eliminating the lower layer or if the lower layer disappeared due to prior disturbance and the area was then colonized by *Sorbaria* (Palhof, Graziano, DuBois pers comm.).

Score: 5

1.3. Impact on Natural Community Composition

- A. No perceived impact; causes no apparent change in native populations0
- B. Influences community composition (e.g., reduces the number of individuals in one or more native species in the community)3
- C. Significantly alters community composition (e.g., produces a significant reduction in the population size of one or more native species in the community)7
- D. Causes major alteration in community composition (e.g., results in the extirpation of one or several native species, reducing biodiversity or change the community composition towards species exotic to the natural community)10
- U. Unknown

Documentation:

Sorbaria presence can reduce taxonomic richness of herbaceous species (Lanta et al. 2015, Veselkin et al. 2020) and more leaf litter than patches of native shrubs (Lanta et al. 2015). *Sorbaira* limits light availability and herbaceous species shift from light-loving and dry tolerant to shade loving and moisture loving species (Veselkin et al. 2020). In Alaska boreal forests thickets appear to have substantially reduced diversity of vegetation at the ground level likely from shading competition (Graziano pers. comm.).

Score: 8

1.4. Impact on higher trophic levels (cumulative impact of this species on the animals, fungi, microbes, and other organisms in the community it invades)

- A. Negligible perceived impact0
- B. Minor alteration3
- C. Moderate alteration (minor reduction in nesting/foraging sites, reduction in habitat connectivity, interference with native pollinators, injurious components such as spines, toxins).....7
- D. Severe alteration of higher trophic populations (extirpation or endangerment of an existing native species/population, or significant reduction in nesting or foraging sites).....10
- U. Unknown

Documentation:

Colonies could impact nutrient cycling because of the persistence of leaf litter on the forest floor (Czortek et al 2026). Can possibly alter arthropod community composition from toxic compounds in the leaves may make this species less palatable to insect herbivores (Lanta et al. 2023, Lanta et al. 2015). This plant has also been reported to be resistant to grazing mammals in the US (Calkins 2023). This is likely from cyanogenic glycosides, but no poisoning of grazing animals has been documented. There is a history of cyanogenic glycosides harming moose in Anchorage (Graziano pers. comm.).

Score: 3

Total Possible: 40

Total: 16

2. BIOLOGICAL CHARACTERISTICS AND DISPERSAL ABILITY

2.1. Mode of reproduction

- A. Not aggressive reproduction (few [0-10] seeds per plant and no vegetative reproduction) 0
- B. Somewhat aggressive (reproduces only by seeds (11-1,000/m²) 1
- C. Moderately aggressive (reproduces vegetatively and/or by a moderate amount of seed, <1,000/m²) 2
- D. Highly aggressive reproduction (extensive vegetative spread and/or many seeded, >1,000/m²) 3
- U. Unknown

Documentation:

Produces clonal colonies through suckers (Calkins 2023). Clonal colonies observed being quite extensive in some infestations extending well into forested areas from edges (Graziano pers. obs.).

Score: 2

2.2. Innate potential for long-distance dispersal (bird dispersal, sticks to animal hair, buoyant fruits, wind-dispersal)

- A. Does not occur (no long-distance dispersal mechanisms) 0
- B. Infrequent or inefficient long-distance dispersal (occurs occasionally despite lack of adaptations) 2
- C. Numerous opportunities for long-distance dispersal (species has adaptations such as pappus, hooked fruit-coats, etc.) 3
- U. Unknown

Documentation:

Not likely to disperse long distances without human intervention, the primary mode of spread is through vegetative mobility (Lipikhina et al. 2022).

Score: 0

2.3. Potential to be spread by human activities (both directly and indirectly – possible mechanisms include: commercial sales, use as forage/revegetation, spread along highways, transport on boats, contamination, etc.)

- A. Does not occur 0
- B. Low (human dispersal is infrequent or inefficient) 1
- C. Moderate (human dispersal occurs) 2
- D. High (there are numerous opportunities for dispersal to new areas) 3
- U. Unknown

Documentation:

Escape from cultivation is the primary mode of human-assisted introduction and spread (Calkins 2023).

Score: 2

2.4. Allelopathic

- A. No.....0
- B. Yes2
- U. Unknown

Documentation:

Has been shown to affect germination rates of surrounding vegetation but it is not known whether this is due to allelopathic chemicals or the plant's competitive ability (Lanta and Norrdahl 2017, Veselkin et al. 2020). However, toxic compounds are present in the leaves and may change environmental conditions on and below the soil surface, making allelopathic effects possible (Lanta et al. 2015). We don't have definitive evidence to say yes or no for this question.

Score: U

2.5. Competitive ability

- A. Poor competitor for limiting factors0
- B. Moderately competitive for limiting factors1
- C. Highly competitive for limiting factors and/or nitrogen fixing ability3
- U. Unknown

Documentation:

The presence of *S. sorbifolia* in deciduous stands has been shown to decrease the C/N ratio increase C/N in coniferous forest and overall reduces light availability (Czortek et al. 2026). Formation of dense stands limiting vegetation below could be from competitive ability (Lanta and Norrdahl 2017, Veselkin et al. 2020, Czortek et al. 2026). Can shade out lower herbaceous layer (Veselkin et al. 2020) and similar observation found in Anchorage infestations (Graziano pers. obs.).

Score: 1

2.6. Forms dense thickets, climbing or smothering growth habit, or otherwise taller than the surrounding vegetation

- A. No.....0
- B. Forms dense thickets.....1
- C. Has climbing or smothering growth habit, or otherwise taller than the surrounding vegetation.....2
- U. Unknown

Documentation:

This species forms dense thickets and can shade-out competing, light-loving, vegetation. Forms dense thickets of long-lived perennial shoots (Lipikina et al. 2022, Czortek et al. 2026). Forms dense thickets so tightly in Kodiak that other plant species can't grow or germinate (Palhof pers. obs.).

Score: 1

2.7. Germination requirements

- A. Requires open soil and disturbance to germinate0
- B. Can germinate in vegetated areas but in a narrow range or in special conditions2
- C. Can germinate in existing vegetation in a wide range of conditions3
- U. Unknown

Documentation:

No information on germination requirements found. Herbaria records show this plant growing in varying soil conditions typically with roadside vegetation, open herbaceous meadows, and forest edges (CPNWH 2026, UAM 2026). We don't feel there is enough information to answer this question.

Score: U

2.8. Other species in the genus invasive in Alaska or elsewhere

- A. No.....0
- B. Yes3
- U. Unknown

Documentation:

No other invasive *Sorbaria* species are present.

Score: 0

2.9. Aquatic or wetland species

- A. Not invasive in wetland communities.....0
- B. Invasive in riparian communities.....1
- C. Invasive in wetland communities.....3
- U. Unknown

Documentation:

Not reported to be invading wetland communities. Sometimes noted as growing along stream and riverbanks in its secondary range in Europe and its native range in East Asia (Tomaszewski 2001, CPNWH 2026). Not apparent in wetland habitats of Alaska (AKEPIC 2026).

Score: 0

Total Possible: 25 (20 answered)

Total: 6

3. DISTRIBUTION

3.1. Is the species highly domesticated or a weed of agriculture

- A. No.....0
- B. Is occasionally an agricultural pest.....2
- C. Has been grown deliberately, bred, or is known as a significant agricultural pest
.....4
- U. Unknown

Documentation:

Sorbus sorbifolia is planted as an ornamental and several attractive cultivars have been introduced to the US, increasing the popularity of this species as a landscape plant (Calkins 2023). This species has feathery, usually white flowers and attractive fern-like foliage that make it a desirable plant in designed landscapes.

Score: 4

3.2. Known level of impact in natural areas

- A. Not known to cause impact in any other natural area.....0
- B. Known to cause impacts in natural areas, but in dissimilar habitats and climate zones than exist in regions of Alaska.....1
- C. Known to cause low impact in natural areas in similar habitats and climate zones to those present in Alaska3
- D. Known to cause moderate impact in natural areas in similar habitat and climate zones4
- E. Known to cause high impact in natural areas in similar habitat and climate zones
.....6
- U. Unknown

Documentation:

Primarily invades areas where it was planted for ornamentation. Has been shown to impact the herb layer in forested areas in Poland, its non-native range in Russia, and Finland. The forests studied were all near towns or recreational areas (Czortek et al. 2026, Lanta et al 2015, Veselkin et al 2020). *Sorbaria sorbiflora* significantly reduced the abundance and diversity of the herbaceous species layer in a southern boreal forest of Russia (Veselkin et al 2020).

Score: 4

3.3. Role of anthropogenic and natural disturbance in establishment

- A. Requires anthropogenic disturbances to establish0
- B. May occasionally establish in undisturbed areas but can readily establish in areas with natural disturbances3
- C. Can establish independent of any known natural or anthropogenic disturbances5
- U. Unknown

Documentation:

Late successional species that can establish in disturbed and undisturbed forest communities (Veselkin et al. 2020). AKEPIC records are from disturbed roadside areas and not found in natural communities. Found mostly near landscaped areas in Kodiak and Anchorage, not the natural areas or anthropogenic disturbed park lands (Palhof and Graziano pers. com.).

Score: 3

3.4. Current global distribution

- A. Occurs in one or two continents or regions (e.g., Mediterranean region)0
- B. Extends over three or more continents.....3
- C. Extends over three or more continents, including successful introductions in arctic or subarctic regions5
- U. Unknown

Documentation:

Native to Siberia, Kamchatka, and East and Central Asia (Veselkin et al. 2020). Its current non-native distribution includes most of eastern Europe, Scandinavia, United Kingdom, France, Spain, and Portugal.

Score: 3

3.5. Extent of the species U.S. range and/or occurrence of formal state or provincial listing

- A. 0-5% of the states0
- B. 6-20% of the states2
- C. 21-50%, and/or state listed as a problem weed (e.g., “Noxious,” or “Invasive”) in 1 state or Canadian province4
- D. Greater than 50%, and/or identified as “Noxious” in 2 or more states or Canadian provinces5
- U. Unknown

Documentation:

No state or federal listings, reported as present in 20 US States and 8 Canadian Provinces (Calkins et al. 2023, EDDS Maps 2025, NRCS 2026). Has “noxious” and “invasive” listings in other continents: Central Russia, Europe, Latvia, and Belarus (cited in Veselkin et al 2020, Czortek et al 2026)

Score: 4

Total Possible: 25

Total: 18

4. FEASIBILITY OF CONTROL

4.1. Seed banks

- A. Seeds remain viable in the soil for less than 3 years.....0
- B. Seeds remain viable in the soil for between 3 and 5 years2
- C. Seeds remain viable in the soil for 5 years and more.....3
- U. Unknown

Documentation:

Seed viability in controlled storage is unknown but assumed to be a long duration (Rudolf and Owston 2008). No data are known for seed viability in the soil (Rudolf and Owston 2008).

Score: U

4.2. Vegetative regeneration

- A. No resprouting following removal of aboveground growth.....0
- B. Resprouting from ground-level meristems.....1
- C. Resprouting from extensive underground system2
- D. Any plant part is a viable propagule.....3
- U. Unknown

Documentation:

Thickets are dense clusters of perennial shoots emerging from underground rhizomes (Lipikhina et al. 2022). Observation of spread from underground root system in Kodiak (Palhof pers. obs.).

Score: 2

4.3. Level of effort required

- A. Management is not required (e.g., species does not persist without repeated anthropogenic disturbance).....0
- B. Management is relatively easy and inexpensive; requires a minor investment in human and financial resources2
- C. Management requires a major short-term investment of human and financial resources, or a moderate long-term investment3
- D. Management requires a major, long-term investment of human and financial resources4
- U. Unknown

Documentation:

Infested sites require re-visits to fully eradicate. Large plants and well-established thickets may require additional equipment to remove mechanically (Williams et al. 2021). No information on the effectiveness of herbicide treatments is available. Anecdotal observations indicate that herbicides are effective though revisits have not been performed at the time of this writing (Graziano pers. obs.). Mechanical removal and cutting successful but needs repeated visits (DuBois pers. obs.)

Score: 3

Total Possible: 10 (7 answered)

Total: 5

Total for 4 sections Possible :100 (93 answered)

Total for 4 sections: 45

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- Williams, K., Zuill, G., Maloney, T. (2021) Capital Region PRISM Treatment Report. Partnership for Regional Invasive Species Management Capital Region. Cornell Cooperative Extension, Saratoga County, NY.