

# Washington Invasive Ranking System

Washington Natural Heritage Program

## *Erechtites minimus* (Toothed Coast Fireweed)

Assessed by

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Ecological Impact Rank: **Low** (38)

Confidence: **Moderate** (50)

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Management Difficulty Rank: Insignificant (2)

Confidence: Low (20)

Biological Characteristics of Invasiveness: High (64)

Confidence: Moderate (46)I

Concern Related to Distribution and Abundance: High (87)

Confidence: High (80)

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**Photo Credit:** David Giblin 2023, used under Creative Commons license (Burke Herbarium, University of Washington, 2024).

### Ranking Notes

*Erechtites minimus* was assessed by multiple individuals, though both assessors conducted rapid assessments based largely on professional expertise and with minimal literature review. Range of assessor

ratings is provided in parentheses following the final assigned rating.

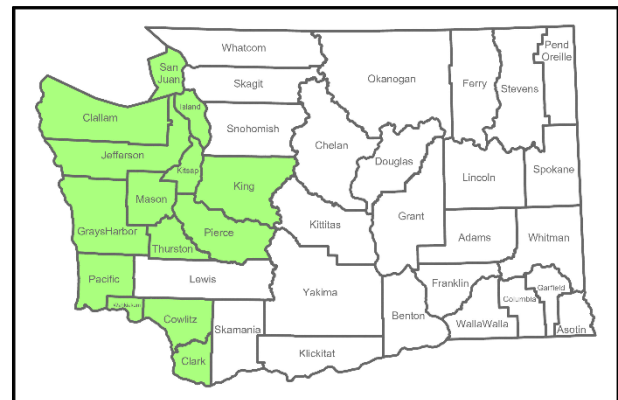
Some sources refer to this species as *Erechtites minima* or *Senecio minimus* (EDDMapS, 2024; iNaturalist Community, 2024).

### Legal Listings

Washington State Weed Board: No

Washington Invasive Species Council: No

### Section 1: Distribution and Abundance



**Figure 1.** Distribution of counties where *Erechtites minimus* has been documented in Washington State (CPNWH, 2024; EDDMapS, 2024; iNaturalist Community, 2024).

### Q1: Current Range Size in Washington

Rating: Moderate

Confidence: Moderate

*Erechtites minimus* is found in 14 of 39 counties and 3 of 9 ecoregions in Washington (CPNWH, 2024; EDDMapS, 2024; iNaturalist Community, 2024). A report from Spokane County (SEINet Portal Network, 2023) is a misidentified specimen.

Source: Professional expertise, Herbarium records and other observations

### Q2: Current Trend in Total Range

Rating: High

Confidence: High

At least 18 new occurrences have been documented with herbarium collections since 2020. The number of iNaturalist reports has also increased significantly (though some of those observations need to be verified) (SEINet Portal Network, 2023; CPNWH, 2024; iNaturalist Community, 2024).

Source: Herbarium records and other observations.

### Q3: Proportion of Potential Range Currently Unoccupied

Rating: High (range Moderate - High)

Confidence: High

*Erechtites minimus* was documented at Mt. Rainier National Park in 2013, suggesting the species may be able to spread outside of its primary distribution center west of the Cascade crest. This species is probably under-reported from private lands in the southern Pacific Coast Range (where it is spreading rapidly along logging roads and trails). It is also likely to spread along the coast in Whatcom, Snohomish, and Skagit counties. So far, reports from eastern Washington are erroneous, but it has potential to spread to the East Cascades and potentially along the upper Columbia and Snake Rivers (SEINet Portal Network, 2023; CPNWH, 2024; iNaturalist Community, 2024).

Source: Professional expertise, Herbarium records and other observations

### Q4: Local Range Expansion or Change in Abundance

Rating: High

Confidence: High

The assessors have documented over 10 new sites where *Erechtites minimus* is present in natural areas in western Washington since 2020 (this is likely an undercount). This species is still under-the-radar for many biologists and can be easily overlooked when not in flower (vegetatively, it is easy to dismiss as *Solidago serra* or *Senecio* spp.).

Source: Professional expertise

### Q5: Diversity of Ecosystems Invaded

Ecosystem types: Forest & Woodland, Grassland & Shrubland, Marine Coastal Shore

Rating: Moderate

Confidence: Moderate

This species is occasionally observed in wetlands, but generally only on elevated microsites.

Source: Professional expertise

## Section 2: Biological Characteristics

### Q6: Aggressive Mode of Reproduction

Rating: Unknown

Confidence: Not Rated

Martin and Popenoe (1984) found that buried *Erechtites* spp. seeds were more abundant than any other species in an old-growth redwood forest.

Source: Informal publication

### Q7: Innate Potential for Long-Distance Dispersal

Rating: Yes

Confidence: Moderate

This plant produces wind-dispersed seeds.

Source: Professional expertise

**Q8: Potential to be Spread by Human Activities**

Rating: Yes

Confidence: High

This plant has primarily been observed along roadways and other areas of anthropogenic disturbance.

Source: Professional expertise

**Q9: Allelopathy**

Rating: Unknown

Confidence: Not Rated

Source:

**Q10: Competitive for Limiting Abiotic Factors**

Rating: Yes

Confidence: Moderate

*Erechtites* species are considered by some to be weak competitors with high nutrient demands (Muldavin et al., 1981). However, at least one species (*E. hieraciifolius*) may be facultatively mycorrhizal, which might explain its rapid spread in arid grasslands of coastal California (L. Allen, pers. comm. as cited in Cal-IPC, 2024).

Source: Informal publication, Professional expertise

**Q11: Growth Form**

Rating: No

Confidence: Moderate

This species can be very common following disturbance, but is usually replaced within 5-10 years (Muldavin et al., 1981).

Source: Informal publication, Professional expertise

**Q12: Germination Requirements**

Rating: No

Confidence: Moderate

Closely related *Erechtites hieraciifolius* requires disturbance for germination (Baskin & Baskin, 1996; Elliott et al., 1997). However, in some ecosystems,

*Erechtites* species may not always require disturbance to become established (Halvorson, 1992).

Source: Published research, Professional expertise

**Q13: Invasiveness of Other Plants in Genus**

Rating: Yes

Confidence: Moderate

There are no other *Erechtites* species in the Washington Flora, but *E. hieraciifolius* is considered invasive or a potential weed in Hong Kong, Hawaii, the Galapagos Islands, French Polynesia, Palau, US Minor Outlying Islands, New Zealand, Australia, and Hungary (Rojas-Sandoval, 2017).

Source: Informal publication, Professional expertise

**Q14: Shade Tolerance**

Rating: Low/Insignificant

Confidence: High

All *Erechtites* species are considered shade-intolerant (Elliott et al., 1997).

Source: Published research, Professional expertise

**Q15: Disturbance Tolerance**

Rating: Yes

Confidence: High

This species spreads rapidly following disturbance, particularly fire (Muldavin et al., 1981).

Source: Informal publication, Professional expertise

**Q16: Propagule Persistence**

Rating: >5 years

Confidence: Low

Baskin and Baskin (1996) found that 89 percent of seeds from closely related *E. hieraciifolius* were viable after eight years of burial.

Source: Published research, Professional expertise

**Q17: Palatability**

Rating: Unknown

Confidence: Not rated

Source:

### **Section 3: Ecological Impact**

#### **Q18: Impact on Ecosystem Abiotic Processes**

Abiotic Processes: Light availability

Rating: Low

Confidence: Moderate

Source: Professional expertise

#### **Q19: Impact on Ecosystem Structure**

Rating: Low

Confidence: Moderate

Source: Professional expertise

#### **Q20: Impact on Ecosystem Composition**

Rating: Low

Confidence: Moderate

Source: Professional expertise

#### **Q21: Impact on Particular Native Species**

Rating: Unknown

Confidence: Not Rated

Source:

#### **Q22: Observed Ability to Invade Undisturbed Ecosystems**

Rating: Low

Confidence: Moderate

Source: Professional expertise

#### **Q23: Observed Ability to Invade Naturally Disturbed Ecosystems**

Rating: Yes

Confidence: High

Source: Professional expertise

### **Section 4: Management Difficulty**

#### **Q24: General Management Difficulty**

Rating: Insignificant

Confidence: Low

Treatment efforts are not known from Washington. Reports from similar ecosystems in California indicate that *Erechtites minimus* is an ephemeral plant that does not require active management (Muldavin et al., 1981).

Source: Informal publication

#### **Q25: Minimum Time Commitment**

Rating: Insignificant

Confidence: Low

See Q24

Source: Professional expertise

#### **Q26: Impacts of Management on Native Species**

Rating: Unknown

Confidence: Not Rated

Source:

#### **Q27: Inaccessibility of Invaded Areas**

Rating: Low

Confidence: Moderate

This plant has primarily been observed along roadways and other accessible locales.

Source: Professional expertise

#### **Q28: Sociopolitical Implications of Management**

Rating: Insignificant

Confidence: Moderate

Public objections to treatment of this species are unlikely to rise above general concern regarding herbicide use.

Source: Professional expertise

### Additional Comments

The Invasive Plants of California's Wildlands provides an excellent synthesis of information regarding this and related species in California (Cal-IPC, 2024).

### References

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