

# Washington Invasive Ranking System

Washington Natural Heritage Program

## *Alliaria petiolata* (Garlic Mustard)

Assessed by

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3 January 2024 (WIRS Version 1.5)

Ecological Impact Rank: **High** (77)

Confidence: **Low** (8)

Management Difficulty Rank: Insignificant (93)

Confidence: Moderate (60)

Biological Characteristics of Invasiveness: High (96)

Confidence: Moderate (59)

Concern Related to Distribution and Abundance: High (73)

Confidence: Low (30)



**Photo Credit:** Dr. Amadej Trnkoczy 2008, used under Creative Commons license (CalPhotos, 2024).

### Ranking Notes

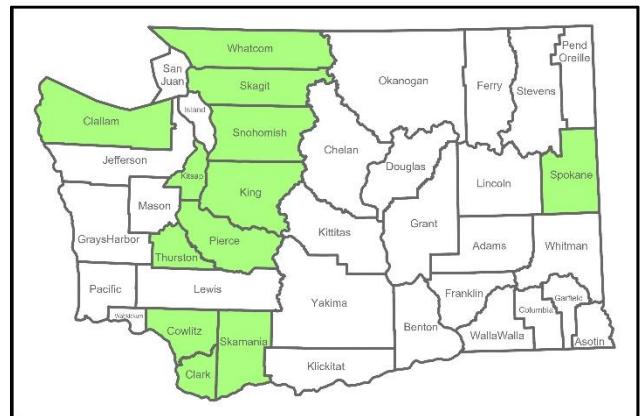
Rapid assessment only, based primarily on professional expertise.

### Legal Listings

[Washington State Weed Board](#): Class A, Washington State quarantine list.

[Washington Invasive Species Council](#): Yes

### Section 1: Distribution and Abundance



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

#### Q1: Current Range Size in Washington

Rating: Moderate

Confidence: High

*Alliaria petiolata* is found in 28% of counties in Washington (CPNWH, 2024; EDDMapS, 2024; iNaturalist Community, 2024). Most documentation is from iNaturalist.

Source: Herbarium records and other observations

#### Q2: Current Trend in Total Range

Rating: Moderate

Confidence: Low

Most of the occurrences documented are from iNaturalist, suggesting recent expansion for this species (CPNWH, 2024; EDDMapS, 2024; iNaturalist Community, 2024).

Source: Herbarium records and other observations

**Q3: Proportion of Potential Range Currently Unoccupied**

Rating: High

Confidence: Moderate

Source: Professional expertise

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

Rating: Unknown

Confidence: Not Rated

*Alliaria petiolata* is a class A species that is required by law to be eradicated. So far, control efforts appear to be successful at preventing local expansion.

Source: Professional expertise

**Q5: Diversity of Ecosystems Invaded**

Ecosystem types: Forest & Woodland, Grassland & Shrubland, Semi-Desert (includes Shrub-steppe), Marine Coastal Shore, Open Rock, Emergent Open Wetland, Forested Wetland

Rating: High

Confidence: Low

Based on the assessor's experience, this plant may grow in many different habitats.

Source: Professional expertise

**Section 2: Biological Characteristics**

**Q6: Aggressive Mode of Reproduction**

Rating: Yes

Confidence: High

Source: Professional expertise

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

Rating: Yes

Confidence: Moderate

Source: Professional expertise

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

Rating: Yes

Confidence: High

Source: Professional expertise

**Q9: Allelopathy**

Rating: Yes

Confidence: High

The assessor asserts that this species is allelopathic.

Source: Professional expertise

**Q10: Competitive for Limiting Abiotic Factors**

Rating: Yes

Confidence: Low

This species maintains photosynthetic foliage for most of the year.

Source: Professional expertise

**Q11: Growth Form**

Rating: Yes

Confidence: High

This species often forms dense stands.

Source: Professional expertise

**Q12: Germination Requirements**

Rating: Yes

Confidence: Moderate

Source: Professional expertise

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

Rating: Unknown

Confidence: Not Rated

Source:

**Q14: Shade Tolerance**

Rating: High

Confidence: High

Source: Professional expertise

**Q15: Disturbance Tolerance**

Rating: Yes

Confidence: Moderate

Source: Professional expertise

**Q16: Propagule Persistence**

Rating: >10 years

Confidence: Moderate

Further research is needed.

Source: Professional expertise

**Q17: Palatability**

Rating: Unknown

Confidence: Not Rated

Browsing has occasionally been observed in the wild, but not frequently. While some people do forage this species, there is likely not enough foraging activity to impact population growth.

Source: Professional expertise

**Section 3: Ecological Impact**

**Q18: Impact on Ecosystem Abiotic Processes**

Abiotic Processes: Nutrient dynamics, Light availability, Chemistry

Rating: Moderate

Confidence: Low

Source: Professional expertise

**Q19: Impact on Ecosystem Structure**

Rating: Low

Confidence: Low

Source: Professional expertise, Thesis

**Q20: Impact on Ecosystem Composition**

Rating: Moderate

Confidence: Moderate

This species has potential for high impacts on ecosystem composition if left unchecked.

Source: Professional expertise

**Q21: Impact on Particular Native Species**

Rating: Unknown

Confidence: Not Rated

Source:

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

Rating: Unknown

Confidence: Not Rated

This species might have the potential to invade intact systems if left unchecked.

Source: Professional expertise

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

Rating: Yes, plant is unpalatable

Confidence: Low

Source: Professional expertise

**Section 4: Management Difficulty**

**Q24: General Management Difficulty**

Rating: High

Confidence: High

Propagule persistence for *Alliaria petiolata* still needs research, which makes management more difficult. Plants vary widely in height, from 1 inch to 5 feet tall. This makes *A. petiolata* difficult to eradicate in westside forests, where small plants can be easily hidden beneath other vegetation.

Source: Professional expertise

**Q25: Minimum Time Commitment**

Rating: High

Confidence: High

Source: Professional expertise

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

Rating: High

Confidence: Moderate

This species frequently occurs in dense westside forest settings with a lot of vegetation that may become collateral damage. However, the effects of *Alliaria petiolata* infestations may be more damaging than the effects of treatment to native plant communities.

Source: Professional expertise

**Q27: Accessibility of Invaded Areas**

Rating: Moderate

Confidence: Moderate

Source: Professional expertise

**Q28: Sociopolitical Implications of Management**

Rating: Moderate/Low

Confidence: Low

This plant is edible to humans, and foraging activities could potentially result in some resistance to management.

Source: Professional expertise

**Additional Comments**

None

**References**

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