

Washington Invasive Ranking System

Washington Natural Heritage Program

Acer negundo (Box Elder)

Assessed by

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Ecological Impact Rank: **Low** (50)

Confidence: **Moderate** (54)

Management Difficulty Rank: Moderate (54)

Confidence: Moderate (60)

Biological Characteristics of Invasiveness: High (87)

Confidence: High (84)

Concern Related to Distribution and Abundance: Moderate (58)

Confidence: Moderate (60)



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Ranking Notes

Acer negundo was assessed by multiple individuals. Range of assessor ratings is provided in parentheses following the final assigned rating.

Legal Listings

[Washington State Weed Board](#): No

[Washington Invasive Species Council](#): No

Section 1: Distribution and Abundance

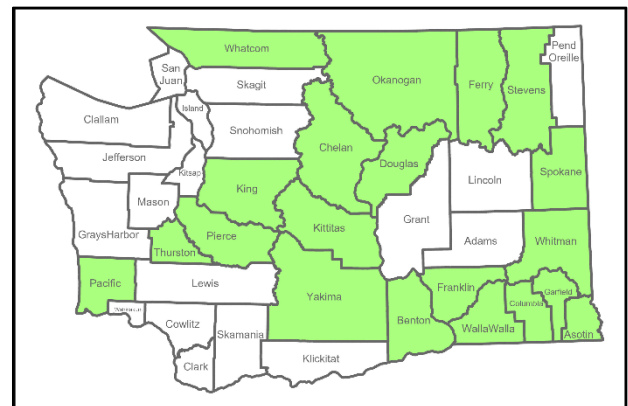


Figure 1. Distribution of counties where *Acer negundo* has been documented in Washington State (CPNWH, 2023; EDDMapS, 2023; iNaturalist Contributors, 2023).

Q1: Current Range Size in Washington

Rating: High

Confidence: High

Acer negundo is found in 23 of 39 counties in Washington and 7 of 9 ecoregions, though records in the Northwest Coast ecoregion are historical (not documented in the last 40 years). This species is newly documented in Cowlitz and Klickitat counties

(CPNWH, 2023; EDDMapS, 2023; iNaturalist Contributors, 2023).

Source: Professional expertise, Herbarium records and other observations

Q2: Current Trend in Total Range

Rating: Low

Confidence: Moderate

Most populations appear to have spread short distances from cultivation. Numerous historical occurrences along the Snake River near Wawawai and Almota do not appear to have spread significantly after their initial documentation in the 1890s. Many collections bear notes that they are from cultivated street trees or from public spaces in towns or college campuses.

Source: Professional expertise, Herbarium records and other observations

Q3: Proportion of Potential Range Currently Unoccupied

Rating: Moderate (range Low - Moderate)

Confidence: Moderate

Acer negundo has the potential to occur over much of lowland Washington, including many counties on the west side of the state and in central Washington. It seems to be more dependent on humans spreading plants by seed or outplanting than by natural means of dispersal.

Source: Professional expertise

Q4: Local Range Expansion or Change in Abundance

Rating: Low

Confidence: Moderate

Notable expansion has not been observed by assessors. Local range and abundance appears relatively stable or is at least constrained by surprisingly poor natural dispersal (without human assistance).

Source: Professional expertise

Q5: Diversity of Ecosystems Invaded

Ecosystem types: Forest & Woodland, Emergent Open Wetland

Rating: Low

Confidence: Moderate

Acer negundo is primarily seen in riparian zones along watercourses in eastern Washington.

Source: Professional expertise

Section 2: Biological Characteristics

Q6: Aggressive Mode of Reproduction

Rating: Yes

Confidence: High

Acer negundo suckers at the root collar (George, 1953) and has prolific seed production (Rosario, 1988).

Source: Published research, Informal publication, Professional expertise

Q7: Innate Potential for Long-Distance Dispersal

Rating: Yes

Confidence: High

Produces samaras (winged seeds) that are wind-dispersed (Rosario, 1988).

Source: Published research, Informal publication

Q8: Potential to be Spread by Human Activities

Rating: Yes

Confidence: Moderate

Due to its hardiness and tolerance of difficult growing conditions (cold and drought), humans may use *Acer negundo* for revegetation, soil stabilization, shelter-belts, etc.

Source: Professional expertise

Q9: Allelopathy

Rating: Yes

Confidence: High



Evidence suggests this species is allelopathic (Eremenko, 2014; Nikolaeva et al., 2021).

Source: Published research, Informal publication, Professional expertise

Q10: Competitive for Limiting Abiotic Factors

Rating: Yes (range Yes - No)

Confidence: Moderate

In eastern Washington, *Acer negundo* is startling in its ability to tolerate drought and poor soils and in its persistence beyond cultivation (C. Antieau, pers. comm., 2024).

Source: Informal publication, Professional expertise

Q11: Growth Form

Rating: Yes

Confidence: High

Source: Professional expertise

Q12: Germination Requirements

Rating: Yes

Confidence: High

Evidence suggests that this species can germinate without disturbance (Rosario, 1988; Nikolaeva et al., 2021).

Source: Published research

Q13: Invasiveness of Other Plants in Genus

Rating: Yes

Confidence: High

In certain areas of the Pacific Northwest, *Acer pseudoplatanus* and *Acer platanoides* are especially problematic as invasive species.

Source: Professional expertise

Q14: Shade Tolerance

Rating: Moderate

Confidence: Moderate

This species has moderate shade tolerance (Rosario, 1988).

Source: Informal publication, Professional expertise

Q15: Disturbance Tolerance

Rating: Yes

Confidence: Moderate

Source: Professional expertise

Q16: Propagule Persistence

Rating: <5 years

Confidence: High

Evidence suggests that propagules persist for less than five years (Hildebrand, 2006; CNPS, 2024).

Source: Informal publication, Thesis

Q17: Palatability

Rating: Yes, plant is unpalatable

Confidence: Moderate

Evidence suggests that this species is unpalatable (Rosario, 1988).

Source: Informal publication, Professional expertise

Section 3: Ecological Impact

Q18: Impact on Ecosystem Abiotic Processes

Abiotic Processes: Hydrology, Nutrient dynamics, Light availability, Chemistry

Rating: Moderate (range Low - Moderate)

Confidence: Moderate (range Moderate - High)

Source: Professional expertise

Q19: Impact on Ecosystem Structure

Rating: Low (range Low - Moderate)

Confidence: Moderate (range Moderate - High)

Acer negundo usually occurs with other riparian trees (D. Wilderman, pers. comm. 2024), suggesting that it is not converting previously open areas to tree canopy.

Source: Published research, Professional expertise

Q20: Impact on Ecosystem Composition

Rating: Moderate (range Moderate - High)

Confidence: Moderate (range Moderate - High)

Source: Published research, Professional expertise

Q21: Impact on Particular Native Species

Rating: Unknown

Confidence: Not Rated

Source:

Q22: Observed Ability to Invade Undisturbed Ecosystems

Rating: Low (range Low - High)

Confidence: Moderate (range Moderate - High)

Acer negundo is mainly seen in areas of human or natural disturbance (e.g. old homesteads, riparian areas) and does not appear to spread very far from those areas (D. Wilderman, pers. comm. 2024).

Source: Published research, Professional expertise

Q23: Observed Ability to Invade Naturally Disturbed Ecosystems

Rating: Yes

Confidence: Moderate (range Moderate - High)

Acer negundo can invade naturally disturbed riparian habitats (Rosario, 1988).

Source: Published research, Informal publication, Professional expertise

Section 4: Management Difficulty

Q24: General Management Difficulty

Rating: Moderate

Confidence: High

Acer negundo is relatively easily managed using herbicides.

Source: Published research, Informal publication, Professional expertise, Other (not specified)

Q25: Minimum Time Commitment

Rating: Moderate

Confidence: Moderate

Source: Published research, Professional expertise

Q26: Impacts of Management on Native Species

Rating: Low

Confidence: Low

Source: Professional expertise

Q27: Inaccessibility of Invaded Areas

Rating: Low

Confidence: Moderate

Access to private properties may be an important obstacle to management.

Source: Professional expertise

Q28: Sociopolitical Implications of Management

Rating: Moderate/Low

Confidence: High

Acer negundo is sometimes an indicator of former Euroamerican homesteads or other habitations and may be of interest from cultural resource or anthropological perspectives.

Source: Professional expertise

Additional Comments

None

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