

Washington Invasive Ranking System

Washington Natural Heritage Program

Butomus umbellatus (Flowering Rush)

Assessed by

Wesley Glisson (Aquatic Plant Specialist, Washington Dept. of Ecology)
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Ecological Impact Rank: **High** (78)

Confidence: **Moderate** (50)

Management Difficulty Rank: High (74)

Confidence: High (80)

Biological Characteristics of Invasiveness: High (100)

Confidence: Low (4)

Concern Related to Distribution and Abundance: Moderate (62)

Confidence: Low (30)



Photo Credit: Zoya Akulova 2008, used under Creative Commons license (CalPhotos, 2024).

Ranking Notes

Rapid assessment only, based primarily on professional expertise.

Biological Characteristics rank based on one assessed metric.

Legal Listings

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

[Washington Invasive Species Council](#): Yes

Section 1: Distribution and Abundance

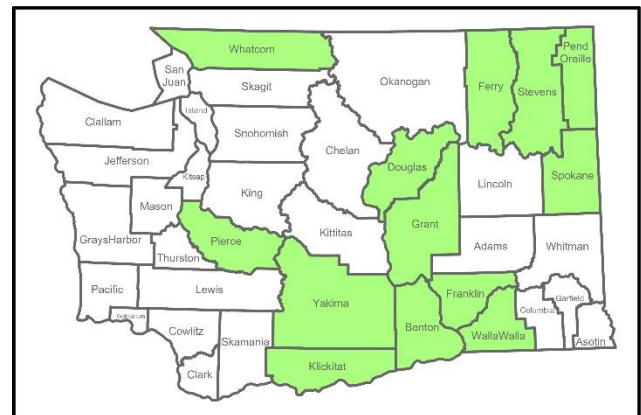


Figure 1. Distribution of counties where *Butomus umbellatus* has been documented in Washington State (CPNWH, 2023; EDDMapS, 2023; iNaturalist Contributors, 2023).

Q1: Current Range Size in Washington

Rating: Moderate

Confidence: High

Butomus umbellatus is found in 26% of counties in Washington (CPNWH, 2023; EDDMapS, 2023; iNaturalist Contributors, 2023).

Source: Herbarium records and other observations

Q2: Current Trend in Total Range

Rating: Not Rated

Confidence: Not Rated

Source:

Q3: Proportion of Potential Range Currently Unoccupied

Rating: Moderate

Confidence: Low

Butomus umbellatus is found in 26% of counties in Washington and distribution suggests that not all suitable habitat available to this species is occupied (CPNWH, 2023; EDDMapS, 2023; iNaturalist Contributors, 2023).

Source: Herbarium records and other observations

Q4: Local Range Expansion or Change in Abundance

Rating: Not Rated

Confidence: Not Rated

Source:

Q5: Diversity of Ecosystems Invaded

Ecosystem types: Emergent Open Wetland, Shallow Water Wetland (Aquatic)

Rating: Low

Confidence: Moderate

This is a species of freshwater aquatic and emergent marsh ecosystems (Knoke & Giblin, 2025).

Source: Burke Herbarium description

Section 2: Biological Characteristics

Q6: Aggressive Mode of Reproduction

Rating: Not Rated

Confidence: Not Rated

Source:

Q7: Innate Potential for Long-Distance Dispersal

Rating: Not Rated

Confidence: Not Rated

Source:

Q8: Potential to be Spread by Human Activities

Rating: Not Rated

Confidence: Not Rated

Source:

Q9: Allelopathy

Rating: Not Rated

Confidence: Not Rated

Source:

Q10: Competitive for Limiting Abiotic Factors

Rating: Not Rated

Confidence: Not Rated

Source:

Q11: Growth Form

Rating: Yes

Confidence: Moderate

This plant can grow in dense, monotypic stands.

Source: Professional expertise

Q12: Germination Requirements

Rating: Not Rated

Confidence: Not Rated

Source:

Q13: Invasiveness of Other Plants in Genus

Rating: Not Rated

Confidence: Not Rated

Source:

Q14: Shade Tolerance

Rating: Not Rated

Confidence: Not Rated

Source:

Q15: Disturbance Tolerance

Rating: Not Rated



Confidence: Not Rated

Source:

Q16: Propagule Persistence

Rating: Not Rated

Confidence: Not Rated

Source:

Q17: Palatability

Rating: Not Rated

Confidence: Not Rated

Source:

Section 3: Ecological Impact

Q18: Impact on Ecosystem Abiotic Processes

Abiotic Processes: Hydrology, Light availability, Increased sedimentation

Rating: Moderate

Confidence: Moderate

As with many other invasive species, the impacts for flowering rush have been observed qualitatively, but rarely quantified (Gunderson et al., 2016; Columbia Basin Cooperative Weed Management Area, 2019). This plant can clearly grow in dense, monotypic stands, and grows in areas where other aquatic plants cannot, thereby acting as an ecosystem engineer. Its ability to invade both deep water and moist soil is also alarming and allows it to impact a variety of habitats, even in the same location.

It is unknown how irreversible these impacts may be, but if better solutions for its control are not found, then its persistent presence could indeed cause irreversible damage to invaded ecosystems (Gunderson et al., 2016; Columbia Basin Cooperative Weed Management Area, 2019).

Source: Published research, Informal publication, Professional expertise

Q19: Impact on Ecosystem Structure

Rating: High

Confidence: Moderate

This species likely has a high impact on lakes, and a more moderate impact in rivers (Gunderson et al., 2016; Columbia Basin Cooperative Weed Management Area, 2019).

Source: Published research, Informal publication, Professional expertise

Q20: Impact on Ecosystem Composition

Rating: Low

Confidence: Low

There is not enough research to support strong conclusions about ecological impacts on ecosystem composition. However, this species' ability to colonize new habitat and potentially create suitable substrate for other aquatic plants is concerning. This attribute may facilitate other opportunistic invasive species (Gunderson et al., 2016).

Source: Published research, Professional expertise

Q21: Impact on Particular Native Species

Rating: Low

Confidence: Low

There is not enough evidence to suggest high impacts to specific native plant species, but it's likely that species with similar growth forms (like hard stem bulrush) and habitats will be impacted (Marko et al., 2015; Gunderson et al., 2016).

Source: Published research, Informal publication, Professional expertise

Q22: Observed Ability to Invade Undisturbed Ecosystems

Rating: High

Confidence: High

While it can act as a pioneer species, it clearly also establishes in existing native plant communities (Gunderson et al., 2016; Madsen et al., 2016; Columbia Basin Cooperative Weed Management Area, 2019).

Source: Published research, Informal publication, Professional expertise

Q23: Observed Ability to Invade Naturally Disturbed Ecosystems

Rating: Yes

Confidence: High

Naturally (and anthropogenic) fluctuating water levels appear to facilitate the growth of flowering rush (Parkinson et al., 2010; Columbia Basin Cooperative Weed Management Area, 2019).

Source: Published research, Informal publication

Section 4: Management Difficulty

Q24: General Management Difficulty

Rating: High

Confidence: High

This plant has persisted for decades in waterbodies despite continued control efforts (Parkinson et al., 2010; Madsen et al., 2016; Columbia Basin Cooperative Weed Management Area, 2019; Parsons et al., 2019).

Source: Published research, Informal publication, Professional expertise

Q25: Minimum Time Commitment

Rating: High

Confidence: High

This plant has persisted for decades in waterbodies despite continued control efforts.

Source: Professional expertise

Q26: Impacts of Management on Native Species

Rating: Low

Confidence: Moderate

From the few published studies available, the impacts of some management techniques (namely diquat application) on native aquatic plants appears to be

minimal. For some species, increases in abundance and frequency were observed following treatment.

However, the impacts of different management methods on native plants still needs to be evaluated (Madsen et al., 2016; Parsons et al., 2019).

Source: Published research

Q27: Inaccessibility of Invaded Areas

Rating: Moderate

Confidence: Moderate

Deep water areas, especially in rivers, are difficult to survey properly (as well as manage). Flowering rush likely occurs in some of these areas.

Also, wetlands and shallow water areas connected to rivers where this species occurs are very difficult to access via boat or from the shore (Gunderson et al., 2016; Columbia Basin Cooperative Weed Management Area, 2019).

Source: Published research, Informal publication, Professional expertise

Q28: Sociopolitical Implications of Management

Rating: Moderate/Low

Confidence: High

Treatment of at least one major source location has been met with resistance from landowners over concerns regarding their ability to graze cattle near treated streams. This is a major impediment to controlling populations that contribute to spread throughout the Spokane and Columbia Rivers.

Source: Professional expertise

Additional Comments

None

References

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