

# Washington Invasive Ranking System

Washington Natural Heritage Program

## *Trifolium subterraneum* (Burrowing Clover)

Assessed by

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Ecological Impact Rank: **Low** (35)

Confidence: **Moderate** (58)

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Management Difficulty Rank: Moderate (61)

Confidence: High (90)

Biological Characteristics of Invasiveness: Low (44)

Confidence: High (71)

Concern Related to Distribution and Abundance: High (91)

Confidence: High (80)

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**Photo Credit:** Steve Matson 2008, used under Creative Commons license (CalPhotos, 2024).

### Ranking Notes

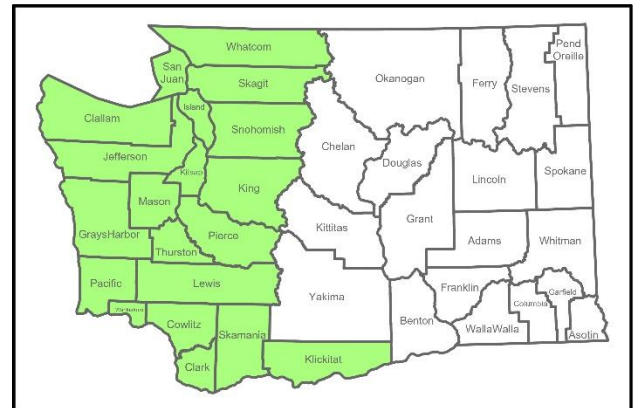
Rapid assessment only, based primarily on professional expertise.

### Legal Listings

[Washington State Weed Board:](#) No

[Washington Invasive Species Council:](#) No

### Section 1: Distribution and Abundance



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

### Q1: Current Range Size in Washington

Rating: High

Confidence: Moderate

This species may be underreported, but is currently documented in 51% of counties in Washington State (CPNWH, 2024; EDDMapS, 2024; iNaturalist Community, 2024).

Source: Professional expertise, Herbarium records and other observations

**Q2: Current Trend in Total Range**

Rating: High

Confidence: High

Source: Professional expertise

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

Rating: Low

Confidence: Moderate

Source: Professional expertise

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

Rating: High

Confidence: High

Source: Professional expertise

**Q5: Diversity of Ecosystems Invaded**

Ecosystem types: Grassland & Shrubland, Marine Coastal Shore

Rating: Low

Confidence: High

Common on road shoulders, prairies, and deflation plains of coastal dunes.

Source: Professional expertise

**Section 2: Biological Characteristics**

**Q6: Aggressive Mode of Reproduction**

Rating: Yes

Confidence: High

This plant spreads both vegetatively and by seed.

Source: Professional expertise

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

Rating: Unknown

Confidence: Not Rated

Source:

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

Rating: Yes

Confidence: High

Aside from accidental transport, this plant is also used in pasture mixes.

Source: Professional expertise

**Q9: Allelopathy**

Rating: No

Confidence: Moderate

Source: Professional expertise

**Q10: Competitive for Limiting Abiotic Factors**

Rating: Yes

Confidence: High

This species is a winter annual and, like most legumes, a nitrogen fixer.

Source: Professional expertise

**Q11: Growth Form**

Rating: No

Confidence: High

This species grows prostrate, but it can grow through and under everything else on prairies.

Source: Professional Expertise

**Q12: Germination Requirements**

Rating: No

Confidence: Moderate

Source: Professional expertise

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

Rating: Yes

Confidence: High

Source: Professional expertise

**Q14: Shade Tolerance**

Rating: Low/Insignificant



Confidence: Moderate

Source: Professional expertise

**Q15: Disturbance Tolerance**

Rating: No

Confidence: Moderate

This species resprouts readily but does not appear to gain a competitive advantage.

Source: Professional expertise

**Q16: Propagule Persistence**

Rating: <5 years

Confidence: Moderate

At best guess, the seeds persist for less than five years, but observations are confounded by the use of pre-emergent herbicides.

Source: Professional expertise

**Q17: Palatability**

Rating: Yes

Confidence: Moderate

This species is used in pasture mixes, primarily as a source of nitrogen for grasses.

Source: Professional expertise

**Section 3: Ecological Impact**

**Q18: Impact on Ecosystem Abiotic Processes**

Abiotic Processes: Nutrient dynamics

Rating: Low

Confidence: Moderate

Prairies are low-nitrogen systems so this species' nitrogen fixing abilities may benefit tall oatgrass, similarly to *Cytisus* species.

Source: Professional expertise

**Q19: Impact on Ecosystem Structure**

Rating: Insignificant

Confidence: Moderate

This species reduces bare ground, which is important in prairies for seedling recruitment. Structural impacts appear to be insignificant, however.

Source: Professional expertise

**Q20: Impact on Ecosystem Composition**

Rating: Moderate

Confidence: Moderate

May reduce seedling recruitment for native species.

Source: Professional expertise

**Q21: Impact on Particular Native Species**

Rating: Not Rated

Confidence: Not Rated

Source:

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

Rating: Low

Confidence: High

This species establishes and persists in disturbance-dependent ecosystems only.

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: Moderate

Confidence: High

This species' prostrate growth habit and small size suggests that it might take significant labor to treat if considered a management priority.

Source: Professional expertise

**Q25: Minimum Time Commitment**

Rating: Moderate

Confidence: High

Source: Professional expertise

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

Rating: Moderate

Confidence: High

Source: Professional expertise

**Q27: Inaccessibility of Invaded Areas**

Rating: Insignificant

Confidence: High

While accessibility is likely not a problem with this species, its cryptic nature does make it difficult to find.

Source: Professional expertise

**Q28: Sociopolitical Implications of Management**

Rating: Moderate/Low

Confidence: Moderate

Source: Professional expertise

**Additional Comments**

None

**References**

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