

February 2015

Legal Status

Community Charter Act

Distribution

This aquatic invasive plant was first observed in British Columbia, in Okanagan Lake, in 1970. By 1974, the plant was well established in all of the main stem lakes of the Okanagan and spread to select water bodies in the Thompson/Okanagan, Central Kootenay, East Kootenay, Lower Mainland and Coastal regions. Many un-infested water bodies in these areas, and elsewhere in British Columbia, remain susceptible to the introduction of this plant.



Identification

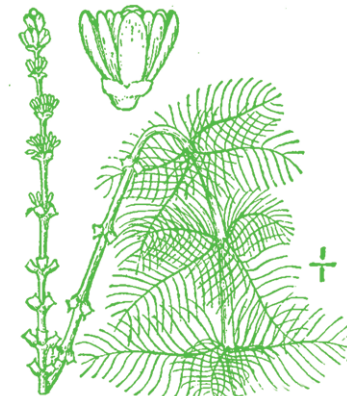
Flowers: Reddish flowering spikes, that emerge 5-10 cm above the water, contain small yellow flowers that have 4 petals. Flowers are alternate and attached directly to the stem.

Stems: Reddish brown, long, slender, branching and hairless. Stems become leafless toward the base of the plant. Plants typically grow between 1-4 m but can extend up to 10 m.

Leaves: Bright green feathery leaves that are 3 cm long. Leaves occur in whorls of 3 or 4 with 12 or more segments on each side of the rachis. Leaves rarely extend out of water as they tend to lose their stability and collapse around the stem.

Fruits: Hard, segmented capsule containing 4, nearly round, seeds that are 2.3 to 3 mm long.

Similar Species: (i) Parrot's feather (*Myriophyllum aquaticum*) can be distinguished by its white flowers and longer petioles; (ii) The native Northern water-milfoil (*Myriophyllum sibiricum*) can be distinguished by its leaves, which have 11 or fewer segments on each side of axis, compared 12 or more segments on Eurasian water-milfoil.



USDA Plants Database

Ecological Characteristics

Habitat: Often found in still or slow moving water. It prefers fresh water bodies that have sand or silt substrate and high levels of natural or man-made disturbance.

Reproduction: This perennial aquatic plant reproduces by rhizomes, seeds, buds and stem fragmentation.

Dispersal: Floating plant fragments are most commonly dispersed from one water body to another by water currents, animals and boats/trailers and fishing gear.

Impacts

Ecological: Has the ability to outcompete with and replace native plant communities, reducing overall biological diversity and reducing water quality. Dense stands also result in stagnant waters which increase breeding grounds for mosquitoes.

Economic: Impacts waterways, irrigation ditches, and drainage canals, where it has the potential to inhibit flow and increase maintenance costs.

Social: Forms thick, underwater stands of tangled stems and vast mats of vegetation on the water's surface, especially in shallow, nutrient-rich water. These mats can limit recreational values, such as boating, swimming, and fishing. They can also detract from the aesthetic appeal of the shoreline resulting in decreased desirability of adjacent residential areas.

Integrated Pest Management

IPM is a decision-making process that includes identification and inventory of invasive plant populations, assessment of the risks that they pose, development of well-informed control options that may include a number of methods, site treatment, and monitoring.

Prevention

- Minimize disturbance near infested areas.
- Remove any plant material from boats, anchors, trailers, fishing gear and other equipment before leaving the water body.

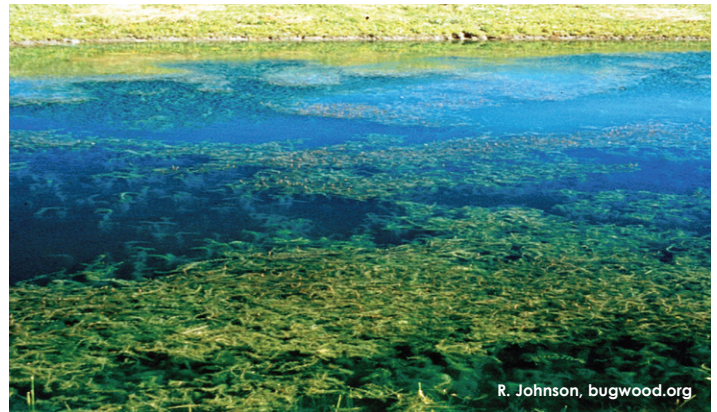
Mechanical Control

- Although plants can be removed either by hand (raking and seining) or by mechanical harvesters and chopping machines, it is not recommended unless all plant fragments can be removed.

Biocontrol

There are several native insects that have been known to help manage Eurasian watermilfoil infestations; however neither has proven to be an effective means of control on their own:

- *Eurychopsis lecontei* is a weevil whose larvae bores down through the stem of the plant and introduces diseases that suppress growth, reduce root carbohydrate stores and/or cause the plant to sink. Insects must be present at high densities to exhibit sufficient control.



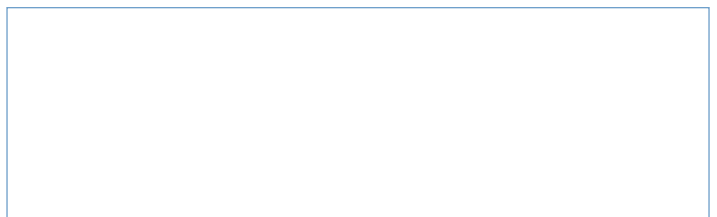
- *Cricotopus myriophylli* is a chironomid (midge) larva that feeds on the stem of the plant, reducing overall plant integrity and suppressing plant growth. Insects must be present at high densities to exhibit sufficient control.

Chemical Control

- None available in British Columbia.

References/Links

- Belt, Lafleur and Sladek. 2009. Invasive Plants of the Crown of the Continent. Page 94-95.
- Dunbar, G. 2009. Okanagan Basin Water Board. Management Plan for Eurasian water milfoil (*Myriophyllum spicatum*) in the Okanagan, British Columbia. www.obwb.ca/fileadmin/docs/090512_ewm_management_plan.pdf
- E-Flora BC, Electronic Atlas of the Plants of BC. www.eflora.bc.ca
- Ministry of Environment. Environmental Protection Division. 1993. Water Quality. Eurasian water milfoil in British Columbia. www.env.gov.bc.ca/wat/wq/brochures/milfoil.html
- Washington State Department of Ecology. Non-native Invasive Freshwater Plants: Eurasian watermilfoil (*Myriophyllum spicatum*). www.ecy.wa.gov/programs/wq/plants/weeds/milfoil.html



ADDITIONAL CONTACT INFO



Thank you to the BC Ministry of Environment for providing project funding, and to those who advised the development of these management recommendations.