Fragrant Water Lily

Nymphaea odorata
Water Lily Family

WASHINGTON STATE UNIVERSITY
KITSAP COUNTY EXTENSION

Class C Noxious Weed Control Recommended

Identification Tips

- The leaves, which can grow up to 11inches in diameter, are green on top; the undersides are purple to red, with numerous veins.
- The stem is attached to the center of the circular leaves, with a deep cleft to the stem in the leaf.
- The many-petaled flowers are large and showy, blooming from June to September.
- As the name implies, the flowers are very fragrant.

Biology

- Fragrant water lily is an aquatic perennial with floating leaves.
- Reproduces primarily by seed; when mature, the seedpods
- It will root in water up to 6 feet deep and has a large, spreading root system.
- The leaves and stems die back in the winter and new growth is produced by the root system each spring.

Impacts

- Left unmanaged, water lilies will restrict lake-front access and eliminate swimming opportunities.
- Requests for water lily control represent a high percentage of the herbicide permit requests received by Ecology. I
- n several of the integrated aquatic plant management plans funded by Ecology, the fragrant water lily was considered the second nuisance plant after Eurasian water milfoil and was targeted for control (Lake Twelve, Steel Lake, Kitsap Lake, Lake Wilderness).

Distribution

- The fragrant water lily is a floating-leaved aquatic perennial herb that grows rooted in mucky or silty sediments in water up to six to seven feet deep.
- It prefers quiet waters such as ponds, lake margins, and slow streams and will grow in acid or alkaline waters.
- When unmanaged, it tends to form dense monospecific stands that can cover hundreds of acres and can persist until senescence in the fall.

Questions?
Kitsap County Noxious Weed Control Program Line: **360-307-4242**
http://kitsap.wsu.edu/noxious_weed

Control Methods

Chemical: Generally glyphosate is the recommended herbicide for water lily control because it can be directly applied to the floating leaves, unlike fluridone of endothall which must be applied to the water. The application of glyphosate allows specific plants or areas of plants to be targeted for removal. Generally two applications of glyphosate are needed. The second application controls the plants that were missed during the first herbicide application. A drawback of using herbicides, is the "uplifting" of mats of decomposing water lily roots that can form large floating islands in the waterbody after the herbicides have killed the plants. Harvesting water lilies before treating the water with a systemic herbicide such as fluridone has been shown to stress the plants and provide greater impact of the herbicide to the plants (as was demonstrated during the 1991 fluridone application to Long Lake, Thurston County in Washington).

Cultural: Localized control (in swimming areas and around docks) can be achieved by covering the sediment with an opaque fabric which blocks light from the plants (bottom screening). However, it is sometimes very difficult to place and secure the fabric to densely packed, tough, fleshy water lily rhizomes. Several lake residents have reported success in eliminating water lilies from waterfront lots by the process of carbohydrate depletion. During each growing season, residents faithfully removed all emerging leaves. They reported that it took about two to three seasons to kill the plants.

Mechanical: Mechanical controls such as cutting and harvesting are popular methods of controlling water lilies. Cutting is less efficient than harvesting because cut plants must then be removed from the water. Harvesters both cut and collect the plants. Both methods create open areas of water. However, because water lilies grow in shallow water and grow rapidly, they must be cut several times a year.
Underwater rototilling (called rotovation) was successfully used to remove water lilies from a small Seattle Lake where the drowning of two people was attributed to the presence of dense beds. Rotovation dislodges the large, fleshy water lily rhizomes which can then be removed from the water. Although rotovation is a much more expensive process than harvesting or cutting, it results in the permanent removal of water lily rhizomes.

Biocontrol Potentials: General release of biocontrol agents for the fragrant water lily would not be popular because water lilies are so widely propagated for ornamental ponds. However, a number of insects, such as aphids, have been observed feeding on and impacting water lilies. The University of Washington experimented with using triploid grass carp to remove fragrant and other species of water lilies from Chambers Lake, Thurston County by stocking very high rates of fish. However little or no impact of the fish on water lilies was observed in that lake. It is generally accepted that grass carp can not be effectively used for fragrant water lily management. Therefore, there are no effective biological control agents available at this time for water lily control. Nor are there likely to be any.

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Website: http://kitsap.wsu.edu/noxious_weed

Cooperating agencies: Washington State University, U.S. Department of Agriculture, and Kitsap County. Extension programs and employment are available to all without discrimination. Evidence of noncompliance may be reported through your local Extension office.