Giant salvinia

Colorado Department of Agriculture

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Key ID Points

1. Floating leaves are densely covered in eggbeater-shaped hairs and are green.
2. Free floating aquatic plant with potentially long submersed leaves that appear like roots.

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Giant salvinia
Identification and Management

Identification and Impacts

Giant salvinia (*Salvinia molesta*) is a submersed aquatic freshwater perennial species that is native to South America. It starts as free floating pieces with leaves. The plant consists of horizontal stems that float just below the water surface. At each node it produces a pair of floating or emergent leaves that are green in color with rows of white, bristly hairs. The leaves are ovate to oblong in shape. The upper surface of the floating leaves are densely covered in eggbeater-shaped hairs. Plants bear a third leaf that is brown, highly divided and dangles underwater. Submersed leaves are commonly mistaken as roots and as they grow to great lengths they act as a stabilizer to the plant by creating drag. Stems typically fragment easily, and dried pieces can survive for long periods. Under optimal conditions it can double its size in 2-3 days. Individual leaves can range from a few millimeters to 4 centimeters in length.

The typical habitat for giant salvinia is quiet water of lakes and ponds, oxbows, ditches; slow flowing streams and rivers, backwater swamps, marshes and rice fields. Giant salvinia will withstand periods of stress, both low temperature and dewatering, through latent buds. Although it demonstrates tolerance to freezing air temperatures, it cannot withstand ice formation on the water surface.

Giant salvinia effectively reproduces through vegetative means. Stems fragment spontaneously as plants mature. New branches develop from apical and lateral buds. Each node harbors up to five serial lateral buds (Lemon and Posluszny 1997), adding to the high potential for growth and dormancy. Rapidly expanding populations can overgrow and replace native plants. The result is a dense surface cover that prevents atmospheric oxygen and light from entering the water. Its decomposing pieces drop to the bottom and consumes fish and other aquatic life's dissolved oxygen.

The key to effective control of giant salvinia is prevention. Control options are limited when managing giant salvinia due to its aggressive nature in freshwater ways. Details on the back of this sheet can help to create a management plan compatible with your site ecology.

Giant salvinia is designated as a "List A" species on the Colorado Noxious Weed Act. It is required to be eradicated wherever found in the State. For more information visit www.colorado.gov/ag/weeds and click on the Noxious Weed Management Program. Or call the State Weed Coordinator at the Colorado Department of Agriculture, Conservation Services Division, 303-239-4100.

Clockwise from lower left, photos © USGS C. Jacono 1999; Scott Bauer, USDA Agricultural Research Service; Mic Julien, Commonwealth Scientific and Industrial Research Organization, Australia; Troy Evans, , United States; Kenneth Calcote, Mississippi Department of Agriculture and Commerce

Salvinia molesta

Giant salvinia

CULTURAL
Cultural prevention is the only effective way to control Giant salvinia. Removing all plant parts from recreational boats is the easiest way to prevent the plant's establishment.

BIOLOGICAL
Biocontrol agents are not included in the prescribed management plans by the State for List A species. Eradication is the management objective of all List A's. No biocontrol agent for giant salvinia is available. For more information on biocontrol in Colorado, please contact the Palisade Insectary of the Colorado Department of Agriculture at 970-464-7916.

MECHANICAL
Hand pulling is an option when populations are small, but only offers short-term effectiveness. Repeated treatments throughout the growing season has to occur. Other mechanical options are available but are cost prohibitive. Make certain to pull all the plant parts and bag specimens carefully so as to not scatter plant parts or seeds. Dispose of in a land fill where runoff can not threaten other waterways.

Integrated Weed Management:

Giant salvinia is extremely difficult to control once it has become established; prevention of infestations and early detection of this very aggressive aquatic weed is essential in stopping the plant from becoming a widespread problem in suitable water bodies. No combination of control methods has proven effective in eradicating populations, once it has been established .

HERBICIDES

The following are recommendations for herbicides that can be applied to bodies of water. Recommendations are unique with aquatic weed species, and need to be based on water body type and water volume. **Please read label for exact rates. The Label is the LAW!**

Herbicide	Rate	Application Timing
Diquat (Reward - general use)	Refer to label.	Refer to label.
Glyphosate (Rodeo, Aqua Master, etc. - general use)	Refer to label.	Refer to label.
Fluridone (Sonar - general use)	Refer to label.	Refer to label.
Additional herbicide recommendations for other species can be found at: www.colorado.gov/agconservation/CSUHerbicideRecommendations.pdf		

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