
Water Creates Lifetime Memories
Midwest Aquatic Plant Management Society
MIDWEST AQUATIC PLANT MANAGEMENT SOCIETY


Unmanaged aquatic resources can
destroy such memories


Imagine not being able to access clean drinking water because of harmful algal blooms.

Impacts of nuisance aquatic plant species

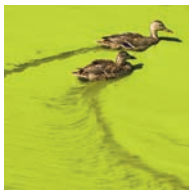
$120 billion – economic loss and ecological damages caused by invasive species[9]

42% of Endangered Species are listed partially as a result of invasive species

A harmful algal species, associated with an invasive plant species (hydrilla), has been implicated in the deaths of bald eagles and other waterfowl[5, 11]

Property values decreased 13 to 40% as a result of aquatic plant invasion[4, 6, 8]

Harmful algal blooms cause taste and odor problems in drinking water, force beaches to close, and can result in human and animal sickness/death[7, 10]



Invasive macrophytes can form dense populations that alter invertebrate and fish communities and interactions[3]

4,600 acres of natural habitat being lost to invasive species every day

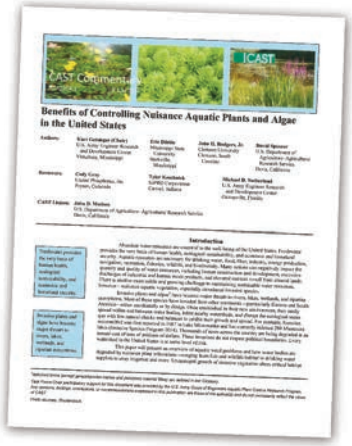
Everyday, lake managers are working to sustain the resource we cherish.

The positive economic impact of aquatic plant management in only 13 lakes was estimated to be approximately $60 million.[1]

People, science and technology are available to manage nuisance plants in our aquatic resources.

Read **Benefits of Controlling Nuisance Aquatic Plants and Algae in the United States**

Council for Agricultural Science and Technology (CAST), 2014[2]



Visit **www.mapms.org** for more information

Before management

After management

Don't just prevent… manage invasive aquatic plants.

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www.mapms.org

Resources

1 Adams, D.C. and D.L. Lee. 2007. Estimating the value of invasive plant control – a bioeconomic analysis of 13 public lakes in Florida. J Agr App Econ 39:97-109.

2 Council for Agricultural Science and Technology (CAST). 2014. Benefits of Controlling Nuisance Aquatic Plants and Algae in the United States. CAST Commentary QTA2014-1. CAST, Ames, Iowa.

3 Dibble, E.D., K.J. Killgore and S.L. Harrel. 1996. Assessment of Fish-Plant Interactions. Amer. Fish. Soc. Symp. 16:357-72.

4 Halstead, J.M., J. Michaud, S. Hallas-Burt, and J.P. Gibbs. 2003. Hedonic analysis of effects of a nonnative invader (*Myriophyllum heterophyllum*) on New Hampshire (USA) lakefront properties. Environ Manage 32:391-398.

5 Haynie, R.S., Wilde, S.B., Williams, S.K., Morrison, J.R., Grizzle, J.R., Fischer, J.R., and Bowerman, W.W. 2013. Are triploid grass carp suitable for aquatic vegetation management in systems affected by Avian Vacuolar Myelinopathy? Journal of Aquatic Animal Health 25:252-259.

6 Horsch, E.J. and D.J. Lewis. 2008. The effects of aquatic invasive species on property values: Evidence from a quasi-random experiment. Staff Paper No. 530. Department of Agricultural and Applied Economics, University of Wisconsin-Madison.

7 Jochimsen, E.M., W.W. Carmichael, J. An , D.M. Cardo, S.T. Cookson, C.E. Holmes, M.B. Antunes, D.A. de Melo Filho, T.M. Lyra, V.S. Barreto. 1998. Liver failure and death after exposure to microcystins at a hemodialysis center in Brazil. New England Journal of Medicine 338(13):873-878.

8 Johnson, M. and M.E. Meder. 2013. Effects of aquatic invasive species on home prices: Evidence from Wisconsin. http://ssrn.com/abstract=2316911

9 Pimentel, D., R. Zuniga, and D. Morrison. 2005. Update on the environmental and economic costs associated with alien-invasive species in the United States. Environ Manage 35:692-701.

10 Van der Merwe, D. Sebbag, L., Neitfeld, J.T., Aubel, M.T., Foss, A., Carney, E. 2012. Investigation of a Microcystis aeruginosa cyanobacterial freshwater harmful algal bloom associated with acute microcystin toxicosis in a dog. Journal of Veterinary Diagnostic Investigation 24(4): 679-687

11 Wilde, S.B., Johansen, J.R., Wilde, H.D., Jiang, P., Bartelme, B., Haynie, R.S. Aetokthonos hydrillicola gen. et sp. nov.: Epiphytic cyanobacteria on invasive aquatic plants implicated in Avian Vacuolar Myelinopathy. 2014. Phytotaxa 181(5).