

Mechanical Harvesting

An Effective Aquatic Plant Management Tool

Mechanical harvesting (i.e., plant cutting and removal) and herbicide application are methods commonly used to control nuisance aquatic plant growth in Michigan's inland lakes. In some situations, mechanical harvesting is the best solution to reduce nuisance aquatic plant growth. When aquatic plants are treated with herbicides, they die, sink to the bottom, and decompose, creating an ideal environment for future plant growth. During decomposition, bacteria consume dissolved oxygen reserves which can lead to oxygen depletion, putting stress on the aquatic organisms within a treatment area. When plants are harvested, the biomass is removed from the lake along with the nutrients contained within the plant tissues. This prevents the re-assimilation of these nutrients back into the lake and also reduces the risk for oxygen depletion. For more information about nutrient dynamics in lakes, please visit: <https://www.michiganlakeinfo.com/trophic-state>

In most cases, harvesting does not require a permit. This allows for the physical removal of plants to take place in areas of the lake not permitted for herbicide treatments. However, mechanical harvesters have limitations on where they can successfully operate. Most mechanical harvesters require at least two feet of water to operate efficiently. Also, liability and maneuverability can limit operation in the immediate proximity of moored boats, docks, and boat hoists.

Though harvesting is an effective tool for many lakes, this plant control method does have limitations. First, this approach is somewhat expensive due to the cost of the equipment and the time it takes to perform the task. Second, the harvester is unable to selectively remove plants. Most plant material in the path of the harvester will be removed, however, not all plant material will be harvested as aquatic plants may bend, move, or float away from the harvester during operation. Finally, the biomass removed from a lake must be disposed of somewhere. Farmers will often accept the plant material for use as mulch or fertilizer, but transport to the disposal site may add time and costs to the project.

There are some situations where harvesting may be detrimental to a lake ecosystem. Non-native milfoil species should be avoided when harvesting as they reproduce and spread through fragmentation. As there are herbicides that specifically target non-native milfoil species, it is recommended to use those selective herbicides for control. Both herbicide application and mechanical harvesting should be considered when approaching starry stonewort management. If mechanical harvesting is the selected mode of control, care should be taken by the harvesting contractor as starry stonewort can also spread through fragmentation.



Mechanical harvester in operation



Vegetation removal in process



Water lilies being harvested

For more information regarding Michigan's inland lakes, please visit michiganlakeinfo.com

