

D.A.S.H

Diver Assisted Suction Harvesting

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. More recently, diver assisted suction harvesting (D.A.S.H) has become another tool used to control invasive and nuisance aquatic plants. In some situations, 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. 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>

D.A.S.H involves the use of a large hose that intakes water and plant material into a mesh bag. The water is able to escape and return back to the lake while unwanted plant material is left in the bags for disposal. A diver hand pulls and guides the suction harvester to desired plant growth areas.

Unlike mechanical harvesting, D.A.S.H requires a permit through the Michigan Department of Environment, Great Lakes, and Energy (EGLE). This is due to the disturbance the suction harvester can cause to the sediments and special precautions that are needed to perform the harvest (i.e. establishment of a silt screen).

One benefit of suction harvesting compared to mechanical harvesting is the selectivity of the harvest. When mechanical harvesting, the majority of the plant material in the path of the machine will be harvested. D.A.S.H is selective for plant growth that the diver hand pulls and guides to the hose. However, this may be hindered by loose sediments affecting visibility for the diver, and thus, making it difficult to differentiate between plants. Mechanical harvesting cuts the plants allowing for regrowth to occur, while D.A.S.H can harvest entire plants including their roots to limit regrowth. D.A.S.H can also be used to harvest non-native milfoil, which spreads via fragmentation, in areas where aquatic herbicides may not be an option.

While D.A.S.H has some benefits over traditional harvesting there are drawbacks as well. D.A.S.H is labor intensive. Because of the labor required to perform the harvest, D.A.S.H is much slower than traditional harvesting and is not recommended for large scale areas. The feasibility of D.A.S.H may also be limited by cost, as prices can be exponentially higher than standard mechanical methods on a per acre basis.



DASH Barge during aquatic plant removal

Credit: The Higgins Lake Foundation

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

