

Aquatic Herbicides

Prevention is the first defense in exotic species control. However, once an exotic plant has colonized a lake, a rapid response should be taken to control its spread. One such response is the use of aquatic herbicides.

In Michigan, a permit is required from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to apply herbicides to lakes. The permit lists the herbicides that are approved for use, respective dose rates, use restrictions, and indicates specific areas of the lake where treatments are allowed. EGLE aquatic herbicide permitting information can be found at <https://www.michigan.gov/egle/about/organization/water-resources/aquatic-nuisance-control>.

Prior to being applied to Michigan's inland lakes, herbicides must be registered and approved by the Environmental Protection Agency (EPA). There are currently over 300 herbicides registered with the EPA. Of those, only about a dozen are approved for use in the aquatic environment. In addition to Michigan's permitting system, there are federal regulations that require herbicide applicators to acquire a pesticide general permit and to prepare and submit a pesticide discharge management plan. Herbicide applicators must also obtain a pesticide applicator certification through the Michigan Department of Agriculture and Rural Development (MDARD) prior to applying aquatic herbicides.

There are two basic types of herbicides: systemics and contacts. Systemic herbicides are taken up by the plant and translocate to the root system which helps to provide season-long control. With systemic herbicides, it may take several weeks for the impacts to the treated plants to become apparent. Contact herbicides only affect the portion of the plant that comes into contact with the herbicide. Plants usually die back within a week of treatment, but some plants like Eurasian milfoil may grow back later in the season since the roots remain intact and viable.

Unlike systemic herbicides that are selective, contact herbicides can impact a broad spectrum of plant species, but timing and rate of application can be used to minimize non-target impacts. Deciding which herbicide to use in a particular situation will depend on the plant(s) being targeted, potential impacts to non-target species, cost, use restrictions, and other factors. In general, herbicide treatments should target nuisance exotic species such as Eurasian milfoil and have minimal impacts on most native plant species.

If applied properly, herbicides have no direct impacts on fish. In general, lakes with a variety and moderate density of plants often support healthy fisheries. Targeting invasive exotic plants with herbicides aids in the preservation of valuable, native plants that provide habitat and cover for fish.

The best approach or combination of approaches to control aquatic plants in a particular lake depends on local conditions and the expectations of lake residents. Once an exotic plant has been introduced in a lake, a complete eradication is unlikely and a sustained effort is often required to ensure control. Ask your lake management consultant about the best way to manage the aquatic plants in your lake.



Eurasian milfoil



Herbicide application

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

