

Protecting Lake Maspenock Together: Science, Safety, and Shared Stewardship

Whether we are lifelong shoreline residents, avid boaters, conservationists, or simply neighbors who love a beautiful view, everyone in Hopkinton agrees on one thing: we want Lake Maspenock to remain a healthy, thriving, and beautiful resource. When community members raise questions or voice concerns about weed management, it comes from a deep, shared care for the lake. Both the Lake Maspenock Weed Management & Control Advisory Group, known as the Citizens Input Group (CIG), and the Lake Maspenock Preservation Association (LMPA), welcome this active involvement. Healthy debate is essential for good stewardship.

However, because discussions around lake management can quickly become complex, some misunderstandings have naturally surfaced. To ensure our community can make decisions based on the best available science and official facts, we want to address the most common concerns openly and transparently. Below, we lay out the facts behind our targeted herbicide plan, how we protect our water, and how every resident plays a vital role in the health of our watershed.

1. Safety is Everyone's Priority: Real Protection, Not a Rubber Stamp

Before a single drop of herbicide can touch Lake Maspenock, our management plan must clear a strict review by federal, state, and local authorities. Every product proposed for use is first evaluated and registered by the U.S. Environmental Protection Agency (EPA). The Massachusetts Department of Agricultural Resources (MDAR) regulates herbicides and all other pesticides through its Pesticide Program under the Massachusetts Pesticide Control Act. From there, local groups like the Hopkinton Conservation Commission & Department of Public Works (DPW), along with state scientists at Massachusetts Department of Environmental Protection (MassDEP), spend months scrutinizing our plan within our toolbox approach. Massachusetts Division of Fish and Wildlife (MassWildlife) also get a chance to review and comment on proposed management activities under the jurisdiction of the Natural Heritage and Endangered Species Program (NHESP). They don't just rubber stamp; they set up strict boundaries. For example, they restricted treatments to limited, specific areas of the lake, and required avoidance of treatments from hitting native species' habitats. This is a highly calculated, carefully watched ecological surgery—not a reckless dumping of chemicals.

- **Sources** (Most source material can be found on the Hopkinton DPW Google Drive folder [Lake Maspenock Herbicide Treatment 2026](#)):

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- *MassDEP License No. WM04-0002315* (Special Treatment Conditions for Flumioxazin: Condition 4, restricting herbicide footprints to specific target zones and preventing contact with native listed species' habitats).
- *Fig 3 - 2026 Treatment Areas Map* (defining the restricted, highly targeted treatment zones).

2. "Smart" Chemistry vs. "Blind" Poisons

A common fear is that herbicides are "blind poisons" that kill everything in the water. In reality, modern lake management uses carefully selected, state-approved tools tailored specifically to the target weed species and site conditions. Depending on the management goal, treatment plans utilize different types of aquatic chemistry. For example, systemic products like ProcellaCOR target plant growth hormones unique to specific invasive weeds like Eurasian Milfoil, while targeted contact products like Flumioxazin or Diquat are selected for fast-acting control of other dense nuisance growth. Regardless of which approved product is used, applications are dosed in small concentrations (measured in parts per billion or low parts per million) engineered to control targeted plants while remaining low risk for wildlife, such as fish, turtles, birds, as well as humans.

Some skeptics raise concerns that these herbicides sink into the bottom muck or dying plant debris, creating a persistent, toxic buildup on the lake floor. Scientifically, this is not how approved aquatic herbicides behave. Every product selected for Lake Maspenock is engineered for breakdown or natural inactivation. Depending on the chemical, active ingredients degrade through natural sunlight exposure, water chemistry, or microbial digestion in the sediment (for instance, ProcellaCOR breaks down in sediment with a half-life of just 2 to 15 days). Other compounds bind tightly to sediment particles upon contact, which inactivates their herbicidal activity. At the concentrations and application rates used in this program, these products do not persist in a biologically active form on the lake floor.

Additionally, concerns attributing localized snail die-offs—specifically involving invasive Chinese mystery snails (*Cipangopaludina chinensis*)—to herbicide treatments warrant closer examination of other potential contributing factors. Notably, a comparable die-off was observed during the 2025 heatwave, a year in which no herbicide treatments were applied to the lake, coinciding with water temperatures approaching 80°F in peak summer. This observation suggests that elevated water temperature may act independently as a substantial contributing factor in these die-off events.

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- **Sources:**

- *US EPA Environmental Fate & Ecological Risk Assessment (2017): Florpyrauxifen-benzyl Section 3 Registration:* (documenting active ingredient environmental fate, microbial sediment degradation pathways, and ecotoxicity thresholds).
- *Alligare Flumigard SC SDS / Flumioxazin Fact Sheet* (EPA Reg. No. 81927-78: confirming rapid photodegradation in water and short environmental persistence).
- *Reward Aquatic Herbicide (Diquat Dibromide) SDS / MassDEP Chemical Fact Sheet* (EPA Reg. No. 100-1091: confirming rapid binding to organic sediment particles and loss of biological activity).
- *Wisconsin Department of Natural Resources Chemical Fact Sheets* (documenting sediment binding pathways, degradation mechanisms, and aquatic half-lives for approved aquatic active ingredients).
- *Town of Hopkinton Water Quality & Historical Temperature Logs* (detailing the 2025 thermal snail die-off patterns during peak summer temperatures).

3. Clearing Up the "PFAS" Scare

You might hear the term PFAS or forever chemicals brought up in discussions, which has the effect of portraying our weed management efforts as if they are working against the health of the lake, which is simply untrue. While it is true that some of these herbicides contain a fluorine atom in their chemical structure, they are not the harmful, toxic "forever chemicals" (like PFOA or PFOS) that you read about in the news. The Massachusetts regulatory standard, PFAS6, targets six specific legacy compounds (including PFOA and PFOS) known to persist for decades and build up in the body, and **not** the broad class of chemicals containing one fully fluorinated carbon atom. The herbicides used in our lake do not share the properties that make those compounds a health concern: persistence, bioaccumulation, and toxicity. That distinction is what the evidence actually supports.

- **Sources:**

- *Alligare Flumigard SC SDS* (EPA Reg. No. 81927-78) and *ProcellaCOR EC SDS* (confirming rapid photodegradation, lack of environmental persistence, and chemical structures entirely distinct from toxic industrial PFAS).

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4. The Right Tool for the Job: Why We Can't Just "Mow" the Lake

When looking for ways to clean up the lake, it is completely natural to ask: why not just use mechanical weed harvesters or sediment enzymes instead of chemicals? The honest answer is that we do look at those options, but they simply aren't the right tools for this specific job. For example, mechanical harvesting machines (like the Eco Harvester) act like giant underwater lawnmowers. While that sounds great, invasive weeds like Eurasian Milfoil reproduce through "fragmentation." When cut, they scatter into thousands of tiny pieces. If even one tiny fragment drifts away, it sinks to the bottom, takes root, and starts a brand-new weed patch. Mowing actually acts like a weed-spreading machine, making the infestation much worse. Similarly, sediment enzymes and beneficial bacteria are great for slowly digesting the muck at the very bottom of the lake, but they cannot kill or impede fast-growing, rooted weeds. True ecological care means using a "toolbox" approach: we use precise, targeted treatments to stop the aggressive invaders where they are thickest, and we reserve non-chemical methods for where those methods can actually succeed.

- **Sources:**

- *MassDEP Joint Agency Weed Management Guide* (documenting the fragmentation reproduction of milfoil and limitations of standalone biological additives).
- *SOLitude Lake Management Technical Review* (detailing mechanical harvesting outcomes in high-infestation milfoil lakes).

5. Improving Watershed Protection: We All Agree!

Critics of the limited, focused herbicide treatments have stressed the need to improve conditions in the broader Lake Maspenock watershed to eliminate, or at least reduce, the conditions that lead to invasive weed growth in the first place. We heartily agree! In fact, the Hopkinton Conservation Commission and the Select Board have repeatedly made it clear that their support for targeted herbicide treatments is directly tied to our groups showing active planning and progress on watershed health.

While we cannot change the physical conditions of the lake itself (for example, the shallow, sediment-rich waters of the North Basin are naturally conducive to heavy weed growth) we are working aggressively throughout the watershed to tackle the root causes. Through mass mailings, our community website, and our annual public meetings, we are actively educating and organizing residents around these vital initiatives:

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- **Eco-Friendly Lawn Practices:** Educating shoreline residents on switching to phosphorus-free fertilizers, keeping blown leaves, grass clippings, and dog and goose poop out of the lake water, and maintaining natural plant "buffer zones" to naturally filter runoff before it reaches the lake.
- **Septic System Inspections:** Encouraging regular maintenance and inspection of septic systems to prevent nutrient-rich wastewater from leaking into the groundwater.
- **The Adopt-a-Drain Program:** Partnering with community stewards to monitor, clear, and report clogged storm drains and local feeder streams to stop muddy runoff and organic debris from building up in the lake.
- **The Boat Ramp Monitor Program:** To prevent brand-new invasive species from hitchhiking into our lake, the community officially approved and funded a trained, volunteer-led boat inspection program to check watercraft for weed fragments prior to launching.
- **Winter Drawdowns:** Continually evaluating and utilizing natural, non-chemical methods, like managing winter lake water levels to freeze out shallow weed root systems, as part of our multi-pronged management approach.

Working together, with consideration and appropriate use of all the tools in our the toolbox, we can maintain and improve the health of the lake. True ecological stewardship doesn't stop at the water's edge, it begins in our backyards, on our streets, and at our boat ramps. By combining responsible, targeted weed management with daily, mindful watershed protection, every resident of Hopkinton plays a direct role in keeping Lake Maspenock a vibrant, thriving resource we can all enjoy.