



HOP BROOK PROTECTION ASSOCIATION

Restoring and Preserving Sudbury's Ponds

Box 707, Sudbury, MA 01776

Supplementary Information for Sudbury Conservation Commission

February 4th, 2020

Greetings. As requested, we are providing the following information and documentation:

- 1) As per Joe Onorato from SOLitude, for a one-surface acre of treatment they mix:
 - 50 gallons water
 - 1 gallon Clearcast (Imazamox) herbicide
 - 1 quart Cidekick Surfactant (info sheet attached)
- 2) A letter from Vincent J. Roy, Executive Director of the Sudbury Water District, confirming that our plans will not affect the water supply (copy attached, original mailed directly to Lori).
- 3) Discussion of how HBPA may handle milfoil if it becomes an issue after treatment (attached).

Please contact me if any further information is needed.

A handwritten signature in black ink, appearing to read "Jeff Winston". The signature is written in a cursive, somewhat stylized font.

Jeff Winston, President
Hop Brook Protection Association



Sudbury
Water District

199 RAYMOND ROAD | P.O. BOX 111

SUDBURY, MASSACHUSETTS 01776

p 978-443-6602 | f 978-443-9587 | e customerservice@sudburywater.com | w sudburywater.com

February 1, 2020

Lore Capone, Sudbury Conservation Commission
DPW Building
275 Old Lancaster Road
Sudbury, MA 01776

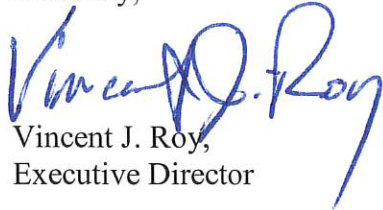
RE: Herbicide Treatment Grist Mill, Carding Mill, and Stearns Mill Ponds.

Dear Ms. Capone,

I have reviewed the submitted Notice of Intent (NOI) for the Herbicide Treatment of Grist Mill, Carding Mill and Stearns Mill Ponds, along with the responses to your questions from the 12/23/2019 memo. I have also reviewed the material safety data sheets (MSDS) regarding the chemicals to be used for treatment at these sites. I am satisfied that the proposed herbicide treatment as described by Solitude Lake Management will not effect ground water quality of the wells located downstream, near Pratts Mill Road.

Please call me if you have any question regarding this matter.

Sincerely,



Vincent J. Roy,
Executive Director

EXECUTIVE DIRECTOR

Vincent J. Roy

199 Raymond Road • PO Box 111 • Sudbury, MA 01776

T: 978.443.6602 • F: 974.443.9587



CIDE-KICK II.... Specimen Label

SPRAY ADJUVANT FOR PESTICIDES

Ingredients

Active Ingredient: d'limonene, related isomers, and emulsifiers.....100%
Inert Ingredients:.....0%
Total:.....100%

Cide-Kick II is a wetting agent, sticker, activator, and penetrant all in one. Cide-Kick II is a byproduct of the forest industry, low viscosity oil. Cide-Kick II helps break down the waxy cuticle on the leaf surface and helps penetrate the bud and bark area (of the woody brush), allowing a more effective uptake of the herbicide. Cide-Kick II is compatible with most terrestrial and aquatic herbicides, insecticides, and other pesticides.

CAUTION

Do not take internally. Avoid skin contact. May cause skin and eye irritation. Keep out of the reach of children.

ANTIDOTE

If swallowed: Do not induce vomiting. Get medical attention. In case of skin contact, flush thoroughly with water.

CHARACTERISTICS

Flash point is 155 deg. F. Combustible. The use of Cide-Kick II in concentrated form or in dilutions of 10% or more could cause defoliation or burn to vegetation. Weather conditions may have an effect on the amount of herbicides necessary. Warm, sunny days require less; cool and cloudy days require more. Cide-Kick II Is Non-corrosive to metal and chemical resistant hose; in continued use it is detrimental to rubber and plastic. Surfactants in Cide-Kick II are exempt from the requirements of tolerance under Title 40, CFR, 180.1001 (d).

DIRECTIONS FOR USE

Utility rights of way and roadside foliar: high volume ground application 1-2 quarts per 100 gallons. Low volume ground and aerial application 1 pint-2 quarts per 100 acre. Forest site preparation: high volume ground application 1-2 quarts per 100 gallons. Low volume ground and aerial application 1-2 quarts per acre. Aquatic-surface: high volume ground application 1 pint-2 quarts per 100 gallons. Low volume ground and aerial application 1 pint-2 quarts per acre. Aquatic-submerged: high volume ground application 1-2 gallons per 100 gallons or acre. Low volume ground and aerial application 1-2 gallons per acre. Agriculture/citrus/turf: high volume ground application 1-2 pints per 100 gallons. Low volume ground and aerial application 1-2 pints per acre. Cide-Kick II can be used with insecticides, fungicides, growth regulators and biostimulants at various rates as determined by label and field experience.

CONDITIONS FOR SALE

We warrant that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth on the label when used according to directions under normal use conditions. There are no other warranties, whether expressed or implied, including a warranty of fitness for a particular purpose. This warranty does not extend to the handling or use of this product contrary to label instructions or under abnormal conditions not reasonably foreseeable to seller, and buyer assumes all risk of any such use.

MANUFACTURED BY



Brewer International. PO Box 690037, Vero Beach, FL 32969-0037
(772)562-0555, (800)228-1833

Eurasian Milfoil – strategies for controlling this invasive plant

Eurasian watermilfoil (*Myriophyllum spicatum*) is a submerged, rooted plant that grows for most of the year. It has long stems and fine leaves near the surface, small flowers that rise above the surface, but reproduces primarily by dispersion of fragments. It can take root in water as deep as 20 feet. The leaves and upper stems die each year, but the roots remain viable over the winter if they do not freeze. It was brought to the US in the early 1900s, and has spread to 45 states. Just a few plants can lead to a major lake infestation within 2 years, preventing swimming or boating, and reducing water quality. Although some waterfowl eat this plant, it's not a preferred part of their diet. There are other milfoil species native to the US, but they do not create a monoculture infestation like this species.

HBPA is aware that a milfoil invasion is a possible outcome of our current plan to treat water chestnut with Clearcast, and we are committed to creating a plan that insures that the milfoil is properly managed, should it become problematic, so that the project does not result in the replacement of one invasive for another.

Hop Brook Protection Association's plan will include annual pre- and post- vegetation mapping, focused on not only on the effectiveness of water chestnut treatment, but also on locating and quantifying milfoil and any other invasive species, noting population locations and densities within each pond. Based on this effort, HBPA will consult with our vendor and the town Conservation Coordinator to form a plan that will likely include one or more of the following options, which we identified by our review of experience in similar ponds in Massachusetts and New York:

- Draw-downs have been used successfully to manage milfoil infestation in eastern Massachusetts (for ex., Bare Hill Pond in Harvard, Cedar Lake in Sturbridge). Drawdowns are most effective if done regularly in the winter, but only when particular circumstances (below-freezing weather with no snow cover) occur. We know that the dams for at least Grist Mill Pond and Stearns Mill Pond are equipped to permit draw-down.

Draw-down effectiveness for milfoil increases as the amount of water remaining in the pond after the drawdown is decreased. This method also has the advantage of gradually washing shoreline sediment into deeper parts of the pond, thus reducing nutrients available for weed growth near the shoreline. If water levels are reduced gradually, this results in less disruption of aquatic wildlife, but there are potential concerns about fish habitat so consultation with MA Fish and Wildlife would be necessary (although our ponds are so eutrophic this may be less of a concern).

- Hand harvesting – The most effective approach uses a diver who can remove the plant at its base. This approach would be infeasible for a large infestation, but can be effective for small remaining stands (< 400 plants/ acre) of milfoil after a more systemic effort, or to eliminate milfoil from a specific small area (such as a beach). Some hand harvesting was used by Natick to control small areas of milfoil in several of the Cochituate ponds.
- Herbicides are an option used successfully by several Towns to control milfoil, especially in ponds with designated swimming areas. For example, Natick used Diquat to control milfoil in Lake Cochituate in 2015, with good results, no negative impact on native plant species, and no

appearance of the chemical in nearby town wells. A similar approach was recommended for DelCarte Ponds in Franklin.

Clearcast (instilled in the water column) is also effective to control milfoil, but only at higher concentrations which are quite costly. Most users seek to transition from herbicides to selective hand-pulling and other methods after 2-3 years, although some towns have used spot treatments with chemicals to control small recurrent milfoil infestations.

HBPA would consider herbicides only if other approaches (hand-pulling, draw-downs, etc.) were considered inadequate (for example, if the populations were not small enough for hand-harvesting to be accomplished easily and/or if populations are found to be too extensive to manage manually). In that event the HBPA would seek an Amendment to their existing Order of Conditions to control milfoil before its population became unmanageable.

For completeness, less popular techniques of controlling milfoil are listed briefly below.

- Dredging an entire pond is quite costly, but partial dredging could be a solution to create a small weed-free area. Removing the layer of organic sediment by itself creates an environment that is much less likely to support milfoil growth. Excavation after a significant reduction in water level is a much less costly approach to achieving the same result.
- Milfoil weevils are a native species, whose larvae eat into milfoil stems and leaves, causing them to sink to the bottom and die. They do not appear to harm native species. Stocking lakes with weevils has had variable results in controlling milfoil. Effectiveness is reduced with lack of natural shoreline overwintering sites (matted leaves), high levels of fish predation (especially from sunfish), and deeper lakes. Weevil stocking can be expensive, with inconsistent results, and therefore it is still regarded as experimental by most funding agencies.
- Herbivorous fish – Grass carp have been used to reduce milfoil infestations, and can be effective. Sterile fish are introduced to insure that they do not reproduce and threaten native species. They can grow quite large (up to 4 feet) and live for up to 10 years. We believe that they may be currently prohibited in Massachusetts.

Hydro-raking and mechanical harvesting are not recommended for milfoil, as either approach disperses plant pieces in the water that spread the infestation to a larger area, and milfoil regrows rapidly. For example, in Lake Buel (Monterey, MA), a harvester was able to temporarily remove milfoil growth to a depth of 5 feet, but by the summer the plants had regrown to cover the surface within 3 weeks after harvesting. Other towns have used this approach to clear swimming areas, but find that regrowth in successive years is the same or greater. Monterey experimented with a hydro-raking approach (harvesting milfoil down to the lake bottom to remove the roots) and planting native species after milfoil removal, with some success in shallow areas.