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SEVEN REASONS TO AVOID HERBICIDES IN GLENMERE LAKE

Howard Horowitz

The Village of Florida has taken the first steps towards an expensive project to repeatedly apply an herbicide into its public water supply, Glenmere Lake, to control the weed Eurasian watermilfoil. The herbicide, Fluridone (brand name SONAR), has been withdrawn from all uses in the European Union since 2003, as part of their decision to more fully utilize the Precautionary Principle in public policy. In our own regulatory system, pesticide approval is too often routine, despite legitimate scientific concerns, information gaps, and the availability of effective alternatives. In particular, public drinking water supplies, such as Glenmere Lake and Greenwood Lake, should be held to a higher standard of protection than other lakes and ponds.

Here are seven reasons why the people of Florida and their elected representatives should instead seriously examine the effective non-toxic alternatives.

- 1) The herbicide fluridone (SONAR) has harmful breakdown products, including one (n-methyl-formamide, or NMF) which is known to cause cancer. There are many uncertainties about NMF; in the EPA's own words, "environmental fate data for NMF are not available". The science is too complex to debate in this short letter, but suffice to say this is exactly the kind of situation where the Precautionary Principle should apply. Local government officials have never been told anything about these issues. They, and the public, have been reassured by their consultant (the applicator) that it is safe. Pesticide registration is not a guarantee of safety. In fact, as I learned when I worked for the EPA's Office of Pesticide Programs from 1979-81, it is actually not legal for EPA employees to claim that registration assures safety.
- 2) The herbicide fluridone can persist in lake sediments for years. After a single season's treatment of Long Lake, Washington (one of the only operational projects with long-term follow-up monitoring), about 25% of the herbicide residues measured after treatment in 1991 were still present in the bottom sediment when the monitoring ended in 1995, four years later. They did not test the sediments for NMF or other breakdown products.
- 3) The herbicide fluridone is highly mobile in the water column, and has been known to migrate far from the point of application. In one EPA field study that was done in a Florida lake, measurable levels of the herbicide entered a drinking water intake located 6 miles away from the treatment site, 14 days after treatment. In order to kill watermilfoil, fluridone must remain in the water for 30-90 days, so unless the drinking water is shut down for months, some herbicide residue will enter the system. The EPA recognizes that such residues will be there, but concludes that they are below "no effect" levels. Many scientists doubt the validity of "risk assessment" models used to generate those supposed levels.

4) Herbicide residues entering drinking water intakes can create new kinds of risk, because the chlorine used for water treatment can react with the residues to create new hazardous organic compounds. Once again, the EPA's own regulatory document admits that this and other "synergistic effects" are a data gap. Having cited it as an "uncertainty", it is then excluded from further consideration in the risk analysis

5) Herbicides do not address the causes of the weed problem. They require frequent re-treatment, and the killed vegetation simply decays in the lake which in turn causes more nutrient overload, and reduces dissolved oxygen in the bottom habitat zone. Fluridone is not very selective, so beneficial plants are likely be damaged as well as target weed species. Cornell scientists visited Glenmere Lake last summer with the Orange County Water Authority, and made various management recommendations. They included better hydrologic information, sedimentation controls and septic improvements. Herbicides were never mentioned in their report.

6) A growing variety of more effective alternatives are becoming available. They include manual methods, mechanical methods and biological methods, and they can be used in combination. Both Upper Saranac Lake in New York and Lake Dunmore in Vermont had remarkable success with a skilled summer work force of manual weed pullers, and these results are well documented. Lake Cochituate in Massachusetts decided to try SolarBee, a solar-powered device that circulates water horizontally to reduce algae and weeds, and otherwise enhances water quality. Many lakes have purchased *Euhrychiopsis* weevils, a native insect that feeds on watermilfoil. They are commercially produced by a company named Envirosiences inc., in conjunction with scientists at Middlebury College in Vermont. Each of these milfoil management alternatives, and there are others, is non-toxic and provides long-term benefits.

7) Over 90% of the water samples tested by the US Geological Survey around the United States have pesticides residues in them, as do over 90% of all fish tissue samples. These water samples also reveal the presence of many other man-made chemicals, including pharmaceutical drugs, and some of these chemicals may trigger hormone disorders even in very low doses. We all carry traces of them in our own bodies, where they may (or may not) do us harm. This should sound a clarion call for the Precautionary Principle, which intends to reduce over-use of such hazardous substances. Herbicides such as Roundup are known to be lethal to frogs, and the lack of thorough amphibian studies is one fluridone's data gaps. That alone should be sufficient reason to avoid using SONAR in Glenmere Lake, which supports critical frog populations.

I strongly urge to citizens of Florida to learn more about these matters. Recognize that questionable decisions can be made when consultants and herbicide applicators are one and the same, and are closely intertwined with state regulators and government officials. We need independent information to make wiser decisions. \$96,000 can buy weed management that would be more effective and safer than putting herbicides into public drinking water.