

THE NEED FOR A COMPREHENSIVE SURFACE WATER ORGANIC CONTAMINANT MONITORING STRATEGY IN VERMONT

Prepared by Nat Shambaugh*

February 12, 2017

The recent findings by the Vermont Agency of Agriculture (VAAFM) of neonicotinoid insecticides (neonics) in our agricultural streams at levels potentially toxic to aquatic organisms are symptoms of a much larger issue in Vermont: we have very little knowledge concerning which pesticides or other organic contaminants are being used in Vermont, the level at which they are present in our surface waters, or their effects on aquatic plants and animals. In addition to findings of pesticides in our waters, recent research by VTDEC, UVM, and USGS has confirmed that hormones, pharmaceuticals and personal care products are being released into the surface waters of Vermont. Many of these toxic chemicals are currently unregulated in our surface waters and are termed “Organic Contaminants of Emerging Concern” (OCECs) by researchers.

A systematic statewide effort is necessary to determine which of these unregulated contaminants are of most concern, how best to minimize their presence, and how to effectively monitor our environment to ensure there is no environmental harm. The first step in this process must be the development of a database of consumer use of pesticides and pharmaceuticals in Vermont. Without knowing the quantity and general location of use of these OCECs it is not cost effective to develop an OCEC minimization and monitoring strategy. The goal would be to develop a coherent, cost-effective strategy for minimizing their release into our surface waters as well as monitor our lakes, ponds, streams, rivers, wastewater treatment and drinking water facilities to ensure we are not putting the people, animals, and plants of Vermont at risk. A joint VAAFM/VTANR committee, with the help of other interested parties, should be tasked with developing a comprehensive strategy to assess OCEC pollution in the surface waters of Vermont.

The Vermont DEC conducts widespread surface water monitoring in Vermont for nutrients, metals, and other inorganic chemicals. In addition, the VTDEC has undertaken periodic testing of Wastewater Treatment Facility effluent for estrogen and other potential endocrine disrupters. UVM and the USGS have undertaken similar short-term studies, all finding that OCECs are entering our waters at least sporadically. Each study has tested for different combinations of chemicals and come to different conclusions. This makes it impossible to determine what if any OCECs are in our waters at levels of concern to the aquatic plants and animals of our state.

The VAAFM collects commercial pesticide use information annually, but consumer use of pesticides is unknown. Currently, the VAAFM relies on short term targeted projects to investigate pesticide surface water issues such as golf course and railroad runoff. Surface water monitoring for corn herbicides such as Atrazine is being de-emphasized, and the discovery of neonics in our waters was only discovered ancillary to work developing the methodology for neonicotinoid testing in bee pollen requested by the legislature. There have been no recent efforts to investigate pesticides in our surface waters from urban pesticide use.

With the merger between the Vermont Agency of Agriculture Lab and the Vermont Dept. of Environmental Conservation Lab to form The Vermont Agriculture and Environmental Laboratory (VAEL), the capability exists within state government to undertake a coordinated surface water monitoring program, integrating all current organic, inorganic and nutrients efforts into a coherent whole, without overlap and using existing resources. The following is a conceptualization of a bill creating a “Surface Water Protection Committee” charged with developing a coordinated surface water monitoring strategy and sources of funding.

*recently retired from the Vermont Agency of Agriculture with 30+ years as a pesticide chemist. For more information please refer to the report to the Lake Champlain Basin Program: ***Organic Contaminants of Emerging Concern in the Lake Champlain Basin: A review of Current Knowledge, 2016.***

It is hereby enacted by the General Assembly of the State of Vermont

Sec. 1. Surface Water Protection Committee; Report

(a) Creation: There is created a Surface Water Protection Committee to:

- (i) Evaluate the causes and occurrences of organic contaminants of emerging concern such as pesticides, pharmaceuticals and personal care products
- (ii) Evaluate possible means to developing a database of consumer sales of pesticide and pharmaceutical products
- (iii) Recommend measures the State can adopt to minimize the entrance of organic contaminants of emerging concern into the State's surface waters
- (iv) Recommend measures the state can adopt to integrate all surface water monitoring efforts for toxics into a coherent, prioritized strategy.

(b) Membership: The membership of the Committee shall be composed of the following members:

- 1 Secretary of Agency of Natural Resources or designee
- 2 Secretary of Agriculture, Food and Markets or designee
- 3 Individual knowledgeable in aquatic insect biology
- 4 Individual knowledgeable in fish biology
- 5 University researcher knowledgeable in environmental chemistry, toxicology or other relevant area.
- 6 Individual knowledgeable in drinking water issues.
- 7 Individual knowledgeable in wastewater treatment issues
- 8 Angler
- 9 Environmental advocate
- 10 Director of Vermont Agriculture and Environmental Lab or designee

(c) Powers and duties. The Surface Water Protection Committee shall:

- (i) Evaluate the status and efficacy of current surface water monitoring for toxics in Vermont and identify gaps in current knowledge
 - (ii) Evaluate the current threats posed by pollution from organic contaminants
 - (iii) Propose a reporting system for consumer sales of pesticides and pharmaceuticals
 - (iii) Identify components of a coordinated strategic plan for monitoring and addressing organic contaminants of emerging concern and integrating with existing surface water monitoring, and management efforts.
 - (iv) Recommend remedial action and preventive action standards to maintain surface water quality and to protect aquatic life
 - (v) Identify a source of funding for development and implementation of the strategic plan
 - (vi) On or before 12/31/17 The Surface Water Protection Committee shall submit a written report to the House Natural Resources, Fish and Wildlife Committee.
-
-