

Evaluating the Success of Ontario's Cosmetics Pesticides Ban Preliminary Results - 2008-2009 Urban Stream Water Quality Study

On April 22, 2009, Ontario's ban on the sale and use of cosmetic pesticides took effect. It was expected that reducing the sale and use of pesticides for cosmetic purposes would result in lower concentrations of the banned pesticides in Ontario's urban streams.

In this first year of the ban, environment ministry staff focused on ensuring the public, retailers and lawn care companies understand the new rules. Inspections show that companies are complying with the ban. Approximately eighty per cent of the 341 retailers and lawn care companies inspected by the ministry were in compliance. The ministry is following up on all instances of non-compliance to ensure they are now complying with the ban.

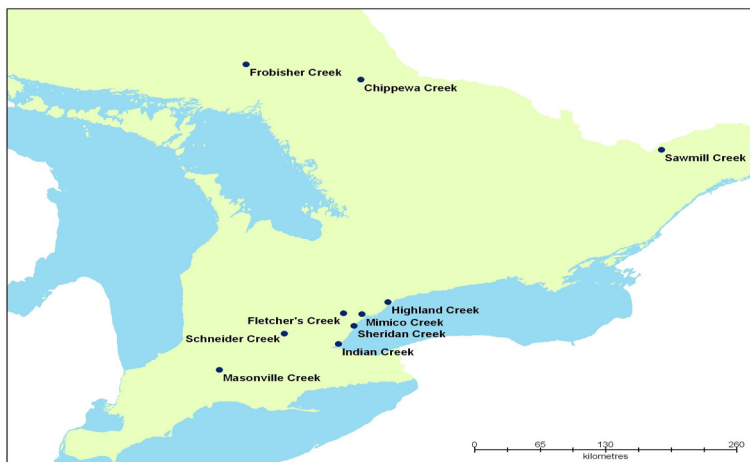
In 2008 and 2009, the ministry and five conservation authorities monitored pesticides concentrations in streams in urban areas, using existing stream monitoring activities and partnerships under the Provincial (Stream) Water Quality Monitoring Network (PWQMN). One purpose was to see if the ban resulted in lower pesticides concentrations in stream water.

Stream Sampling Sites

Selection criteria for watersheds included:

- High proportion of urban/residential land cover
- No point sources (e.g. sewage treatment plants)
- Limited agriculture
- No golf courses (with a few exceptions)

Map of Sites



Sampling and Analysis

- 168 stream water samples were collected in the summers of 2008 and 2009, representing the periods before and after the implementation of the cosmetic pesticides ban.
- Samples were analyzed for as many as 105 pesticides and degradates (pesticides in the environment break down into other chemicals called “degradates”).
- The samples were analyzed by an independent laboratory.

Preliminary Results

Preliminary results show a significant drop in concentrations of 86, 82 and 78 per cent in three pesticides commonly used in lawn care products.¹ Previous estimates indicate that these three herbicides accounted for over half the total amount of pesticides used by lawn care companies in Ontario.

Concentrations of some pesticides did not change. Other pesticides commonly detected in urban stream water include glyphosate (trade name Roundup) and carbaryl. Glyphosate is used to kill weeds and vegetation in urban and agricultural settings. Carbaryl is used to control pests on lawns and gardens and agricultural crops, and to control fleas on household pets.

Concentrations of glyphosate in urban stream water did not change before and after the ban. While cosmetic uses of glyphosate were prohibited under the ban, certain uses for health and safety purposes were permitted such as controlling poisonous plants. Pesticide products containing glyphosate were still commercially available after the ban took effect. The ongoing availability and use of glyphosate was likely the reason that concentrations did not change.

Over 20 pesticides products containing carbaryl were banned under the cosmetic pesticides ban. Average carbaryl concentrations in urban stream water decreased following the ban; however, the difference before and after the ban was not statistically significant.

¹ 2,4-D dropped by 86 per cent; dicamba by 82 per cent and MCPP (2-methyl-4-chlorophenoxyacetic acid) by 78 per cent.