2020

Surface Water Pesticide Monitoring Updates

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Environmental Surveillance Program

Overview

- Ambient Surface Water Study (ASWS)
  - Lake Carmi Study

ASWS Objective

To establish baseline levels and monitor for the presence of neonicotinoids, glyphosate, corn herbicides and their breakdown products, and nitrate in Lake Champlain and its contributing tributaries

ASWS History

- 2014 – 3 samples (NW)
- 2015 – 22 samples (NW)
- 2016 – 22 samples (NW)
- 2017 – 38 samples statewide
- 2018 – 112 samples statewide
- 2019 – 181 samples statewide
- 2020 – 126 samples to date
- **TOTAL = 504 SAMPLES**

ASWS Methods

Sample surface waters in agricultural use areas around Vermont

27 current sites (33 total historic)

6-8 samplers

8 visits per site per year (Agency) plus post-rain event sampling (DEC)

3 sample bottles per site

Results: Takeaways

Glyphosate/AMPA = 0 detections at DL 10 µg/L (418 samples, 12 counties)

Neonics = 8 sites with sample results ≥DL of 0.05 µg/L but all samples were well below EPA Aquatic Life Benchmarks

Metolachlor ESA is the most common finding:

- 77% of samples ≥DL of 0.05 µg/L
- Detected at 25/30 sites
- Range, 0.05–14.5 µg/L (ALB, >54,000 µg/L)

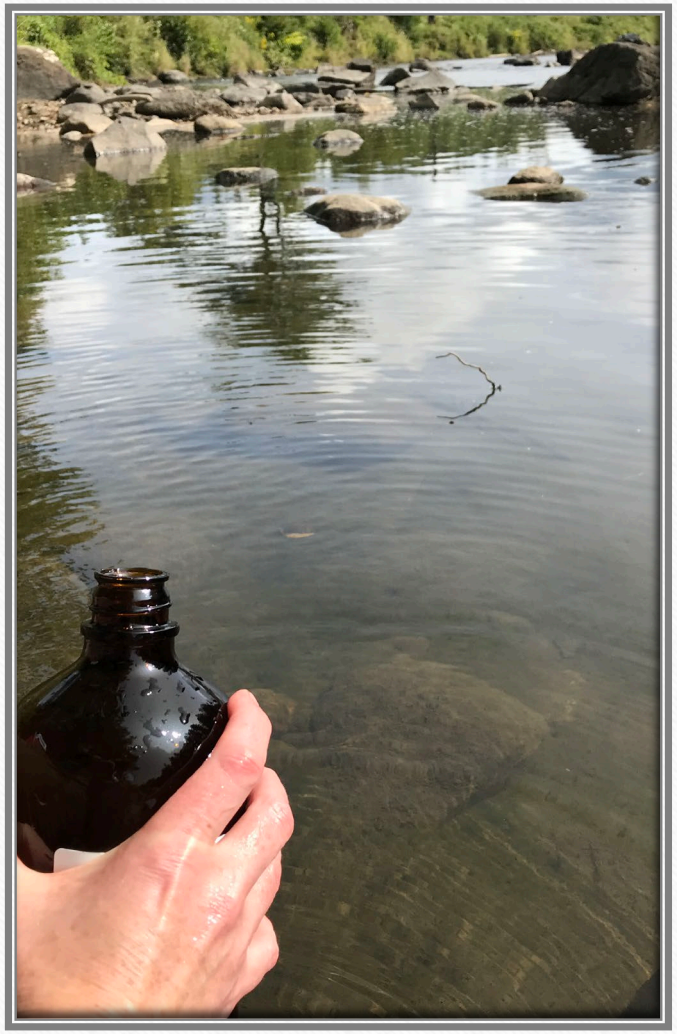
Franklin County has by far the most detections of all analytes

Nitrate = 99% of samples were ≤10 ppm (EPA's MCL, no ALB)

Parent compounds

- Atrazine and metolachlor detected most frequently
- No compound approached strictest ALB applied

No implications for any chronic exposure



Lake Carmi Study

Summer/fall of 2020

Surface water/groundwater study to improve lake quality (50 sites)

Focused on phosphorus

Piggybacking pesticide study

Franklin County is most impacted, so this is a perfect opportunity to intensify our research there

Questions?

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