

# Measuring Contaminants of Emerging Concern in Illinois

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## Introduction

- Quantification of pesticides in Illinois watershed

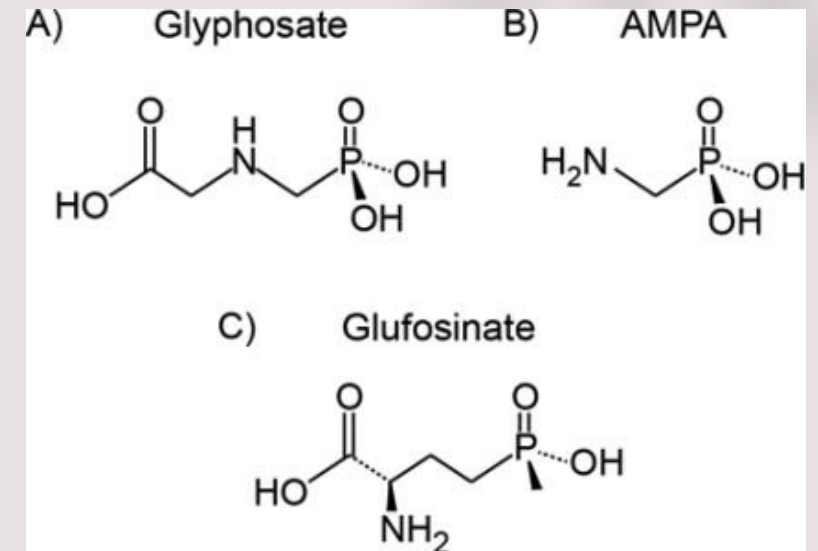


Figure 1: Molecular structures of analytes of interest.

# Methods

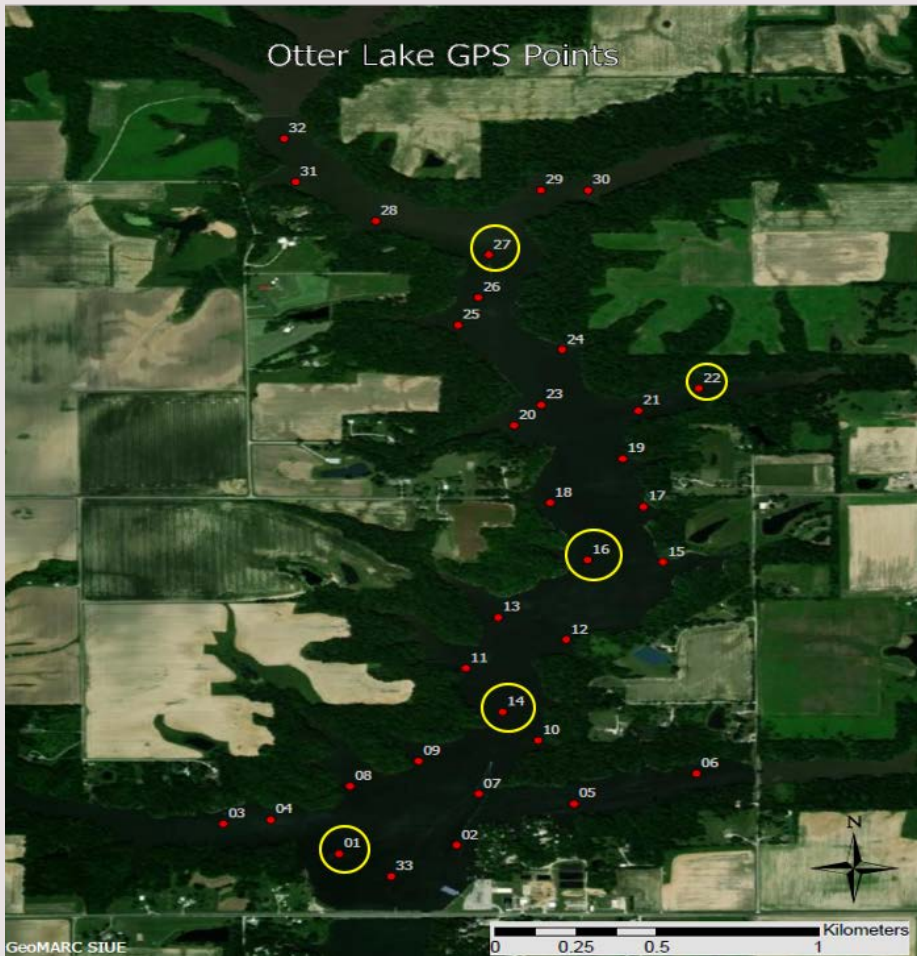


Figure 2: GPS image of watershed, with the 5 sites of interest highlighted.

- Samples taken from 5 sites on the lake
- Followed modified methodology of pesticide analysis<sup>1</sup>
- LC/MS/MS analysis

1. Miho Kawashima<sup>1</sup>, Kota Ishioka, Manami Kobayashi, Junichi Masuda. *Direct Analysis of Glyphosate, Glufosinate and AMPA in Foods Using a Triple Quadrupole LC/MS/MS.*

# Results

- Glufosinate not quantified
- Glyphosate most prevalent in South
- Average glyphosate concentration above chronic danger standard<sup>2</sup>

## 2. Derived Criteria – Standards

<https://www2.illinois.gov/epa/topics/water-quality/standards/Pages/derived-criteria.aspx> (accessed Apr 20, 2021).

**Table 1. Concentrations of Pesticides Quantified from LCMS data.**

Site #	[AMPA] (ppb)	[Glyphosate] (ppb)
1A	---	526.6
1B	---	231.87
1C	---	138.05
14A	---	103.99
14B	51.52	95.64
14C	50.08	96.16
16A	---	89.94
16B	68.41	83.48
23A	65.14	---
23B	65.92	---
23C	47.36	87.19
27A	58.25	---
27B	56.02	86.56
Average	57.8375	153.948