Volunteer Road Salt Monitoring: A Pilot Project in the Elk River Chain of Lakes Watershed

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The Watershed Center

The Issue

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FRONTIERS IN ECOLOGY

REPRANCE ARTICLE | BIOLOGICAL DEIGNICES



Increased salinization of fresh water in the

RISING SALINITY IN THE GREAT LAKES REGION: ECOLOGICAL AND REGULATORY PERSPECTIVES



Tributary chloride loading into Lake Michigan

Hilary A. Dugan 🐼 Linnea A. Rock, Anthony D. Kendall, Robert J. Mooney

First published: 15 December 2021 | https://doi.org/10.1002/lol2.10228 | G



Journal of Great Lakes Research William 46, 11 and L. February 2022, Pages 24-36



Groundwater as a source and pathway for road salt contamination of surface water in the Lake Ontario Basin: A review



Project Background

- Conversed w/ other VRSM programs
- Pitched idea to local funder
- Designed program & authored protocols
- Recruited & trained volunteers



Monitoring Parameters





Monitoring Timeline

	Jan	Feb	Mar	April	Мау	June	July	Aug	Sept	Oct	Nov	Dec
Conductivity Monitoring	Routine monthly monitoring + trigger monitoring 1x/month					Routine monthly monitoring						tine othly toring + ger toring oonth
Chloride Monitoring	3 Grab Samples collected at same time conductivity is measured											



Monitoring Sites





Initial Findings

Specific Conductance vs Chloride

- Chloride low in ERCOL
- SC →265-568 μS/cm
- Cl → 5-15 mg/L





Initial Findings

Mean Chloride by Event Type





Final Thoughts & Next Steps

- Appropriate for volunteers
- Help establish other
 programs
- Pulses are likely shortlived
- ERCOL in 5 years?
- Mitchell Creek watershed?
- Kids Creek watershed?



THANK YOU TO

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