



November 2022 Big Picture

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Road salt brings safety, but also water quality concerns

De-icing salt is critical to keeping roadways safe and passable during the thick of winter, but improved efficiency is needed to reduce effects on water quality.

TMACOG's Stormwater Coalition is working with the University of Toledo and Partners for Clean Streams to find and share ways for communities and companies that apply road salt to do so with less of an impact on the environment.

The three partners hosted a workshop for public works and road maintenance staff October 20 at Mott Branch Library, where speakers explained some of the finer points of managing salt use. Attendees brainstormed potential policies and best practices to make progress in northwest Ohio and southeast Michigan.



Road crews are tasked with keeping roadways passable and must weigh public safety and expectations with environmental concerns. Practices like calibrating and replacing equipment can help effectively guide salt use, as shown successfully in other snowy regions.

Bill Hintz has studied the issue and characterizes road salt as absolutely necessary, reducing winter automobile crashes between 78 and 87 percent. Keeping the roads clear is also important for commercial and economic reasons.

“There’s no ifs, ands, or buts about it,” said Hintz, an assistant professor in the University of Toledo’s Department of Environmental Sciences and Lake Erie Center.



“You’re keeping people safe. That’s a critically important job. So how do we balance the ecological impacts with this?”

Salt applied to roadways makes its way into streams, where it has impacted the types and size of fish that live in the region’s interconnected waterways.

“Take your table salt, pour it in your glass of water, and when that dissolves, that’s basically what we’re doing on a massive, global scale, from a variety of different sources,” including agriculture, mining, and impacts from climate change, in addition to road salts, Hintz said.

Collaboration has been a successful model for change in Wisconsin, which deals with the same core issues while managing higher levels of snowfall. Allison Madison, who coordinates the Wisconsin Salt Wise partnership, shared strategies and takeaways from work taking place further north that can be helpful in the Toledo region.

Motivated in part by rising salt prices and the costly issues it causes for infrastructure, vehicles, and the environment, cities in Wisconsin began to look critically at how much salt they were using and how they were using it. Being more efficient with salt isn’t only environmentally responsible; it comes with significant financial benefits, Madison pointed out.



In one example from the City of Cudahy, located near Milwaukee, properly calibrating salt-spreading equipment reduced one truck's salt use from 850 pounds to 300 pounds. Until they checked, their workers didn't know their equipment was applying much more than they thought, or was even useful. Coupled with training and an increased use of brine, a liquid de-icer that can often be used in place of rock salt, this resulted in a nearly 70 percent reduction in salt use and \$97,000 worth of cost savings in 2020, Madison explained.

Public communication is also an important factor because it can manage residents' expectations. The goal of road salt, after all, isn't to melt all of the snow that falls, but break it up so it can be moved off the roadway by plows.

Following the two presentations, the group divided into smaller breakout sessions before reporting back to the full attendance to close the workshop. Attendees from all levels of public maintenance departments shared and discussed ideas, including potentially seeking grant funding for equipment upgrades.

"This is what we need," Hintz said earlier. "We need applicators, managers, scientists, everyone working together to address this problem."

This workshop was funded through a Great Lakes Restoration Initiative - Maumee AOC Aquatic Habitat Restoration Grant from the United States Environmental Protection Agency through an assistance agreement with the Ohio Environmental Protection Agency.

Click [here](#) to review Madison's presentation slides; you can learn more from [Wisconsin Salt Wise](#).

For more information on research into the impact of road salt on water quality, contact Eric Kostecky, TMACOG water quality planner: kostecky@tmacog.org

