

TWIN CITIES METRO AREA CHLORIDE MANAGEMENT PLAN PROJECT

10th Annual Road Salt Symposium

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Minnesota Pollution Control Agency
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Feasibility Study Overview (Phase 1)

- Gain a better understanding of the extent and magnitude of chloride contamination to surface waters in the 7 county Twin Cities Metropolitan Area (TCMA)
- Included extensive data analysis, a literature review, a telephone survey, and analysis of potential strategies for further research, public education, and potential regulation
- Multi-agency team consisted of MPCA, MnDOT, MCES, BWSR, U of M SAFL, and Wenck Associates
- Completed in December of 2009

Phase 1 - Recommendations

□ Management Approach

- ▣ Create and manage a statewide database of road salt and alternative products used in Minnesota
- ▣ Create policies/regulations that reduce chloride delivery to waterbodies in sensitive areas such as reducing speeds during snow/ice events
- ▣ Financial incentives could be made more generally available to assist road authorities and private applicators with adopting BMPs

Phase 1 - Recommendations

□ Total Maximum Daily Load Approach

▣ Metro-wide Chloride TMDL

- Pro – cost effective and fair
- Con – limited data for traditional TMDL

□ Regulatory Approach

▣ Include mandatory chloride-reduction BMPs in the next state NPDES MS4 General Permit

- Specific stockpile management strategies
- Compile and report application of chloride-based de-icers and alternative materials

Chloride Management Plan Development (Phase 2)

- A combination of all 3 strategies from feasibility study
- Detailed Stakeholder process developed for Phase 2
- 2010 - 2014



Phase 2 – Project Goals

- Develop chloride management plan:
 - satisfy EPA requirements for impaired waters (TMDL)
 - address waters not yet listed
 - develop a protection strategy for waters that are currently meeting the water quality standard
- Develop implementation plan:
 - layout plan for reducing chloride loads to:
 - meet TMDL requirements
 - prevent waters from exceeding standard
 - protect high quality waters
 - identify high priority areas to target implementation activities
- Layout monitoring plan to:
 - track effectiveness of practices
 - determine long-term trends in chloride

Phase 2 - Current Activities

- Project website developed
- Stakeholder groups populated (except Implementation group)
- Project work plan has been developed
- Monitoring started in Nov. 2010
- Draft chloride monitoring guidance has been developed



Phase 2 – Next Steps

- Begin working with consultants to complete work plan tasks
- Review & analyze monitoring data
- Work with Outreach & Education Committee to develop a “toolbox” of broad outreach materials that can be utilized by local partners and road authorities
- Continue to populate stakeholder groups – specifically Implementation teams

Project Information

<http://www.pca.state.mn.us/water/tmdl/project-chloride-metro>

TMDL Special Projects

IN THIS SECTION

► Twin Cities Metropolitan Area Chloride Project

Environmental concerns about chloride

Meetings and events: Metro Area Chloride Project

Phase 1 Summary: Metro Area Chloride Project

Phase 2 Overview: Metro Area Chloride Project

Metropolitan Area Chloride Project

RELATED TOPICS

Lake Superior Basin

Lower Mississippi River Basin

Minnesota River Basin

Missouri and Des Moines River Basins

Rainy River Basin

Red River Basin

Twin Cities Metropolitan Area Chloride Project

Winters in Minnesota bring about the season of slippery roads and the application of de-icing materials to keep our roads free from ice. Road salt is the most commonly used de-icer, which contains chloride. The chloride in road salt enters our surface waters, groundwater and soils after a snowmelt.



This page will inform you on the MPCA's activities, efforts, status, and impacts of chloride in our waters.

Why is chloride an environmental concern?

Chloride is a conservative ion (meaning it moves with water without being broken down or lost). Once the chloride is introduced to water, the only known available technology for its removal is reverse osmosis. This means that chloride will continue to accumulate in the environment. Learn more about chloride [environmental concerns](#).

Project History

The MPCA is leading a project that will allow us to address the water quality problems caused by chloride in the TCMA in a proactive and efficient way. In the first phase of this project the MPCA hired a consultant to conduct a feasibility study to obtain a better understanding of the extent, magnitude, and causes of chloride contamination to surface waters in the seven county TCMA, and to explore options and strategies for addressing chloride impairments and other impacts to water resources. The project included:

- extensive data collection and analysis,
- a literature review,
- a telephone survey, and
- analysis of potential strategies for further research, public education, and potential regulation.

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SEE ALSO

- South Fork Crow River Lakes - Excess Nutrients: TMDL Project
- Underway TMDL: North Fork Crow River, Rice Lake - Excess Nutrients
- Bluff Creek - Turbidity and Fish Biota: TMDL Project
- Redwood River - Fecal Coliform: TMDL Project

RECENT

New

- Phase 2 Overview: Metro Area Chloride Project
- Phase 1 Summary: Metro Area Chloride Project
- Meetings and events: Metro Area Chloride Project

What Can You Do?



Participate in our Stakeholder process

Share your ideas and challenges for reducing road salt use

Spread the word about road salt trainings

THANK YOU!



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<http://www.pca.state.mn.us/water/tmdl/project-chloride-metro>