

TCMA Chloride Project – Phase 2

IAT meeting

November 16, 2010 1-3pm

MPCA #RM 2-A Conserve

Agenda

- Review previous meetings notes (3/17/10) – 10 minutes, Brooke Asleson
- Overview of stakeholder process & role of the IAT in phase 2 – 10 minutes, Brooke Asleson
- Timeline & Funding of project – 5 minutes, Brooke Asleson
- Chloride monitoring update – 35 minutes, Brooke Asleson & Kelly O'Hara
- Work Plan review & discussion – 60 minutes, team
- Next meeting (TBD ~ Spring 2011)

TCMA Chloride Project IAT Meeting – meeting notes

November 16, 2010

1. Attendees: John Hensel, Judy Sventek, Jennifer Anthony, Brooke Asleson, Marcey Westrick, Cathy Jensen, Doug Wetzstein, Jack Frost, Kent Johnson, Anna Kerr, Kelly O'Hara, Sherry Kroening, Nick Tiedeken, Mark Fischbach, Beth Neuendorf, Andy Ronchak
2. Summary of previous meeting:
 - a. Stakeholder Involvement:
 - i. Fact sheet for Feasibility study is now on the project website.
 - ii. Gave update at MS4 meeting (phase 1 results), road salt symposium (phase 1 results), MnDOT Hydraulics Workshop (phase 1 results & scope of phase 2).
 - iii. Poster at WRC. Good discussion and very fruitful event from the project's perspective.
 - iv. Any other events or opportunities for outreach let Brooke know!
 - v. After work plan is complete we will develop a fact sheet for Phase 2 & post on the project website for your use.
 - b. Phase 2 Objectives:
 - i. Monitoring guidance document is in development with focus so far on lakes. We are planning on getting a draft prepared for the Streams by Jan./Feb. This will be used by all the local partners who are collecting samples for this project and will be the basis for the long-term monitoring plan & guidance that will be distributed to the entire TCMA once it is final.
 - ii. Road salt application rates are being addressed through the project. A task has been added to validate or refine the private application rates information. In this project we will solicit application rate information from all public applicators.
 - iii. Restoration & Protection Plan (now called Management plan) discussion from the last meeting was used to develop draft work plan.
3. Review of Stakeholder Process diagram and member lists (located on project page).
 - a. TAC-Consider adding all MS4 contacts because they have a vested interest in how this will impact them. The goal was to keep the TAC to a small working group with

representatives from all of the vested stakeholder groups, there is representation from MnDOT, WMOs/WDs, and Cities, and we were unable to get a willing county rep on the TAC. Anna & Beth will contact the MS4 contact with Hennepin County. There will be meetings & other outreach activities to communicate with all the MS4s in the TCMA. We did make sure to get a representative from each geographic area that has current chloride impairments, however we expect this list to expand as the project collects additional data. All MS4s impacted by a WLA will have opportunities to engage in the process.

- b. Monitoring sub group has grown as interested local partners have volunteered to assist us with the data collection for the waters in their jurisdictions. The members of this group are those who are conducting the monitoring that will be used for this project.
 - c. Outreach group- plan for now is to find events & meetings to give us an opportunity to talk about the project. Need to add APWA (talk to Tom Struve). There is also the option to host a large TCMA Chloride meeting (1-2) specifically to discuss this project.
 - d. Implementation plan committee has not been formed yet, but will start being formed once we have the consultants in place to assist with this.
 - e. An education/outreach committee is being added to the project to assist with the task of pulling together existing education information and creating a chloride toolbox for local partners to utilize, this group need to be added to the project stakeholder process diagram.
4. Timing and funding. Plan to have the workplan finalized in the next 1-2 months. Then get a consultant get involved (one from the master contract, and we are also hoping for a single source contract with Fortin consulting for their particular expertise in road salt application education). The project is expected to go through 2014, which will require requesting funding from multiple fiscal years. There will be one overall project workplan that will need to be broken up into fiscal years with 2 separate contracts.
5. Monitoring update-monitoring is not part of the work plan because it is being done internally and by partners. Draft guidance has been created for the lake monitoring. Once all info is finalized, we will pull together a final monitoring plan for the project that will be posted on the project website. This plan will include the QA plan for the project as well as the locations of monitoring.
- a. Lakes-2010 fall samples have been taken. Going out 4 times per year. Surface water, deep water sample, and profile conductivity. Making sure we are consistent with data collection (QA/QC). Once finalized, the lakes selected will be mapped and posted on the project website. Good mix of location and types of lakes. Can modify data collection

methods if needed after we evaluate data from this first year of monitoring. Suggested adding a column for county name to current lake site information spreadsheet.

- b. Streams-still working out details. Don't have sampling guidance drafted at this time, but the plan is to use the Met Councils QA plan as the sampling protocol. The focus is on collecting event based grab samples over the winter months at existing flow stations. This will be in addition to other continuous samples that are already being collected (primarily by Met Council). Add Sharon to the list to review and provide comments on guidance for stream monitoring.

6. Work plan: TAC has reviewed and comments on work plan. Changes have been incorporated.

IAT comments on draft workplan:

- a. Page 3: general comment that we don't discount sodium.
- b. Task 1: Targeted Chloride Monitoring - monitoring is not part of work plan budget, so there are limited details in the work plan. A separate monitoring plan will be created.
- c. Task 2: Update existing data compilation with recent data - look at existing data as well as pull in new data and information that was not in STORET during the Feasibility Study data compilation. Looking for other opportunities to collect existing chloride data from local partners who may not submit their data to MPCA on a routine basis.
 - i. Page 4, 4th bullet is not part of the feasibility study, but rather is the standard.
 - ii. Page 5-Project summary- Brooke will be having conversations with EPA on what they are willing to accept and work with us on. Brooke is also talking with Assessment Folks on assessing/streamlining the metro on a metro wide basis for chloride (on a 10 yr schedule).
 - iii. Page 6, remove reference to STORET as we are changing to EQUIS.
- d. Task 3: Categorize & define waterbodies for protection and restoration - page 6, this is where we sort out impaired waters using all the data we have collected plus existing data in STORET/EQUIS.
 - i. #1, 2, 3 are non-impaired-what does sufficient data mean? Need a clarification.
 - ii. Change "priority" to "high-risk". What parameters/criteria is that based on?
 - iii. Define "all waters".
 - iv. Do we want our protection numbers to be as rigorous as our WLAs? How do we prioritize?

- e. Task 4: Develop target concentrations for non-impaired waters - be consistent with anti-degradation.
- f. Task 5: Source Identification – will work with consultant to expand on how they would do this task.
 - i. Define where ‘sub-watersheds’ are.
 - ii. What are the timeframes?
 - iii. How do the numbers vary from year to year depending on large events?
- g. Task 6: Modeling and Analysis – this will mostly be based on feasibility study work. Will work with consultant to determine if it is reasonable or if a different approach is necessary. Will also determine how to address lakes.
- h. Task 7: Develop education/outreach materials - this is a new task based on feedback from the TAC. The plan is to develop a tool box of general info to be used by local partners.
 - i. Tap into Shingle Creek and Nine Mile experience.
 - ii. Planning to use MPCA staff on this task with assistance from the Outreach team that will be pulled together for this task.
 - iii. Expansion would be to do an economic evaluation on how much can be saved by reducing road salt.
 - iv. Local government officials are not hearing the message that is getting put out there.
 - v. U of M is a good case study in retrofitting success story.
- i. Task 8: Write draft & final TCMA Chloride Management Plan - no comments.
- j. Task 9: Write draft & final Implementation Plan & long-term monitoring plan – The implementation plan itself will be populated by the Implementation Plan Committee, hopefully facilitated by Fortin Consulting. We will target road salt applicators.
 - i. Bullet 3, clarify that it is treated for chloride, not other impairments.
 - ii. Provide enough info and detail for the contract, but leave enough room for the Implementation Plan Committee to not be locked into specifics.

- iii. Add a bullet to develop a long term monitoring plan-what type of data do we need to make informed decisions in the future? Future BMP implementation activities.
- 7. Additional comments on the work plan are due to Brooke by Nov 19.
- 8. We are planning to have the consultants on board to fill in specific details in December sometime. Once a final work plan is complete that will be sent to everyone for final review.

Metro Chloride Project Team Meeting Notes

Team Members Present: Barb Loida, Judy Sventek, Brooke Asleson, Sharon Kroening, Nick Proulx, Pam Anderson, Kelly O'Hara, Dana Vanderbosch, Kent Johnson, Barb Peichel, Cathy Jensen, Phil Monson, Joel Chirhart, Glenn Skuta, Marcey Westrick, Anna Kerr, Nick Tiedeken, Denise Leezer, John Hensel

1. Review results of Feasibility Study

Assume folks reviewed the final Chloride Feasibility Study (particularly Section 5) – posted at <http://www.pca.state.mn.us/programs/roadsalt.html>, Brooke handed out a print-out of a presentation that summarized Phase 1 of this project, highlights discussed were:

- Not much winter chloride stream data
- Chloride levels higher in deeper portions of lakes
- Not much wetland/groundwater data
- Lakes had a good chloride/conductivity relationship
- Literature review – good to have all this information in one place – not much lake biota research, additives that contain cyanide could be a problem
- Survey – found out what some folks are using for snow/ice control and what is prohibiting their actions to reduce road salt use
- We may be able to target certain watersheds for monitoring/implementation based on road salt application rates (based on road salt purchases) and/or road density because these were both good predictors of chloride concentrations
- Section 5 of the report listed monitoring/research priorities and strategies for implementation (management/TMDL/regulatory) – we will likely use a combination of these three approaches as we move forward

General questions on the Phase 1 Chloride Feasibility Study

- Do we have funding for Phase 2? Yes, but we aren't sure how much yet.
- The report is still confusing as written as far as how the chloride standard is applied. The chronic standard of 230 mg/L is shown as an exceedance of the standard in the report, but this is supposed to be a 4-day average, right? Actually, MPCA's application of the water quality standard is that two or more exceedances (of individual samples) of the chronic standard in three years is considered impaired (we do not require 4 days of sampling in a row) - <http://www.pca.state.mn.us/publications/wq-iw1-04.pdf>. We agree that we should clarify this language in future reports.
- Also, when we explain the data/charts in the report that refer to road salt application rates, we need to clarify that these are not actual road salt application rates, that this data is based on road salt purchase records. We need to move in the direction where we are actually tracking real application rates in some sort of database/system.

Stakeholder involvement (disseminate feasibility study results)

First, we need to let folks know about the Chloride Feasibility Report.

- We likely need a 1-page factsheet summarizing the project that can be sent to folks with a link to where the report is posted on the website
- Ideas – present at MN Association of Watershed Districts, contact the League of MN Cities and MN Cities Stormwater Coalition and have them forward it to their list serves, also need to include Counties and non-traditional MS4s (i.e. Universities), could use the Mn/DOT State Aid distribution list – this goes to city and county engineers and public works staff (they also have a meeting every March if we wanted to present information to this group), there is a Public Works meeting every fall, Leslie Stovring from Eden Prairie has a Metro Area coordinators group (<http://www.metrowater.org/>) that could be notified – or we could present at one of their monthly meetings, MPCA convenes a MS4 stakeholder group for

stormwater at least annually that could be informed (*next meeting is May 11*), we could hold our own stakeholder meeting, and/or Judy S. has a list of watershed contacts that if we had a 1-pager we could pass that along to her.

Stakeholder involvement (next phase)

- How do we want stakeholders involved in this phase? It would be helpful to have them involved in the development phase instead of just the review stage.
- Public education should include a discussion of safety & people's expectations of snow/ice removal on roads.
- The Stormwater UMN (<http://www.extension.umn.edu/stormwater/>) Program has 1/2 day sessions that could cover this topic.
- Freshwater Society is doing a Channel 11 news spot so we could have this topic covered next fall.
- Early buy-in from stakeholders would be helpful – you could ask them what type of involvement they want in the project. We need to tell them what we want from them up front so they know whether or not to be involved.
- Some of the stakeholders seem more technical – we could get advice from them on technical issues.
- Who is the primary audience? Public and private road salt applicators, cities (public works and water resources staff), watershed groups, non-traditional MS4s, and property owners.
- What is it we want them to do? We want them to adopt Best Management Practices to reduce road salt use and improve water quality.
- It would be helpful to have stakeholders involved in the monitoring design so they have ownership about the results.

Phase 2 funding & timeline

- We are hoping to develop a work plan over the next few months (aiming for Jul/Aug 2010 start date) for Phase 2. We expect to have between \$100-250K for this Phase of the project. It is Clean Water Amendment funding and the work plan/contract could extend until June 30, 2013.

Discuss Phase 2 objectives

Brooke passed out a handout of draft objectives for Phase 2.

- Develop a chloride monitoring guidance document (gaps, protocols for winter monitoring, types of lakes and streams to target)
 - Phil and Pam are working on a separate guidance document for MPCA for using the chloride water quality standards for listing lakes on our 303(d) list of impaired waters – we will likely plan to start listing lakes in 2011.
 - Met Council has a Stream Quality Assurance Plan that provides guidance - [http://www.metrocouncil.org/environment/RiversLakes/streams/Stream%20Monitoring%20QAP P_Final.pdf](http://www.metrocouncil.org/environment/RiversLakes/streams/Stream%20Monitoring%20QAP%20Final.pdf)
 - Met Council could consider adding chloride to their volunteer monitoring, but they would have to change their monitoring design (currently it is surface samples only for TP, chl-a, and secchi) and train volunteers – would have to figure out if just surface samples would be adequate or not
 - We should involve USGS (i.e. James Fallon) on our team for Phase 2 as they have conducted chloride sampling too.
 - We need to add groundwater and wetland monitoring to this guidance document too.
 - For wetlands, MPCA has developed relationships between plant data and chloride concentrations. The wetland monitoring schedule is in flux right now so we could maybe add some Metro wetland sites that MPCA staff could monitor. We could also work with our wetland volunteers (these are city and county staff and they actually pick their own wetlands to monitor) to collect some chloride samples.
 - For groundwater sampling, Sherri has SOPs that could be used – probably we just want to provide information for shallow well sampling. MPCA is currently targeting sand/gravel aquifers in urban areas so we could target groundwater sampling near those areas.

- Mn/DOT and other MS4s are required to put in infiltration areas, but we are concerned about chloride (for example large projects in Capitol Region and Shoreview) getting into groundwater areas or wellhead protection areas. We need to know more about this. Maybe pursue this idea as part of a separate research grant.
- Is the purpose of monitoring focused on understanding the drivers and where chloride is going in the environment or is it to list more impaired waters? We are more interesting in understanding the problem right now. Is MPCA listing wetlands right now on the impaired waters list? No, but we are establishing trends (and wetlands can be listed as impaired and included in TMDLs if they are hydrologically connected to other impaired surface waters).
- Road salt application tracking for public and private applicators (this may be more of a long-term project and separate funding)
 - We should at least start the discussion of what this system would look like and how we could get applicators to buy-in to using it
 - It is hard to make conclusions about this type of data because of all the caveats that applicators have about the information
 - We need to pursue getting information from private applicators too
 - Would be good to involve Mn/DOT's Salt Solutions staff (Kathleen Schaefer) - <http://www.dot.state.mn.us/maintenance/training.html>, Connie Fortin, UMN Stormwater Extension Group, and LRRB (Local Road Research Board)
 - We should pursue the existing certification programs for both public and private applicators (particular on state property)
- Developing a Metro Chloride Restoration and Protection Plan
 - This could help us track over time where we are with water quality and reductions in road salt use and chloride levels
 - We may need to revisit this document every 5-10 years
 - This document should help us focus on high priority areas and be primarily be organized around watersheds (WDs/WMOs)
 - We already have criteria for priority areas – road density/road salt application, impervious cover, water chemistry – we should focus monitoring and implementation in these areas first.
 - This could be for lakes, streams, wetlands, and groundwater.
 - The general idea is that we could estimate chloride loadings for each watershed (scale still to be determined) – to get existing chloride loadings as a baseline.
 - For waterbodies listed on the impaired waters, we would have a TMDL equation, for waterbodies/watersheds without known impaired waters, we could generate “target loads and/or target goals and/or target reductions”.
 - What if we don't have enough data for allocations? These targets would be more at a coarse level and we wouldn't have separate allocations as we would for TMDLs.
 - It may be that it is difficult to put these target loadings together without more data – this seems like we are jumping ahead too fast.
 - It would be impossible to conduct enough monitoring with current resources to develop allocations for all the Metro waters, but it would be helpful for this report to help us know what the general trends/concentrations/loads are so we can target both BMPs and long-term monitoring activities. Also, the funding is through 2013 so we can conduct some targeting monitoring to help us ground-truth our assumptions.
 - The main goal is for this plan to have enough information in it that we can start reducing road salt use and chloride concentrations in surface waters of the Metro.
 - For other watersheds, we are on a 10-year monitoring cycle so it might make sense to move ahead with the information we have as far as listing and then assess/list more waters in 10 years and revisit this plan.
 - Who would approve this Plan? EPA for the TMDL sections and MPCA. We would hope that it count for BWSR funding (but some entities such as Mn/DOT and Universities may not be eligible for funding so would have to work with other local partners).
 - The idea is that we would only have one document.

- Could folks put BMP ideas in their Watershed Management Plan? They could, but the purpose of this plan is that all the information is in one place.
 - We should add all funding opportunities/grants in this Plan.
- We are also looking for opportunities for agencies to conduct some of the projects themselves. For example, we could develop a chloride monitoring guidance document for partners without spending of the project funding. We could also figure out ways to change our own and partner monitoring activities to better address the gaps in the report.
 - Surface Water Assessment Grants (MPCA) – we could maybe target chloride in this next round
- MPCA is also in the process of developing a pre-proposal for internal review for the LCCMR (Legislative Citizen Commission on Minnesota Resources) funding round. If we decide to move it forward and if it was funded, it would supplement Phase 2 of this project and focus on monitoring, BMP effectiveness, and training. Please let us know if you would be interested in being a partner in this project. The funding would start in July 2011.

Next Steps

- Disseminate information about the Phase 1 Chloride Feasibility Study
- Revise Phase 2 Work Plan ideas (develop a Work Plan for June/July)
- Start getting a stakeholder group together
- Work on the Monitoring Guidance document