

WSSC Water's 2019 Salt Summit

October 21, 2019

Meeting Summary

Participants

Center for Watershed Protection: Carol Wong

City of Rockville: Steve Sokal, Susan Straus

Maryland Department of Environment: Michele Crawford, Tim Fox, John Grace, Alex McNamee, Greg Sandi, Rebecca Warns

Maryland State Highway Administration: Paul Richardson

Howard County Government: Christine Lowe, Bert Nixon, Susan Overstreet, Radhika Wijetunge

Montgomery County Government: Richard Dorsey, Jeff Knutsen, Amy Stevens,

M-NCPPC: Mark Symborski

MWCOG: Steve Bieber, Lisa Ragain

University of Maryland: Sujay Kaushal

WSSC Water: Guy Andes, Clarence Beverhoudt, Bob Buglass, Nicole Horvath, Monica Marcquina, I-Hsin McConnell, Matt Mirenyi, Steve Nelson, Jay Price, Jin Shin, Robert Trimble

Action items

1. **Lisa Ragain will distribute a survey to determine what agencies are doing to monitor salt related pollution, as well as determine what monitoring data exist for the salt management efforts in northern Virginia.**
2. **Lisa Ragain will determine how the northern Virginia process for collaborating to manage salt is structured to serve as a local example.**
3. **Lisa Ragain will determine when the northern Virginia salt management survey will be distributed to the public.**
4. **The group decided to form smaller working groups (Public Outreach, Monitoring, Management/Policy) to plan next steps prior to convening another Summit. No details were discussed on how to accomplish this goal.**

Group discussion of policy options to address source water quality

- Many attendees agreed that managing salt use is a difficult challenge.
- Local jurisdictions are looking to the State for regulation and training of the private sector.
- From a DOT perspective, we should consider not only the tons of salt applied, but the number of accidents prevented during snow events.
- Paul Richardson commented that MD SHA is trying to change the public perception about their current clear roads policy. The original intent was to have clear roads four hours after an event, but currently, the public demands passable roads very soon after the snow event stops.

1. Initial challenge to managing salt is to change public's expectation from bare/clean roads to passable roads that would require less salt applied.
 2. Another challenge to managing salt is to change public expectation of driving at 'normal' speeds to lower, safer speeds during winter storm events.
 3. Improved technology will assist with tracking salt applied.
- BMPs discussed
 1. Brine application
 - Several drawbacks exist with direct liquid applications (DLA) on a large scale, although that would likely reduce the solid salt applications. The application equipment is expensive and large amounts of water are required to make sufficient quantities of brine.
 - [Clear Roads](#) (a national research consortium focused on testing of winter maintenance, materials, equipment and methods) is experimenting with using treated wastewater rather than potable water to make the brine. Although the SHA would consider using treated wastewater for making brine, the SHA is not using it currently. It is unknown if the MDE would allow this activity.
 2. Applying different BMPs (e.g., reduced salt application) in "water supply protection areas" or other environmentally sensitive areas. This has been implemented in Massachusetts [within the Quabbin Reservoir Watershed].
 - SHA/MDE Triadelphia Watershed Pilot Study Update
 1. One objective of this study is to determine if differences exist between brine-only routes and standard routes.
 2. About 10 data [conductivity] loggers were deployed for this study.
 3. Results from the initial winter season of this pilot study are not yet available.
 4. *Brine Only* Signs were installed along State routes to inform salt truck drivers of the pilot study boundary. Brine only is a goal, but not a reality yet.
 5. The pilot will continue for a second season, and a similar study is being conducted within the Liberty Reservoir watershed.
 - Northern VA Salt Management efforts
 1. All of the regional water utilities participated.
 2. Initiative began with Fairfax Water informing the VA DEQ of elevated levels of sodium and chloride.
 3. Group momentum continues because they examined overall policy issues initially, then divided the issues by area due to complexity of the problem. Also, they broke down the issues and met consistently. They also began with the 'low hanging fruit.'
 - Patuxent Reservoirs Watershed Protection Group efforts
 1. The Technical Advisory Committee recently informed the Policy Board of increasing sodium and chloride concentrations in the reservoirs and recommended that the Board convene an interagency working group to create a Salt Management Plan.
 - Developing a sustained effort to manage salt for both of WSSC Water's drinking water sources.
 1. A separate working group will likely be needed to address the unique, but similar challenges for each drinking water source.
 2. The [Northern VA Salt Management Strategy](#) may benefit both efforts.

3. Patuxent Reservoirs– although there is an existing inter-agency partnership formed, there has been little progress partly due to the advisory nature of the Technical Advisory Committee; outside agencies (e.g., DOTs) will need to be involved.
4. Potomac River– a question of scale needs to be answered (i.e., river basin scale, or a subwatershed scale such as Watts Branch Watershed); [Note: there has been some effort to manage salts within the Potomac River Basin via the [Drinking Water Source Protection Partnership](#)]

Group discussion of monitoring options and strategies, and data needs

- Sujay Kaushal presented monitoring options and strategies
 1. The challenge to manage salt in the environment goes well beyond merely managing road salt applications. Freshwater Salinization Syndrome is a term used to describe the overall challenge to water quality.
 2. There are many unintended consequences of applying road salts to the environment including damage to transportation infrastructure and the impacts to receiving waters.
 - Salts can mobilize many other elements including nitrogen, calcium, copper, magnesium, phosphorus and radium, among others.
 3. Several important factors should be considered to choose the most effective BMPs (e.g., rock formation).
 4. One commonly used surrogate for chloride concentrations is specific conductance.
 5. He offered to partner with agencies on salt-related research projects.
- Monitoring objectives should include selecting priority areas, especially in the much larger Potomac R. Watershed. Given that the Patuxent Reservoirs' is a relatively small watershed with mainly two county governments involved, it could serve as a candidate for (another) pilot study in the future.
- The solution to managing salts in the environment will require a long-term effort to successfully address this source water protection concern, similar to Chesapeake Bay clean-up efforts.
- Another important data type needed concerns the public beliefs, behavior, and perceptions concerning road salt and winter storm events.
 1. Lisa Ragain mentioned the possibility of applying the Northern VA survey (yet to be completed) to this region.
 2. There are existing efforts from the watershed groups (e.g., Izaak Walton League's Winter Salt Watch efforts)
 3. Upcoming *H2O Summit*, sponsored by Montgomery County, brings together watershed groups and citizen scientists. Salt management is on this year's agenda.
- County NPDES MS4 Stormwater Permits
 1. One future permit requirement is to install conductivity data loggers for chloride monitoring at two locations. For Montgomery County, it may be possible to select locations within these drinking water source watersheds to install a logger(s). To estimate chloride loads, a suggestion was offered to also measure stream flow, or use nearby flow data (USGS stream flow monitoring stations). Opportunities exist

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for partnering to leverage limited staff time and funding (e.g., University of MD graduate students).

- Bert Nixon reported that the Howard County Health Dept is collecting water quality samples during well testing for analysis of various constituents by Virginia Tech. This is part of an MGS study of chloride concentrations in the Maryland Piedmont funded by MDE.
- Other important entities that should be invited to future Summits include: the USGS, County Parks Departments (including Frederick Co.), MD DNR, Howard County DPW Highways, Public schools, Community Colleges, Emergency Services, the City of Gaithersburg, Federal agencies with campuses within the watersheds, and the Apartment & Office Building Association of Metro Washington.
- Given that Montgomery County has a large population with more than 5,000 miles of roads, Richard Dorsey (MCDOT) suggested another meeting within the county to bring together many of the stakeholders.
- City ordinances may conflict with efforts to manage salt use within City limits.
- There was consensus to break into smaller working groups (public outreach, monitoring, management/policy) to plan how to make progress before convening another Summit.