

Salt Management Strategy (SaMS)

2nd Salt Tracking and Reporting Workgroup Meeting

April 16, 2019

The second meeting of the Salt Tracking and Reporting Workgroup for the Salt Management Strategy (SaMS) was held from 9:30 am – 12:00 pm on April 16, 2019 at the Northern Virginia Regional Commission (3040 Williams Dr., Suite 200, Fairfax, Virginia).

Attendance

Sixteen (16) individuals, including two Virginia Department of Environmental Quality (DEQ) staff members and one staff member from the Interstate Commission on the Potomac River Basin (ICPRB; DEQ's contractual support), participated in the meeting. One participant joined the meeting via teleconference.

Nicki Bellezza, Fairfax Water[†]
Heidi Bonnafon, MWCOG[†]
John Burke, Fairfax County
Dave Evans, DEQ*
Jeremy Hassan, Arlington County
Herb Holmes, City of Alexandria
Marty Hurd, Fairfax County
Neely Law, Center for Watershed Protection
Dave Lincoln, Friends of Accotink Creek[†]

Heidi Moltz, ICPRB*
Jonathan Murray, Fairfax County
Merrily Pierce, McLean Citizens Association
Robert Prezioso, VDOT
Niffy Saji, Fairfax Water
Sarah Sivers, DEQ*
Greg Waters, Snow and Ice Mgmt Co.

*Facilitator

[†]Participated via teleconference

[†]Non-member of the Salt Tracking and Reporting Workgroup

Meeting Highlights

At this meeting, the workgroup members followed-up on action items from the first meeting, considered what final workgroup recommendations may look like, and discussed workgroup member participation in the upcoming Stakeholder Advisory Committee and Steering Committee meetings. The main take-aways from this meeting include:

- There are questions about the end use of the reported data and concerns for the quality of the data because of equipment changes, storm differences, and full deployment operations limit ability to measure/document product use. Comparing amount of product used over time and across geographic locations may not indicate whether efficiencies were realized. Tracking BMP implementation may be more objective than product use.
- Reporting that is practical and supports operations will be the most accepted type of recommended tracking. Coarse level reporting, such as using BMP “Yes/No” checkboxes, seasonal product use totals and minimal additional information was seen as an appropriate starting point. Also, developing a winter season storm summary at the Northern Virginia (NoVA) regional scale is a way to reduce documentation requested from each operation.

- Salt is used to achieve designated levels of service (LOS), which are defined differently for public and private entities. Public agencies commonly define LOS by treatment plans and response time, while private companies have a liability risk approach to their LOS.
- The identified priority components of a draft tracking and reporting form are 1) measuring product use, 2) use of pre-treatment (i.e. pre-wetting product prior to application), and 3) use of BMPs to meet designated LOS.
- Workgroup members are requested to volunteer to present on the recommendations of this workgroup at the next Stakeholder Advisory Committee meeting on May 29th and participate in the Steering Committee.

Notes for/from Other Workgroups / Potential Areas of Overlap:

- Non-Traditional BMPs: This workgroup is looking into possible types of contracts for private applicators. Consider proposing a provision for documentation of winter maintenance activities, such as tracking and reporting salt application, as a way to help property managers and contractors defend against liability claims
- Non-Traditional BMPs: Consider recommending that a coarse set of reporting elements be considered as a component of being certified as a “preferred provider”. Engaging some large NoVA businesses, such as Wal-Mart and Wegmans, in discussions on contractor certification is also recommended.
- WQ Monitoring and Research: The minimum piece of information from voluntary tracking and reporting efforts that would benefit the efforts of this workgroup is how much product is used. It was noted by members of the Salt Tracking and Reporting Workgroup that reporting product use by watershed will be a very difficult challenge and is viewed as currently unrealistic.

Follow-up Action Items

DEQ requested volunteers to form a subgroup to participate in calls (likely two) to prepare workgroup recommendation proposals for discussion at the 3rd workgroup meeting. One call will be in early May to refine preliminary workgroup recommendations for presentation at the May 29 SAC meeting. In addition to refining “Coarse” to “Refined” tracking and reporting recommendations, the subgroup will also consider how its recommendations can document barriers to BMP implementation and ideas to overcome them.

Meeting Summary

Introductions

The meeting opened with brief introductory remarks from DEQ and a round of introductions by participants. The main objective for this meeting was to discuss potential preliminary recommendations from this workgroup.

DEQ also noted two administrative items:

- The 3rd SAC meeting is scheduled for May 29, 2019. DEQ asked for volunteers to present the developing recommendations for this workgroup to the SAC.
- DEQ asked for 1-2 volunteers to represent this workgroup on a Steering Committee that will review the final recommendations document.

The summary for the first Salt Tracking and Reporting Workgroup meeting highlights, workgroup action items, and notes from other workgroups is available [online](#). Discussion of the summary included the following additional thoughts raised at this meeting:

- Ways to incentivize voluntary tracking and reporting by public and private entities is a topic of discussion that will be addressed further at the 3rd workgroup meeting.
- DEQ mentioned a July 18 “Green Professionals” forum at American University as an opportunity to reach many winter service providers, and encouraged workgroup members to share information about other such outreach forums they may be aware of.

Action Item Presentations

Volunteers presented on the three items: Fairfax County and City of Fairfax operations, outreach to HOAs, and the MWCOG salt workshop.

Action Item: Fairfax County and City Operations (Marty Hurd and Dave Evans)

Marty Hurd summarized the level and type of tracking and reporting currently in place in Fairfax County. A memo detailing his findings is available [online](#). Current reporting is designed to support operations. The County has a board-approved snow plan and Standard Operating Procedures in place. The County continues to work to improve operations, and plans to modify its future (2020+) contractor requirements to support winter operation improvements.

Discussion

- A workgroup member asked how the amount of salt applied is reported. The response was, in general, salt amounts are reported per shift, and the County controls contractors/operators salt use.

Dave Evans briefly shared information on behalf of Christina Alexander (City of Fairfax). Christina tracked the City of Fairfax's winter operations during nine different storms. The City has fully incorporated the use of liquids for anti-icing purposes prior to the storm onset. Calibration was identified by her as a good next step for the City of Fairfax. Information was collected for product application during each 2018-19 storm based upon dry weight and volume of liquids used.

Discussion:

- The VDOT Northern District includes 19 operational areas throughout NoVA. Automated tracking of actual salt use is not currently available in this complex system. VDOT indicated they could probably identify annual totals at the end of each year, such as the total amount of salt that was applied over a total number of miles and storms, but more precise reporting is not currently feasible.
- Comment was offered that there may be only one State Department of Transportation (Iowa) in the nation that is currently able to track salt application down to individual trucks, because current technology limits tracking at that level of detail. Once newer tracking technology is in place, time for implementation will be needed.
- The ability to track and report will differ for small and large operations. For instance, while Arlington County and the City of Alexandria have loader scales, these can't always be utilized during large storms without negatively affecting operations. A minority of vehicles have automated reporting capabilities, but truck replacements occur over a 10 year timeframe for Arlington due to costs. These are among the key challenges for this group in developing tracking and reporting recommendations.

- The challenge with big loader scales is that these have to be cleared after each truck. During big snow events, there is not enough time to clear the scales after each truck due to logistics associated with meeting designated levels of service during these larger events.
- Most winter maintenance private contractors still use bagged salt, as very few have access to bulk salt (due to costs associated with delivery of bulk supply). As a means of controlling how much salt is applied, contractors could be provided by clients with the amount of salt needed based on target application rates and areas to be covered.
- Political/societal pressures and environmental considerations can be at odds with each other. Daytime shift operators sometimes use more salts than the night shift because during the day, the general public sees more of what's going on and are more likely to complain that not "enough" salt is applied. There is a need for public education.

Action Item: Outreach to HOAs (Dave Lincoln and Merrily Pierce)

Dave Lincoln updated the group on (general operational) BMPs recommended for HOAs by Community Associations Institute (CAI). The CAI BMP information does not currently include anything about reducing winter salt use. Instead, the winter maintenance practices are focused on reducing liability. The association is open to new BMPs and ideas in general. Dave attended the CIA DC Chapter Convention and interviewed winter maintenance providers. He found that the majority of them are using conventional methods, but those who are applying new technologies and products are proud of their efforts and the associated reduced costs. He suggested that DEQ/SaMS should present the final recommendations to this group once they are completed.

Discussion (Outreach to HOAs):

- Regarding Department of Defense (DOD) buildings, leased buildings are "a hard nut to crack" because decisions are up to the owners. For DOD-owned buildings, there is a mandate to make environmentally sound decisions, and DOD's contracts for winter maintenance could be a viable tool for fostering more BMP use.

Merrily Pierce investigated practices for five HOAs in McLean. They all used snowplowing only, no salt. The largest HOAs depend on VDOT because some, if not all, of the roads are public. She has also watched multiple organizations and their salt use. JPG Smith, a large real estate company, seems to have a wide suite of BMPs in place to minimize damage and clean up left over salt that includes sweeping up excess salt and washing off excess brine. It may be worth reaching out to them as a stakeholder and potential partner.

Action Item: MWCOG Workshop Summary (Heidi Bonnafon)

Ms. Bonnafon summarized the salt workshop held by MWCOG on April 1, 2019. She mentioned there were two tracks at the workshop, tracking/reporting and monitoring. Speakers included LimnoTech, Maryland State Highway Administration (MD SHA), and VDOT. Below summarizes her observations/take-aways from that workshop:

- In general, Virginia seems to be on track with others in the region and across the nation working to address impacts caused by salts.
- Minnesota (LimnoTech presentation) tracks operator certification and gross salt purchase data, and some local governments require operators to be certified. Minnesota uses an on-line reporting tool, which Ms. Bonnafon offered to look into further.

- Maryland's Snow College explains to operators why they should change their practices and how changes can help the environment. They noted that operators have been receptive to this information, and some informal "competition" has occurred to achieve salt reductions. MD State Highway Association practices include: using rubber or ceramic plow blades, tracking loader scales, emphasizing the use of brine, and redirecting winter operations cost savings to road maintenance. Maryland Department of Environment plans to require more MS4 reporting in permits.
- The DC DOEE discussed their efforts to provide clear application rate guidance at the workshop. Regional "common-core" training for operators was also discussed at the workshop.
- A MW-COG regional purchase contract for sidewalk products is already in place, and Montgomery County has a bulk salt purchase contract that is available to and used by many local governments. Both of these contracts have salt sales records available.

Idea Lightening Round

Workgroup members discussed ideas for developing recommendations including:

- There are questions about the end use of the reported data and concern for the quality of the data because of equipment changes, storm differences, and full deployment storm operations limit ability to track and report. Comparing amount of product used over time and across geographic locations may not indicate whether efficiencies were realized. Tracking BMP implementation may be more objective than product use.
- Tracking and reporting that is practical and supports operations will be best accepted for voluntary implementation.
- Ways to prevent misinterpretation and correctly summarize (or "roll-up") data from multiple organizations/entities should be identified.
- Stakeholders are already working to improve operations at spatial scales that are appropriate to them. There is concern that the Accotink TMDL Action Plan may present different requirements in that particular watershed.
- There is a need to determine how the end data will be used. The workgroup needs to be mindful of the possibility that data reported could be misconstrued/misinterpreted.
- Five types of recommendations were identified by one workgroup member: 1) quantify paved surfaces, 2) estimate salt use, 3) identify metrics for salt use and the location of applications, 4) communicate with contractors and operators, and 5) identify programs with information relevant to this workgroup like Izaak Walton League's "Salt Watch."
- A student at Virginia Commonwealth University is quantifying paved surfaces using geospatial analysis by USGS hydrologic unit code and jurisdictional boundaries. This analysis will be available at the next workgroup meeting, and will be summarized at the May 29th SAC meeting.
- One purpose of the BMP tracking and reporting form is to establish a baseline of what is occurring on the ground; however there are challenges to tracking and reporting due to the multiple variables in winter maintenance activities. As such, it is important to understand what the obstacles are and then evaluate how to overcome them. One approach is to list the BMPs, assess if they are currently achievable, and identify barriers to their use. Incentives can be considered to promote increased BMP use.
- Linking a core set of reporting elements to "preferred provider" designation for contractors should be considered, as well as engaging some large NoVA businesses, such as Wal-Mart and Wegmans.
- New Hampshire liability law was a result of actions taken by environmental stakeholders. The Snow and Ice Management Association (SIMA) is interested in having conversations with potentially interested NGO partners about pursuing similar legislation in Virginia. It was

acknowledged that as an Executive Branch agency, DEQ cannot participate in or have a position on any potential or proposed legislation.

- The Non-Traditional BMP Workgroup is looking into possible types of contracts for private applicators. If those contracts contained requirement for the applicator to document their winter maintenance activities, such as tracking and reporting salt application, it might help property managers and contractors defend against liability claims.

Recommendations Scoping

Sarah Sivers (DEQ) framed the recommendations scoping discussion by asking "what does salt tracking look like?" The ultimate goal is to encourage voluntary reporting. The [draft tracking and reporting form](#) is being developed as one means of encouraging voluntary reporting - so that stakeholders do not have to generate their own forms. DEQ sought feedback from the group on the most important categories of information to track and ideas of what might be considered "coarse" versus a "refined" level of detail for that information (which can be identified as Levels 1 – 3, with higher levels representing more detailed information for that category).

Discussion (Recommendations scoping):

- A proposal was put forward to use the following categories, and identify BMPs for each:
 - What - materials
 - When - storm size, type
 - Where – levels of service (LOS) and where salt was applied
 - How - how much total and rates applied
- One approach suggested is to develop salt budgets for specific sites. This involves targeting application rates appropriate for specific sites (for instance, based upon amount per acre for a parking lot) to determine product needs, and then see if that rate got the job done (achieved LOS goal).
- One member commented that the LOS is always met, because additional product or operational changes are made if necessary to assure this. Tracking BMP effectiveness and whether changes were needed in operations to meet the LOS will be valuable information to support SaMS implementation.
- Tracking salt use within specific watersheds was noted as a very difficult challenge and is currently unrealistic.
- LOS need to be clearly defined so that service providers can meet them, and they are defined differently for public and private entities. Public agencies commonly define LOS by treatment plans and response time, while private companies have a liability risk approach to their LOS. Risk tolerance and liability assigned to service providers need to be identified.
- It is important to have a common method for calculating metrics.
- Refreeze cycles following storms should be tracked, as they affect product use needs.
- Quantifying cost savings from BMP implementation might be helpful, but because of the structure of internal funding sources, not all operations will be able to invest operational costs savings in enhancements/equipment. Participants noted that Fairfax and Arlington Counties and the City of Alexandria differ significantly in this regard.
- Due to current public expectations/political demands, shift workers are often fully mobilized in anticipation of snow, so costs are high whether snow comes or not - yet this is not included in storm summaries. Cost analyses, therefore, may come in two categories, operations and products.
- Specific feedback on the [draft tracking and reporting form](#):

- Level 1: Yes/No to get a general sense of the use of specific BMPs; Level 2: Quantification of the extent of BMP use and product usage; Level 3: Increased details and confidence in reported data.
- BMP check boxes are a useful and practical way to begin (coarse) tracking and reporting.
- Summarizing storms at the NoVA regional scale was perceived as a useful way to begin (coarse) reporting, to reduce documentation requested from each operation.
- The minimum information that the Water Quality Monitoring and Research Workgroup is interested in is how much product is used.
- All terminology used in the form needs to be clearly defined; pre-treatment and anti-icing were noted as examples where clear definitions are needed due to use of the terms in different contexts.
- Item 1.a (plowing prior to deicing) is routinely done and should be removed as an option.
- Item 3 (measure product) is really important.
 - A great place to start is to add broad, regional documentation of storm events to Item 3.
 - It's most important to begin by capturing how much salt is used in total (seasonal by operations).
 - A simple Yes/No for pre-treatment would also be very helpful.
- The most important question related to level of service is: Were BMPs adhered to in order to meet the level of service? This question will help identify the level of BMP effectiveness. It is common that operators adjust treatment plans during storms to ensure LOS goals are achieved.
- Item 12 (salt storage facilities) reporting may not be important for the workgroups' recommendations, as local governments need to address bulk salt storage in their MS4 permits.
- Informing citizen groups of responses to poorly managed salt piles and incidences of salt spills may also be valuable tracking information and could help with public awareness.

Meeting Wrap-up and Next Steps

DEQ requested at least one volunteer to present on the preliminary recommendations of the Salt Tracking and Reporting Workgroup at the 3rd Stakeholder Advisory Committee meeting (to be held on May 29, 2019). DEQ also requested volunteers from this workgroup for the Steering Committee (SC), which will be responsible for the initial reviews of the SaMS recommendations document. One member volunteered to serve on the SC after the meeting ended, and two nominations have been submitted for other SC representatives. One member also volunteered for presenting at the 3rd SAC meeting.

DEQ sent out a follow-up survey on April 16, 2019, to obtain additional feedback from workgroup members. In the survey, members could also volunteer for the Steering Committee or to present at the 3rd Stakeholder Advisory Committee meeting.

Handouts from the meeting are available on the SaMS Meeting Materials [website](#).

All information, questions, additional resources, etc. should be emailed to Sarah Sivers (Sarah.Sivers@deq.virginia.gov) and Dave Evans (David.Evans@deq.virginia.gov) to reduce email traffic among workgroup members.

Meeting notes were prepared and submitted by the Interstate Commission on the Potomac River Basin.

Additional Feedback Contributed to the Follow Up Survey:

A survey was shared with workgroup members following the meeting to capture any additional thoughts members may have had following the meeting. Feedback is arranged below based on the sections of the agenda. Only sections where additional thoughts were provided are included:

Idea Lightening Round

“I know it's difficult to structure the conversation for a large group, but I think it may be helpful to restrict comments to the topic at-hand. There are a lot of good points about salt application/tracking in general but I think there needs to be more focused conversation as we work through an issue together. I would try and encourage the group to focus on the subject and hold anecdotal or tangentially related comments until they can be addressed at the appropriate time.”

Recommendations Scoping

“Suggest that the recommendations for tracking and reporting (along with BMPs) align with the Foundational Five presented by the Salt Institute to include: calibration, measurement, accountability, training and LOS. The tiered approach to T&R works well to address the different starting points of programs but caution about defining the coarse or minimum with too low of bar so there is nothing much gained from the information.”

Wrap-up and Next Steps

“Re-iterate need to define common or standardized set of metrics for reporting. I think regional storm information is likely too coarse to be meaningful and that storm events are likely tracked by individual jurisdictions or DOT maintenance units; I could be wrong. Important to ensure we know or can provide explanation of how the information from T&R will be used to inform salt management effects on water quality and other goals of VA SAMS”

Additional Thoughts (not a part of the agenda)

“Material as always was well organized and presented, there was knowledgeable participation, and there are reasonable recommendations going forward.”