

# Salt Management Strategy (SaMS)

## Water Quality Monitoring & Research Workgroup

### First Meeting

November 8, 2018

### Proposed Outcomes for Each Meeting

Three meetings are envisioned for each workgroup, although a fourth meeting may be necessary for some workgroups to complete their work. The anticipated outcomes for each meeting are:

- 1<sup>st</sup> Meeting:
  - Identify the scope of the recommendations the group will prepare.
  - Identify process to develop recommendations.
  - Begin work on proposed topics by identifying tasks/research to be conducted in preparation for next meeting.
- 2<sup>nd</sup> Meeting:
  - Report on tasks/research conducted prior to this meeting.
  - Identify any additional research needs/other workgroup coordination necessary to finalize recommendations.
  - Begin brainstorming recommendations.
  - Prepare for a workgroup status update at the 3<sup>rd</sup> SAC meeting.
  - Prior to the next meeting, begin consolidating recommendations into a draft document.
- 3<sup>rd</sup> Meeting:
  - Report on tasks/research conducted prior to this meeting.
  - Discuss proposed recommendations and draft document (if prepared at this point).
  - Finalize recommendations, or plan a fourth meeting to finalize recommendations.

### Membership Roles and Expectations

#### **Roles**

Workgroup membership types are identified as follows:

- Primary: Organization representative
- Alternate: Organization alternate(s)
- Adviser: Experts in the field who may offer comments on our process/recommendations
- Follower: Others who desire to stay informed of specific workgroups' progress

There will be one workgroup "Primary" member from any single organization. This workgroup member will be the primary representative and generally serve as spokesperson for the organization in workgroup meetings.

Where an organization has more than one person interested to participate in a given workgroup, others (beyond the "Primary") are considered "Alternates." Alternates can attend all workgroup meetings, and would serve as the "Primary" in that member's absence.

Alternates should limit their speaking in meetings to ensure that primary members who wish to contribute are able to. However, alternates should not feel unable to contribute important facts and perspectives that will contribute to the workgroups' deliberations. Rather, they should be alert to avoid limiting the participation of other primary workgroup members (i.e., individuals/smaller organizations).

**Expectations**

To foster efficient substantive dialogue in workgroup meetings, members are expected to review materials DEQ sends in advance of meetings and be ready to provide feedback for discussion during meetings. DEQ will aim to send materials out at least one-week ahead of the meeting date. To ensure accurate meeting records, members are also asked to review and provide comments on meeting summaries sent by DEQ following each workgroup meeting.

**Workgroup Purpose**

To address the following SaMS Objectives:

- No. 5: Develop recommendations for a monitoring and research program to better understand water quality patterns and impacts related to salt application throughout Northern Virginia.
- No. 4: Explore funding opportunities, operational cost savings, and broader incentives, such as certification requirements/tort reform, to support implementation

**Scope of the Workgroup**

**DEQ’s Proposal** (*Potential revisions, per SAC member comments below*)

Discuss and offer recommendations on the following, such as but not limited to:

- Ambient water quality monitoring
  - Review existing WQ monitoring information and suggest enhancements
  - Location, frequency and WQ monitoring parameters
  - Government, private, and voluntary monitoring
  - Assess the best ways to study salt loads and sources in the region’s watersheds
  - *Study salt origin, transport, and fate*
- Monitoring Effectiveness of BMPs
  - Study design to capture BMP effectiveness
- Reporting Framework for WQ Data on Salts
  - Reporting data to National data systems (STORET, etc.)
  - Summarizing and communicating data for outreach
  - Tracking WQ trends over time
  - Funding options to support water quality monitoring
- *Research*
  - *Study the adequacy of current clean water standards*

**SAC Feedback provided through the survey:**

| Response  | Additional Feedback  |
|---|--|
| This meets my expectations                          | <ul style="list-style-type: none"> <li>• This group should ensure that research material and data is made aware of and distributed to the general public, State Officials and to aid the Education/Outreach group.</li> </ul>  |
| I would like to see the following also addressed... | <ul style="list-style-type: none"> <li>• Adequacy of current clean water standards</li> <li>• Engagement with Arlington Regional Master Naturalists and Master Gardeners of Northern Virginia to enlist their support</li> <li>• We badly need to understand origin, transport and fate of salts in these watersheds and the varying relationships to Specific Conductance - these are very poorly understood. The bullet on BMPs does not make any sense to me as written.</li> </ul> |

## **Other Workgroup Feedback**

### *Salt Tracking & Reporting*

- Salt use tracking and reporting recommendations should be coordinated with the WQ Monitoring and Research workgroup
- *Note, the Salt Tracking & Reporting workgroup plans to evaluate BMP effectiveness by measuring salt use associated with BMPs implemented and assessing whether or not the specified level of service was attained.*

## **Resources To Consider For Developing Our Recommendations**

### **Maryland Study into Salting Impacts**

[https://mde.maryland.gov/programs/Marylander/Documents/2013\\_Stranko\\_Road\\_Salt\\_\(final\)\\_TMF\\_edits.pdf](https://mde.maryland.gov/programs/Marylander/Documents/2013_Stranko_Road_Salt_(final)_TMF_edits.pdf)

### **Minnesota’s Twin Cities Metropolitan Area Chloride Monitoring**

<https://www.pca.state.mn.us/sites/default/files/wq-iw11-06x.pdf>

### **Fairfax County study: “Countywide Increases in Fairfax Stream Conductivity, 2004-2017”**

*This poster file is attached to the email that contained this document. Note you will likely have to zoom in to see the individual sections.*

### **Izaak Walton League of America’s “Winter Salt Watch”**

<https://www.iwla.org/conservation/water/winter-salt-watch>

### **DEQ’s Trends Monitoring Program Description**

[https://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityMonitoring/WQMStrategy\\_ChIIIB3\\_TrendMonitoring.pdf](https://www.deq.virginia.gov/Portals/0/DEQ/Water/WaterQualityMonitoring/WQMStrategy_ChIIIB3_TrendMonitoring.pdf)

Note, DEQ has added sodium, potassium, calcium, magnesium, chloride, sulfate, nitrate, carbonate, and lab specific conductance measurements to select trend stations (13) exhibiting increasing trends in specific conductance in the SaMS project area.

### **2015 USGS: “Methods for Evaluating Potential Sources of Chloride in Surface Waters and Groundwaters of the Conterminous United States”**

<https://pubs.usgs.gov/of/2015/1080/ofr20151080.pdf>

### **University of Waterloo: “Assessing the Efficacy of Current Road Salt Management Programs”**

<http://www.saltinstitute.org/wp-content/uploads/2014/01/Road-Using-Best-Road-Salt-Management-Practices-Waterloo-2010-1.pdf>

Section 3 evaluates salt application BMP effectiveness on reductions in groundwater chloride concentrations.

## Guiding Questions:

### **Welcome and Introduction**

1. Briefly introduce yourself, including the organization you represent and your interest in participating on this workgroup.
2. Are there any questions or concerns on the roles and expectations for members and alternates as summarized above in this handout?

### **Purpose and Scope**

3. Is the scope, as outlined in the handout, adequate to address your interests and/or needs?
4. What, for you, will be the most useful outcome from this effort?

### **Content Development**

5. Are there any topics that:
  - a. Are listed in the materials that you feel should not be addressed by this workgroup?
  - b. You feel are missing from this effort and should be included/explored?
6. Plan Content:
  - a. What over-arching questions do we intend to answer with our recommendations? For example, “is the implementation of best practices leading to reductions in background salt levels,” “what is the trend in salt levels for area streams,” or “what other sources of salts are leading to increases in concentrations?”
    - i. Are there other SaMS objectives that can benefit from monitoring research recommendations?
  - b. What potential monitoring and research recommendations should be prioritized first?
  - c. What form should these recommendations for a monitoring and research program take?
    - i. Should the recommendations be a set of monitoring protocols (or similar) to be incorporated into existing monitoring plans of stakeholder programs?
    - ii. Should we prepare recommendations for common methods/metrics to facilitate data comparisons across the region?
    - iii. How should we address recommendations for funding options?
  - d. What level of detail should the recommendations have?
  - e. What audiences do we plan to develop these recommendations for (e.g., government, private, volunteer)?
  - f. What work within the scope has already been developed/explored by members of the workgroup? If any, how should we include this previous work in the recommendations?
    - i. Is there any other monitoring work already underway that can be leveraged for this project (note, it does not have to currently include ion monitoring)?
    - ii. Are there any other ongoing or recent studies by others outside of the SaMS SAC that the workgroup should evaluate/explore?
  - g. What recommendations should we consider for data sharing/reporting?
7. Developing the recommendations/plan:
  - a. How will this group work on each topic? Should we all work on a topic and discuss, or should we tackle different topics in subgroups and report back to the workgroup for discussion?

- b. To ensure the next meeting is productive, what material should be prepared and/or sufficiently researched in advance to better inform discussions during that meeting?
  - c. Should the group explore any pilot projects in order to test out recommendations prior to the completion of the SaMS in early 2020?
8. Are there organizations and/or funding sources within the group to help develop/implement a monitoring and research program?
- a. Are there any organizations and/or funding sources outside of the group that might be supportive of recommendations development/implementation?

### **Workgroup Communications and Decision-Making**

9. Soliciting input:
- a. Should input from other workgroups or experts or audiences be solicited? Which ones/how urgent?
  - b. What is the best method to coordinate with other workgroups on our status and share any relevant information? At what frequency should this coordination occur?
10. What activities/resources/content to be developed by this workgroup is dependent on work from other workgroups?
11. Is there any critical expertise needed to develop recommendations that our members do not bring to the table?
12. How will this group seek consensus and make decisions?
13. Communication between meetings
- a. Are you agreeable to DEQ sending a day after the meeting a follow-up survey to gather any additional thoughts that arise?
  - b. We recommend limiting use of “reply-all” in email correspondences to be sensitive to the level of email traffic that its use generates. DEQ can serve as recipient of any information to be shared and compile to send out to the group. Are there concerns with this approach?

### **Next Steps**

14. What are the tasks we want (or have decided) to work on in preparation for our next meeting?
15. Volunteers to work on tasks identified?
16. Currently, the next meeting is anticipated to occur no earlier than March, depending on schedules.
- a. Will this timeframe work?
  - b. Any known timeframes (conferences, etc.) that we should avoid?
  - c. Is there a preferred time of day?
  - d. Will three (3) meetings, including this one, be sufficient?
  - e. Do we want to extend the duration of the next meeting longer than 2.5 hours to accommodate the list of anticipated outcomes for that meeting?
17. Note, we will send out a follow up survey following this meeting. It is intended to capture thoughts that we did not have time to address or thoughts you had after the meeting that you thought were valuable to share.