# Clean Streets = Cleaner Waters Initiative

Presentation to the Chesapeake Bay Urban Stormwater Workgroup

Seth Brown, PhD, PE | National Municipal Stormwater Alliance

Greg McPartlin | Urban Quarries

Andrew Sheerin, PhD | University of Rhode Island

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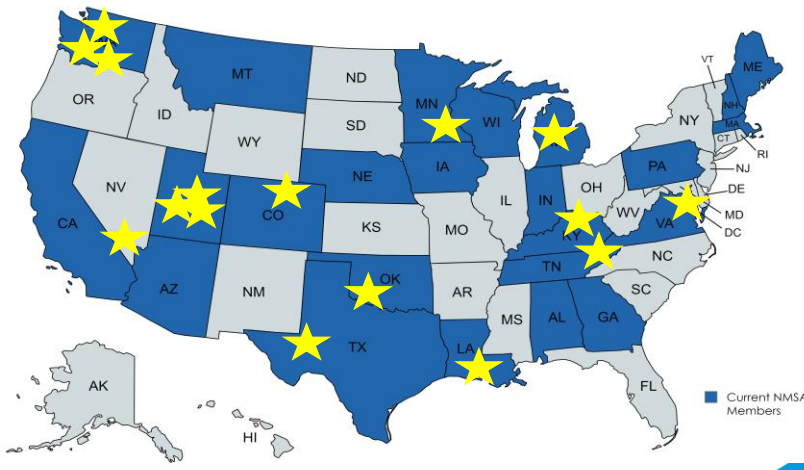
# Overview of National Municipal Stormwater Alliance (NMSA)

- Who/What is NMSA?
- Motivation for Formation / Vision for Organization
- Actions Areas (Sector, Communication, Education, Policy)
- Membership/Coverage
- STEPP program
- Our interest in street sweeping…




★ = Current NMSA MS4 Members

# Clean Streets = Cleaner Water Initiative
# *Problem Statement and Supporting Info*

***<u>Problem Statement</u>: Despite research illustrating the technical efficacy and cost-effectiveness of street sweeping to reduce stormwater pollution, the use of street sweeping has been limited.***

**Causes/Considerations**

- Absence of unified recognition by state and federal regulatory agencies on the quantifiable treatment capacity of street sweepers.
    - Approximately 40% of states have no information provided at all on street sweeping in the context of stormwater treatment in stormwater permits or manuals.
    - An additional 25% mention street sweeping in their statewide MS4 permit, but no specifics are provided.
    - The remaining states have a mix of methods and approaches to provide recognition – albeit limited – on the water quality treatment capacity of street sweeping technologies.
- Only a handful of states/regions have a clear crediting system or guidance – **Chesapeake Bay is one example**.

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# Clean Streets = Cleaner Water Initiative
## *Overview and Purpose*

The CS=CW Initiative has been established to bridge the gap between research and policy and drive a broader adoption of power sweeper technologies to address stormwater pollution.

**Phase I - Exploration**

- Collecting and compile information on regulations and policy to capture the current status of street sweeping and stormwater treatment.
- Develop a pathway forward for the stormwater sector and power sweeper industry to use as a blueprint for future growth.

# Clean Streets = Cleaner Water Initiative *Vision*

- **Leverage existing research** and sector experts to develop performance testing standards in ASTM.
- Use **ASTM performance testing standards** to enable performance verification via NMSA Stormwater Testing and Evaluation for Products and Practices (**STEPP**) program.
- Develop **guidance and framework** for effective street sweeping approaches.
- **Explore technologies** that can model and plan for effective street sweeping programs at the local level.
- **Engage with state and federal regulators** to recognize street sweeping in a consistent and quantifiable way.

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# Clean Streets = Cleaner Water Initiative
## *Leadership/Partnerships*

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### Leadership

National Municipal Stormwater Alliance (NMSA)

### Federal Partner

NOAA / National Sea Grant Network

### Industry Partners

1-800-SWEEPER – Industry Network Leader

North American Power Sweeping Association (NAPSA)

### Manufacturing Partners

TYMCO

Elgin

Schwarze

Stewart-Amos

# Clean Streets = Cleaner Water Initiative
## *The Leadership Team*

**Seth P. Brown, PE, PhD (NMSA) — Executive Director, National Municipal Stormwater Alliance**

- Developer of **STEPP** — *Stormwater Testing and Evaluation for Products and Practices*.

**Gregory L. McPartlin, Progressive Sweeping / Urban Quarries**

- Industry veteran leading coordination between manufacturers, contractors, and regulators to turn stormwater compliance into business growth.

# Clean Streets = Cleaner Water Initiative
# *Current Status of Initiative*

## Work on the Strategic Framework Has Initiated

✓ **Steering Committee**

- Will provide review and input on strategic framework
- 2-3 meetings to discuss feedback

✓ **Research information being compiled and synthesized**

- Includes pathway to get more information on street sweeping into the Int'l Stormwater BMP Database
- Working with leading researchers in the field through coordination with **Sea Grant**

✓ **Regulatory and policy information gathered and being summarized**

- Synthesis of state permit provisions on streets sweeping started
- Gathering of case studies to illustrate examples of credited sweeping programs has initiated
- Engagement with **EPA Offices of Water and OECA** and **Association of Clean Water Administrators**

✓ **Strategic pathways in development**

- Description of strategies to tie research and performance into policies and crediting has started

**Strategic framework to be completed in April/May including presentation on findings**

# CS=CW Steering Committee

## Overview

Phase I of the CS=CW Initiative will rely on the Steering Committee to guide direction, coordination, and early implementation. *A second phase may expand membership to include additional national, state, and industry leaders*.

## Steering Committee

**Confirmed Members:**

- **Andrew Sheerin, PhD** – University of Rhode Island (**CHAIR**)
- **Mike Trojan, PhD** – MN Pollution Control Agency (ret.), NMSA/STEPP
- **Margaret Schneemann, PhD** – CMAP / IL–IN Sea Grant
- **Jamie Houle, PhD** – Univ of New Hampshire Stormwater Center
- **Todd Snyder** – City of San Diego
- **Paula Kalinosky, PhD** – Minnesota Pollution Control Agency
- **Bill Selbig, PhD** – USGS
- **Jane Clary** – Wright Water Engineers, Inc., International Stormwater BMP Database
- **Dylan Ahearn, PhD** – Herrera, Principal Scientist
- **Seth P. Brown, PhD PE** - NMSA
- **Gregory L. McPartlin** – Progressive Sweeping / Urban Quarries

**Pending Additional Members:**

- **Kathy Davis** – Washington Soil and Water Conservation District, Marietta, Ohio
- **Alex Reed** – Washington County Stormwater and Watershed Services, Washington County, Maryland

## Supporting Committee

- **Maggie Karschnia** – MN Sea Grant
- **Jill Murray, PhD** - City of Santa Barbara, Sustainability & Resilience
- **Andy Erickson,** University of Minnesota, ASTM stormwater committee chair
- **Roger C. Sutherland, PE** - Cascade Water Resources LLC
- **Ranger Kidwell-Ross** – Worldsweeper.com
- **Randy Neprash, PE** – Neprash Consulting, Minnesota Cities Stormwater Coalition

# The Immediate Ask

## For Phase 1:

- **Commitment:** Join us as a Steering Committee member.
- **Timeline:** <90 days
- **Activities:** Provide feedback on draft versions of reports and engage in two meetings.

## Beyond?

- **We'll see…**
- **Consider continuing engagement with this initiative beyond Phase I…**

# Q&A/Discussion

For more information on CS=CS Initiative - https://ms4nmsa.org/cs-cw/

Seth Brown, PhD, PE | NMSA Executive Director | *seth.brown@nationalstormwateralliance.org*

Greg McPartlin | Urban Quarries | greg@urbanquarriesus.com

Andrew Sheerin, PhD | University of Rhode Island | andrew_sheerin@uri.edu

Visit the NMSA website at **ms4nmsa.org**

Visit the STEPP website at **stormwatertesting.org**

# Additional Information

# Leveraging Existing Grant Funding Through Sea Grant

- Credibility, regulatory alignment, and academic rigor.
- Working with **Sea Grant researchers** and **regional partners,** we will:
  - Aggregate and analyze pollutant-removal data across leading states.
  - Identify consistent measurement methods and performance outcomes.
  - Engage and support efforts to increase the amount of street sweeping data in the **International BMP Database**.
  - Create a unified national baseline of evidence to support the **STEPP program's verification framework.**

# Integration Roadmap — Aligning State Models

- Review and integrate **existing state sweeping credit systems** (e.g., Minnesota, **Chesapeake Bay region**).
- Engage **stormwater managers and state environmental entities** to learn what's working, what's not, and what's next.
- Develop **a consistent regulatory crediting framework** so all states can align their frameworks within a **national model** — not replace them.

# EPA Engagement and National Alignment

- Engage EPA's Office of Water, regional MS4 coordinators, and STEPP from the outset.
- Collaboratively define a national testing method leading to ASTM standards that measure actual pollutant outcomes — including TSS, phosphorus, nitrogen, and microplastics.

Stormwater Best Management Practice

Parking Lot and Street Sweeping

NPDES

Minimum Measure: Pollution Prevention/Good Housekeeping for Municipal Operations
Subcategory: Municipal Activities

Description

Streets, roads, highways and parking lots accumulate pollutants that, when combined with stormwater, can lead to water quality impacts. Street sweeping can minimize some of these pollutants, including sediment, debris, yard waste, trash, deicing materials and trace metals. It can also improve the aesthetics of municipal roadways, control dust and reduce the frequency of catch basin or storm drain cleaning. An effective municipal street sweeping program can meet regulatory requirements, assess street sweeping effectiveness, and minimize pollutants in roadways.

Applicability

Most urban areas sweep their streets, often as an aesthetic practice to remove trash, built-up sediment and large debris from curb gutters and increasingly as a water quality practice to reduce stormwater pollutant loadings. Effective street sweeping programs can remove several tons of debris a year from city streets (Franklin Soil and Water Conservation District, 2017) minimizing pollutants in stormwater. In colder climates, street sweeping during the spring snowmelt can reduce pollutants in stormwater from deicing materials, sand and grit.

Implementation

A municipality should account for several factors when designing and implementing an effective municipal street sweeping program.

Schedule and Reporting

Creating (and following) a schedule can increase the efficiency of a street sweeping program. A successful program should be flexible to accommodate climate conditions and areas of concern. Municipalities should base their identification of areas of concern on traffic volume, land use, field observations of sediment and trash accumulation, and proximity to surface waters (MPCA, 2017). They should develop up-to-date maps

Street sweepers, such as the one shown above, can be used to clean roadways on a regular schedule

Photo Credit: Mark Mauno/Wikimedia

and impervious surface inventories to help find and designate these areas. They may want to increase street sweeping and amend schedules for areas of concern. Schedules should include sweeping at least once a year. In cold climates prone to snowfall, the Connecticut Department of Energy and Environmental Protection recommends, municipalities should conduct street sweeping as soon as possible after the snow melts (DEEP, 2007). Removal of the accumulated sand, grit and debris from roads after the snow melts reduces the amount of pollutants that subsequent storms can mobilize.

To evaluate the effectiveness of their street sweeping programs, municipalities should keep accurate logs of the number of curb-miles they sweep and the amount of waste they collect. They can measure monthly or yearly intakes (per ton) per district, road, season or mile. This information can inform a written plan, schedule and periodic re-evaluation that would target the following (Curtis, 2002):

- Roadways with contributing land uses (high imperviousness, high industrial activity) indicating high pollutant concentrations.

https://www.epa.gov/npdes

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