

Pollution Prevention for Snow & Ice Removal at Commercial Facilities

January 31, 2023



GOVERNMENT OF THE
DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

STORMWATER IN WINTER

Rain and snow melt
run off hard surfaces
and become stormwater
runoff

Runoff picks up pollution
and carries it into
stormdrains

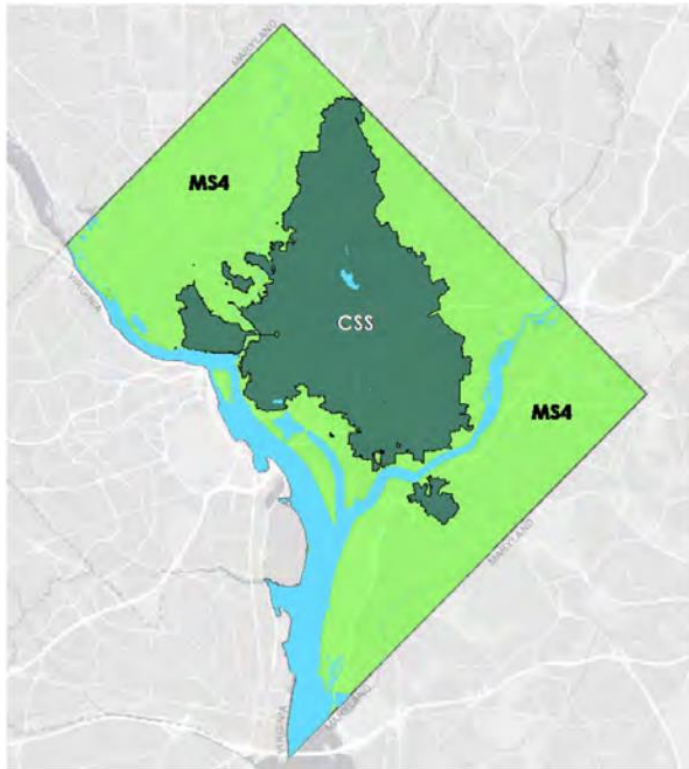


2/3 of stormdrains empty into our streams and rivers with little to no treatment





STORMWATER REGULATIONS

Map 1. Map of the MS4 and CSS areas of the District



KEY:

-  Municipal Separate Storm Sewer System (MS4)
-  Combined Sewer System (CSS)

STORMWATER REGULATIONS

Clean Water Act

- Protects rivers and streams from polluted stormwater
- Regulates discharges
- Sets water quality standards



District Snow
is Dirty!



STORMWATER POLLUTION

Anything other than stormwater

- Dirt
- Trash
- Wash water and soaps
- Vehicle and equipment fluids
- Pesticides and fertilizers
- Paints and solvents
- Salt and Brine
- Rust
- Pet waste



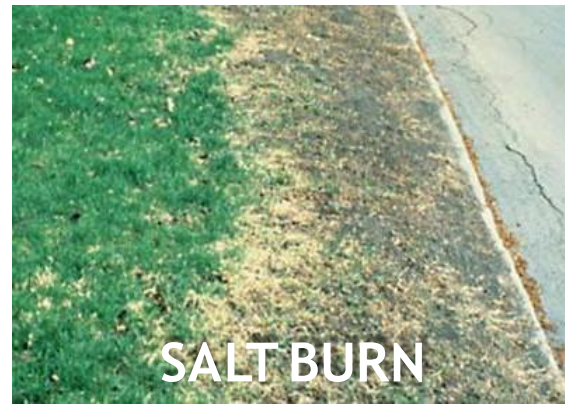
SALT POLLUTION

While salt is naturally occurring, too much is destructive

Growing concern

- Harmful to children and pets
- More complaints
- Drinking water quality
- Health of rivers and streams

Extremely difficult to remove once in water



ALTERNATIVES TO ROCK SALT

1. Snow Melting Mats



2. Traction - sweep up after

- Sand
- Non-clumping kitty litter



3. Alternative Anti- and Deicers

- Magnesium Carbonate (Magnesium CA)
- Urea-based
- Calcium magnesium acetate (CMA)



NOTE: These have different application rates than rock salt. Consult packaging



TECHNIQUES

- **Anti-Icing** used before an ice event
 - Prevents ice from bonding to the ground
- **Deicing** used after ice has formed
 - Uses more product



TECHNIQUES – LIQUIDS

1. Hot mix and brine lasts 5-10 days
 - 23.3% salt = Good brine mix
 - Sustainable Alternatives: beet juice
2. Allows rock salt to melt ice below 15° F
3. Melts ice faster

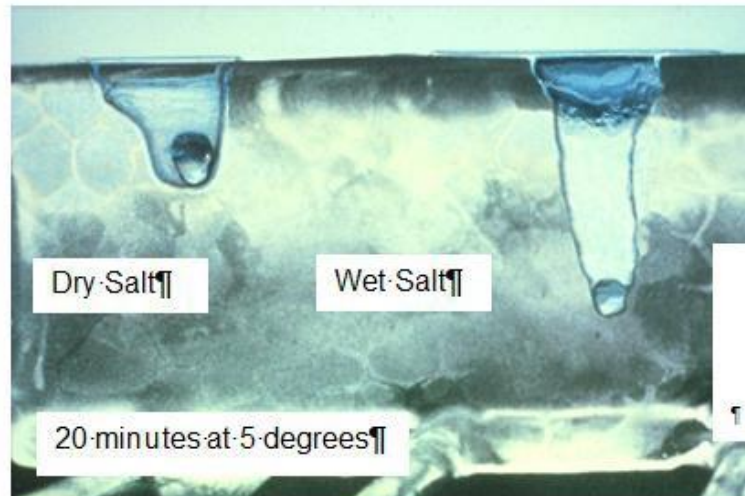


Photo-courtesy
of-Wisconsin
DOT
transportation
bulletin-#22

MINIMIZE SALT USE

1. Clear accumulated snow
2. First apply anti-icers and only apply deicers if necessary
3. Apply early and be patient - melting takes time
4. Don't apply when it's above freezing and is expected to rain!



MAINTAIN EQUIPMENT



1. Check your equipment Before and after deployment
2. Do not delay repairs
3. Only wash vehicle and equipment in designated areas



@bikepedantic



APPLICATION

Use recommended application rates

Apply using a spreader



	Application Rate (lbs/1,000 ft ²)	Cold Setting (32° - 25° F)*	Extreme Cold (25° - 15° F)*
Rock Salt (Splash Ice Melt)	1.5 - 5	5	15
ULINE Ice Melt	2.5 - 5	8	28

* Estimated setting for manual spreader with 30 settings.



PREVENT AND CLEANUP SALT SPILLS



- Never overfill equipment
- Clean up spills ASAP
 - Sweep up excess or
 - Sweep it to an area that hasn't been treated yet
- Be careful where you park your vehicle.
- Never park over a storm drain & do not park a leaky vehicles directly uphill or next to a storm drain

SALT STORAGE

Prevent Contact with Stormwater

- Keep it inside
- If outside:
 - elevate and use waterproof cover
 - Place where no stormwater can run under pile



This pile is placed on the uphill edge of a curbed parking lot where no runoff can leach salt from under the pile

GENERAL GOOD HOUSEKEEPING



AIR REGULATIONS

1. Do NOT idle for more than 3 minutes – **it is illegal!**
 - Up to 5 minutes if it is below freezing
2. Where NOT to idle:
 - In residential areas
 - At loading docks
 - By building air intakes



REVIEW

- 1. Salt is a stormwater pollutant**
- 2. Use alternative techniques and products**
 - Switch to alternative products
 - Use anti-icers and liquids
 - Minimize amount applied
- 3. Follow recommended application rates**
 - Calibrate spreaders
 - Use enough so the ground is bare, but not so much that product is still visible
- 4. Prevent and Cleanup Salt Spills**
- 5. Practice good housekeeping**



QUESTIONS?

Orpheus Williams Jr

Pollution Prevention Coordinator
Watershed Protection Division

orpheus.Williams@dc.gov

202-567-1160

