The Applicator's Field Guide to Smart Salting Practices

THE IZAAK WALTON LEAGUE OF AMERICA

SALT WATCH®

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The Applicator's Field Guide to Smart Salting Practices

www.saltwatch.org

For more in-depth information, check out the MDE Enhanced Winter Maintenance Manual!

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Smart Salting Mindset

Road salt helps to keep our roadways and sidewalks free of ice during the winter, preventing slips and falls on sidewalks and collisions on roadways. It is important to keep people safe in the winter, however, overapplying salt has consequences as it does more harm than good.

Each year, between 20-30 million tons of road salt are applied to roadways in the United States, depending on the winter weather conditions. The immediate cost of road salt is low, but there are long-term and indirect costs and impacts associated with the damage it causes.

Wildlife Impact

Road salt does not naturally break down and can build up over time, causing stress to many different types of plants and animals and impacting the overall health of aquatic ecosystems.

It only takes
1 teaspoon of salt

to **permanently pollute** 5 gallons of water

Infrastructure & Drinking Water Impact

Chloride, found in most road salt, is incredibly corrosive and can damage roadways, bridges, vehicles, and other infrastructure. Salt can accelerate the corrosion of water pipes and leach dangerous chemicals like lead into our drinking water. Salt is not typically removed by water treatment plants, which can make our drinking water saltier, even though we might not taste it.

Habitat Impact

Plants located next to sidewalks, parking lots, and roadways are most at risk of drying out and being killed from road salt pollution, but salty runoff can also impact native plants in natural areas further away. Excessive salt also leads to compaction and poor drainage of soils. Chloride has also been shown to mobilize heavy metals in the environment.

Pets Impact

Pets don't like to walk on rock salt. They can also become dehydrated or poisoned if they ingest salt. Salt can also cause paw and skin irritation, dryness, cuts, and burns.

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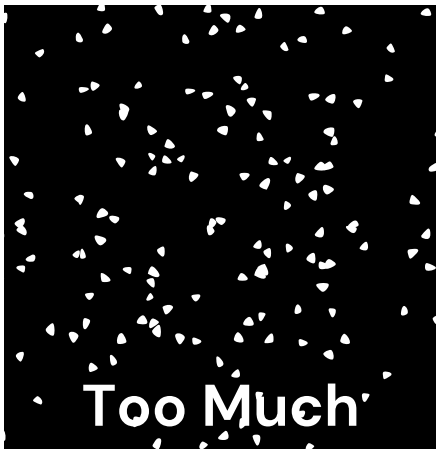
Salt Application and Assessment

Optimal Strategy: Anti-icing application followed by mechanical snow removal.

Less Efficient: Mechanical removal of snow followed by deicer application on remaining snow and ice.

Inefficient: Using deicer alone without clearing snow.



Spacing

There should be 2-3 inches of space between salt granules for most effective melting when scattering salt.

Temperature

If pavement temps are above freezing, do not add salt. For temps below 15° F, switch to salt blends that work at lower temps. Sand can be used to help increase traction and make conditions less slippery when it is too cold for salt to work.

Salt Cleanup

After a winter weather event is over, it is important that any excess salt is cleaned up. This salt can be swept up and put back into your salt storage pile for use during the next storm event.

If there are any salt spills during your salt application, make sure to immediately clean up those spills. There should be no granular salt on bare pavement.

Excessive salt use and salt spills are a waste of money and are damaging to the environment!

1. Anti-Ice

Ahead of a predicted winter storm, apply brine solution to parking lots and sidewalks in a wet/dry pattern to allow for easier manual removal of snow and ice.

2. Shovel

Clear snow from sidewalks and parking lots before it turns to ice. The more snow you remove, the less salt you'll have to use - and the more effective it will be!

3. Scatter

If you use salt, scatter it so there's space between the grains. There should be 2-3 inches of space between salt granules for most effective melting.

4. Sweep

Once the salt has done its job, sweep up the extra and store it so you can reuse it for later storms - and prevent it from washing away.

5. Switch

Salt doesn't work when the pavement temperature is 15° F or lower. For extreme cold, use a different deicer that works at lower temperatures. Sand may also be used to increase traction and reduce slippery conditions when melting with salt is not effective.

Clean up excess salt!

KEEP WATER FRESH
Use Less Road Salt!
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Salt and Snow Storage

Salt needs to be covered and contained.

Image from Jason Swope

Salt Storage Best Practices:

- Keep all salt under a permanent roof and on an impervious (asphalt/concrete) pad.
- Keep storage areas away from streams and waterways.
- Sweep up spills in loading areas immediately to stop runoff.

For onsite needs, use movable, weather-proof containers.

Snow Storage

Place snow piles downhill from salt storage and on the downhill side of parking lots. This prevents meltwater from flowing across the lot, refreezing, and creating hazardous ice patches that require extra salt.

Image from Jason Swope