Pound Ridge Conservation Board
PROTECTING OUR ENVIRONMENTAL HEALTH AND NATURAL RESOURCES

Rethinking Road Salt: Winter Safety and Environmental Stewardship in Pound Ridge

Each winter, keeping our roads safe during snow and ice events is a top priority. For decades, communities across the Northeast have relied on traditional road salt (sodium chloride) to melt snow and ice. While salt is effective and inexpensive, it also comes with growing environmental and infrastructure costs that Pound Ridge—and towns like ours—can no longer ignore.

As part of our ongoing effort to protect local water resources and natural habitats, the Pound Ridge Conservation Board is exploring alternatives and Best Management Practices (BMPs) for winter road maintenance that balance public safety, environmental health, and fiscal responsibility.

The Problem with Salt

Each year, millions of tons of road salt are applied across the U.S. to keep roadways clear. Unfortunately, this salt doesn't just disappear when the snow melts. It washes into:

- Streams, ponds, and wetlands, increasing chloride levels harmful to aquatic life
- Groundwater and private wells, affecting drinking water quality
- Soils and vegetation, damaging roadside plants and trees
- Vehicles and infrastructure, accelerating corrosion of bridges, guardrails, and cars

Once chloride enters groundwater or surface water, it's very difficult to remove. Elevated chloride levels have already been detected in parts of our region's waterways—a clear sign it's time for a better approach.

Did You Know?

- One teaspoon of road salt can permanently pollute five gallons of water.
- Elevated chloride levels can harm fish, amphibians, and aquatic plants.
- Salt corrosion costs U.S. drivers over $3 billion annually in vehicle damage.
- Chlorides in drinking water can affect taste and damage plumbing.

Smarter Solutions: Alternatives to Road Salt

There's no single substitute for sodium chloride that works everywhere, but there are several effective alternatives and complementary methods that reduce total salt use without compromising safety.

1. Brine Solutions (Liquid Anti-Icing): A liquid mixture (often 23% salt and 77% water) sprayed on roads before a storm to prevent snow and ice from bonding to pavement. Brine can reduce total salt use by 30–50% and begins working immediately.

2. Alternative Deicers:
- Calcium Magnesium Acetate (CMA): Non-corrosive, biodegradable, works best above 20°F.
- Potassium Acetate: Biodegradable, effective at low temperatures, used at airports.
- Beet Juice / Agricultural Byproducts: When blended with brine, helps salt stick better to pavement, reducing bounce and scatter.
- Sand / Abrasives: Provide traction without chemicals; ideal for low-traffic roads but require cleanup.

Best Management Practices (BMPs) for Winter Road Maintenance

Beyond changing materials, how and when we apply them can make a major difference. BMPs ensure safe roads while minimizing environmental impact.

1. Calibrate Equipment: Ensure proper material application rates.
2. Train Operators: Provide ongoing training on efficient application methods.
3. Apply Early, Not Often: Pre-treat roads with brine before storms.
4. Focus on Priority Roads: Treat key routes first to conserve material.
5. Monitor Weather and Pavement Conditions: Use real-time data for precise decisions.
6. Maintain Storage Facilities: Covered, contained salt sheds prevent runoff.

Community Role and Awareness

Residents can also play a part in reducing salt use and protecting local waterways by:
- Clearing sidewalks promptly.
- Using only the amount of deicer necessary.
- Choosing pet- and plant-safe products.
- Avoiding piling snow near storm drains or streams.

A Balanced Approach for Pound Ridge

Pound Ridge can lead by example. By adopting a "smart salting" strategy—using brine solutions, testing safer alternatives, and implementing best practices—we can maintain safe winter roads while protecting the natural resources that make our town special.

The Conservation Board looks forward to working with our Highway Department, community members, and neighboring towns to develop a sustainable, science-based snow and ice management program for future winters.

For more information:
Visit the NYS Department of Environmental Conservation's Road Salt Reduction Initiative https://www.dec.ny.gov/chemical/113099.html
or the University of New Hampshire's Technology Transfer Center on Road Salt Best Practices https://t2.unh.edu/.