



Keep Plowed Snow Away From Our Coastal Waters

A Bay Paper from Friends of Casco Bay



Friends of Casco Bay
Casco BAYKEEPER

Did you know that “pure as the driven snow” is anything but?

- Snow isn't as clean as we may think it is because of all the pollutants that fall from the sky along with it—soot, acids, hydrocarbons, and more. Once snow hits the ground, it can pick up road salts, motor oil, dirt, pet waste, litter, and even cyanide.
- All this gets piled up into snow banks or trucked to snow dumps, creating mini-Everests over the course of the winter. In the spring, polluted meltwater releases a toxic shock of harmful chemicals that marine life cannot handle.
- Maine law allows snow dumps to be a mere 20 feet from our productive and economically-important coastal waters. This is about the width of a two-lane road.

Background: Plowed snow is a problem for the ocean

When you walk past any shoreside snow pile, you will see dirt, litter, dog feces, and maybe even a shopping cart. What you cannot see will be all the toxic substances that can do real harm to freshwater and marine environments.

Since the ocean is primarily saltwater, how could adding more salt be harmful? Most marine creatures can tolerate only a narrow range of salinity. Chloride, primarily in the form of sodium chloride (NaCl), is the main ingredient in road salt. Sodium can stimulate the growth of nuisance algae blooms. This “green slime” is already a serious problem here in Casco Bay, resulting in algae-covered coves, dissolved oxygen low enough to stress marine life, and acidic, “dead” mudflats where clams and other important intertidal species no longer thrive.

The other main ingredients in road salt are sand, calcium chloride, and magnesium chloride. All forms of chloride readily dissolve in water. A 2010 report on Maine winter roads stated, “All of the chemicals used on roads end up in soil and water.

Chloride salts degrade water quality, soil quality, and the ecosystem. There is ample evidence that

salt is increasing in the aquatic environment in both the short term (months) and the long term (years).”

In addition to chlorides, road salt contains other elements, such as phosphorus, nitrogen, copper, and even cyanide. Cyanide, added to road salt to prevent clumping, is harmful to humans and marine life. Cyanide is lethal to organisms in salt water at very low levels; concentrations as low as 0.01 milligrams per liter can rapidly and lastingly impair the swimming ability of salmon.



Snow plowed from city streets is piled up in snow dumps. This Portland snow dump shows what was left upon melting, leaving pollutants you can see, and many that you can't.

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As snow falls, it picks up airborne pollutants from vehicle exhaust and smokestack emissions. On the ground, plowed snow picks up road salts, motor oil, dirt, pet waste, heavy metals, and even cyanide. Researchers have found high levels of chloride, lead, iron, phosphorus . . . and total suspended solids in snow dump runoff.

A growing body of research led Canada to designate road salt as an environmental toxin in 2001. Astonishingly, Maine law allows snow to be piled a mere 20 feet from our productive and economically-important coastal waters.

Everyone wants safe roads and a clean environment. Brine, called liquid salt, has proven effective in preventing ice build-up on our roads, and it drastically cuts down on the amount of salt

that enters the environment. When brine is applied before a storm, public works departments use 75% less salt. Unlike road salt, brine doesn't bounce or blow off roads as it is applied; it settles into crevices in the streets.



What is Friends of Casco Bay doing about it?

Friends of Casco Bay is pushing the Maine Department of Environmental Protection (DEP) to require snow dumps to be 100 feet from our coastal waters, the same requirement as for fresh water. Current state regulation allows snow dumps to be only 20 feet from the ocean.

Friends of Casco Bay is working with municipalities to identify alternative dump sites so they will not feel the need to apply for an exemption from a state law prohibiting dumping plowed snow into the ocean. It is already illegal to dump snow into fresh water.

Friends of Casco Bay opposes weakening the permit process to dump plowed snow directly into the ocean. Only 8 Maine municipalities (none around Casco Bay) now have permits to dump snow directly into coastal waters.

Friends of Casco Bay's mission is to improve and protect the environmental health of Casco Bay. Home to the Casco **BAYKEEPER**®, we are a founding member of the international **WATERKEEPER**® ALLIANCE.

What can I do about it? Get your community to:

- Stockpile snow at least 100 feet from coastal waters.
- Pre-treat roads before a snowstorm with brine, which spreads about 75% less salt on roads.
- Site snow dumps on soil, where meltwater can be absorbed and filtered naturally, not on tarred surfaces or near storm drains.
- Surround snow dump areas with salt-tolerant shrubs and other plants to keep meltwater on site instead of flowing into streams and coastal waters.
- Remove accumulated litter and sand from snow dump areas after the snow melts.
- Require private businesses that stockpile snow to conform to the same practices.

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