

# BETTER CHOICES THIS FALL AND WINTER

*Stormwater Awareness Fall/Winter 2014 Edition*

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Fall and Winter are beautiful in Colorado and there are many fun activities to look forward to during these seasons. Some of the dreaded ones are raking leaves and shoveling snow. Each year the question arises in our minds on whether or not these activities are really necessary, but the answer is that they are very important both for safety and environmentally. This season's article will clarify some of the reasons why and some best practices as a steward of the environment.

## Why Rake Leaves?

One reason is that turf grass requires sunlight and air to stay healthy even during the winter months. Additionally, build-up of the dead leaves and vegetation can encourage garden pests such as slugs, snails and harmful fungi to flourish. A third reason is that the dead leaves and other vegetation that washes off of lawns and reaches our stream systems uses the dissolved oxygen in the water when it decomposes. This makes it hard for fish to survive because they rely on that same dissolved oxygen to breathe. Additionally, the dead leaves and vegetation can carry increased amounts of fertilizers and other pollutants into the waters which have other harmful effects such as causing harmful algae growth and killing fish and other organisms.



Next we need to look at blowing leaves vs raking. Sure using a leaf blower is less work and if you blow those leaves into the street your lawn looks great. At least until the next windy day, then those leaves end up back on your lawn or your neighbor's. Worse, they can float down to the nearest storm drain inlet, clog the inlet and the stormwater can back up and cause flooding! So, regardless of whether you choose raking or leaf blowing, be sure to bag those leaves up. An even better idea is to compost them for use in the garden in the spring!

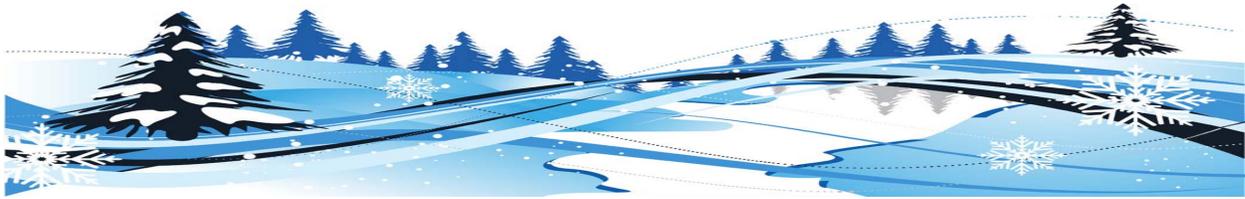
## What About Storm Debris?

Storm Debris such as was experience a few weeks ago from the big hail storm we had here on



Buckley AFB was quite excessive and falls into the same need for removal as raking leaves. It is important to prevent the debris from entering our waterways even though this is something that occurs naturally, we have changed the natural environment because we built our homes, offices and schools on the native prairie. Forests also have other impedances in place to naturally prevent debris from reaching waterways and the fallen vegetation ends up decomposing in place creating a rich earth that promotes more vegetation.

*After the Hail Storm 29 Sept 2014 – Photo by Nicole Johnston*



### Are Ice Melting Chemicals Safe?

The answer is, not really. There is a choice to be weighed with the use that evaluates the need for safety from slipping and falling versus the potentially harmful impacts to the environment, vegetation and pets. Municipal entities have switched over to less harmful and caustic methods for use on streets because the potential for car accidents makes it necessary. In order to minimize the ecological damage they typically sweep the streets within a short time period to help reduce the amount of salts that reach the stream systems.

### Is Pet Safe Ice Melt Really Safe?



Pet Safe is a bit of a misnomer. The main chemical found in most salts and ice melters is chloride. According to animal expert and speaker Diana Guerrero, sodium chloride, potassium chloride, and magnesium chloride are often found in ice melters and should not be ingested by dogs. On her website, [arkanimals.com](http://arkanimals.com), Diana lists dog health care issues that can arise from ingesting those ingredients. Symptoms include: • Increased urination • Nausea and gastrointestinal upset • Drastic drop in blood pressure • Body and muscle weakness • Neurological issues Guerrero also lists calcium

carbonate, calcium magnesium acetate, and urea as other dangerous chemicals found in de-icers, which can cause vomiting, eye irritation, hyper salivation and abdominal pain. - See more at:

<http://www.petsbest.com/blog/the-dig-on-pet-friendly-ice-melters/#sthash.pbESiz5o.dpuf>

### What About Green Products?

Green and Environmentally Friendly labels also are not necessarily true. Studies by both Iowa State University and the University of Wisconsin, where vegetation and heavy winter de-icing are serious issues, found sodium chloride used as an ice melter, contaminates soil, resulting in extensive loss of plant life. Similarly, potassium chloride and urea were both found to cause fertilizer burn when used at ice melter application rates. Even calcium chloride and magnesium chloride were found to damage vegetation. Sources: [Iowa State University of Horticulture](http://www.horticulture.iastate.edu), The Effects of Common De-icing Chemicals on Turfgrass, 1996 [University of Wisconsin](http://www.soilscience.wisc.edu), Department of Soil Science, De-icer Effects on Kentucky Bluegrass Turf, 1996

### So What Should You Do?

The best practice is early shoveling to limiting the amount of ice on walk ways in the first place. Kitty litter or sand can be used to help with traction instead of using ice melt. Avoid kitty litters that have sodium or silica in the ingredients list. These substitutes work very well in Colorado where the sun often melts what is on our walkways for us within a day or two. These should also be swept up and disposed of in the trash once the surfaces are dry.



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