

## Ken Field

Owner of Slate Belt Energy Services

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### All Steamed Up

This article may interest a few more people than it actually applies to but if you have steam heat in your home, you need to understand it as completely as possible. I saw a question on a social media page recently asking for help in quieting down a noisy steam system and the answers were all over the board. I was pleased to see that the person asking the question actually knew that they had a steam system because that's the first step in taming that strange animal in the basement. Even once you know you have a steam system, there are several kinds of systems within that classification.

There is one-pipe and two-pipe steam and even a vapor system that was very popular in the slate belt. If you attempt to repair a system and don't know which it is, you can do more harm than good. Each uses boiled water to carry heat and that's where the similarity ends.

At the center of attention is the boiler that makes the steam. If someone tells you that a new boiler will be more efficient than your old one, be a little wary. It takes a fixed amount of energy to boil water and there is no free lunch. Unlike hydronic systems (hot water) you can't squeeze any more efficiency out of a boiler that needs to make steam. If it was once a coal boiler and was converted to gas or oil, there is a potential for savings in updating because of boiler design. Otherwise repair and tune the one you have. Steam pipes have pitch on them to allow all condensed water to return to the boiler. If hangers break or a building settles, that slight pitch can be lost and the knocking will begin. The main steam pipes near the boiler need to be insulated. If old insulation was removed and they are bare, they are killing the effectiveness of the system and costing you money. That is unless you wanted the biggest radiator in the house to be in the basement. The setting on a steam pressure control should almost never be more than 1.5 psi. Too many people think more pressure means more heat but IT IS THE EXACT OPPOSITE. Piping near the boiler needs to be done EXACTLY the way the manufacturer shows it in the install manual. You can't begin to imagine the problems caused by incorrect near-boiler piping unless you live in a house with that problem. I may continue this next week, there is so much more I can share.

**Ken Field is the owner of Slate Belt Energy and Field's Service, Inc. As a certified energy rater and contractor, he is qualified to assess every aspect of energy usage and prescribe solutions to save energy. He can be reached at 610-759-6306 or email Ken@FieldsService.com**

## Snow Tells Tales Of Life, Death And Our Changing Climate

By Carol Hillestad / For Brodhead Watershed Association

STROUDSBURG - "I can see my breath!" the little girl shouts before she hurtles down the sledding hill at Skywood Park in Paradise Township.

That cloud of mist is the warm air from her lungs, saturated with water vapor, condensing in the cold winter air. Warm air holds lots more moisture than cold air does. Air that's warmer by just two degrees can hold 7% more moisture.

On a sledding hill, that doesn't matter much. It does matter when a storm forms over the ocean off New Jersey and Long Island — where our nor'easters organize themselves and where surface temperatures are running up to three degrees above average. Warm surface air guzzles that moisture, turns it into snow, and next thing you know, you've got a lot of shoveling to do.

In the forest, it's the same story. Fueled by warmer air, this year's heavier-than-normal storms have filled the woods with a nourishing blanket of snow. In forestland, though, snow pack is a blessing.

That's because when trees are dormant, they don't draw up the 100 gallons of water a day an old tree uses in summer to make leaves, catkins, acorns, or beechnuts. The snow pack also insulates the forest floor and keeps it from freezing hard. So on sunny days that are even a few degrees above freezing, the cushiony forest floor keeps snowmelt from running off, allowing it to seep into pore spaces and cracks in rock, infiltrating dozens and hundreds of feet underground, replenishing groundwater.

Just one acre of forest with a 10-inch snowpack can hold 30,000 gallons of water or more.

That precious, naturally filtered and purified groundwater — millions of gallons in the Brodhead watershed — explains why our creeks and streams continue to flow, even in long dry stretches of summer. It keeps wells producing, and provides water for businesses, for tourism, industry and agriculture, and drinking water for millions of Pennsylvania residents.

In fact, in an average year, 10% to 25% of the water that flows in streams and fills groundwater wells originates from melting snow. For people who take the time to look, snow is also an open stage. Not just to showcase peace and beauty — or even for snowshoeing, snow hiking, snowball fights, and snow angels.

Its smooth surface tells stories. Where deer spent the night. Where voles and other under-snow creatures moved in safety from place to place. Where turkeys scratched up acorns and beechnuts. And where a few drops of blood and a surface ruffled by wingbeats speak of a rabbit that met its fate in the steely talons of a silent owl.

Our Pocono forests are many things — cool respite on a summer day, reservoir for snowmelt, window on the natural world, protector of creeks and drinking water, legacy for a little girl's future. As the lowering sun colors the snow violet, this protected forestland seems full of not just snow, but also hope. The little girl and I head home, thinking of dry socks and cocoa.



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