Soils are Nature's Filter

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Did you know that the soil in your yard can act as a filter for your (and everyone's) water supply?

In general, water filtration through soil occurs when rainwater or meltwater is intercepted by natural ground-cover or absorbed into the ground and, as it infiltrates its way to the groundwater table, the water is cleansed. But, if the land is disturbed in any way, the capacity of the land to absorb rainwater is reduced, resulting in water flowing directly (and quickly) into streams and rivers without being filtered. You may have noticed this situation when you see a silty zone in a steam. A silty zone in a stream or river means that soil particles (and possible fertilizers and or pollutants) have been brought to the stream within rainwater runoff.

How soil cleans runoff:

1. The soil particles act as a filter and physically clean the water as in infiltrates its way to the ground-water (Physical)
2. Since soil particles are negatively charged, they can grab onto nutrients and hold on for the plants to use and they can also hold onto contaminants keeping them from reaching our groundwater (Chemical)
3: Microbes that live in the soil can transform and/or decompose organic chemicals that we do not want in the soil (Biological)

Instead of catching and directing the rainfall runoff into pipes, culverts, and into streams (like we used to do not too long ago!), we can send the rainwater into the surrounding soil. Thus, the groundwater supply will be replenished in the area where the rainfall occurred, keeping things natural.

A real life example: The Town of Center Harbor worked with the Belknap County Conservation District to catch both roof and parking lot rainfall runoff at a park before the runoff went directly into Lake Winnipe-saukee. They used rain barrels and rain gardens to manage the runoff. The pictures below show the results.

Go to http://des.nh.gov/organization/divisions/water/wetlands/cspa/index.htm and click on "A shoreland homeowner's guide to stormwater management") for more information.