Your Living Soil

Healthy soil includes:

**Minerals** – bits of sand (coarse), silt (finer), and clay (finest)

**Organic matter** – carbon-based materials that come from the breakdown of plant, animal, and microbial matter.

**Humus** – Organic matter that has been thoroughly broken down and changed by passing through microbes or by chemical reactions in the soil. Humus is how soils store carbon.

**Roots** – The healthiest soils are those that have living plants on them all the time. (Including winter! Dormant plants are still alive!) Living roots wind through spaces between soil particles and larger soil clumps called “aggregates,” and help bind those clumps together.

**Living organisms** – Healthy soil is home to an entire unseen network of:

* Bacteria
* Fungi
* Protozoa (microscopic animals)
* Earthworms and other worms called nematodes
* Arthropods: millipedes, mites, beetles, spiders, ants

The sheer number of organisms in soil is hard to imagine: healthy soil contains 100 million to 1 billion bacteria per teaspoon. The living things in the soil feed on dead plant and animal material, living plant roots, and each other. In the process, they release nutrients that can be taken up by plants.

More information about this underground ecosystem – living soil – can be found in the Soil Biology Primer from the Natural Resources Conservation Service:

Soil Biology Primer [online]. Available: soils.usda.gov/sqi/concepts/soil\_biology/biology.html [accessed 5/21/13]