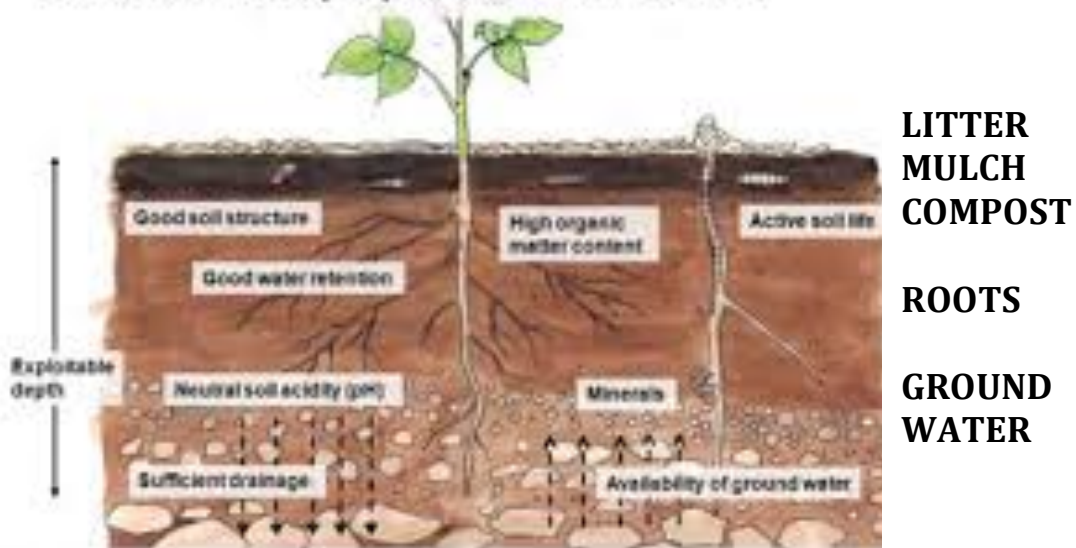




HABITAT RESTORATION ENVIRONMENTAL MANAGEMENT

Rhizosphere: Understanding baseline, biological energy transfer.

The measurable properties of a fertile soil



The Rhizosphere refers to the critical subsurface root zone where biological activity transitions Litter to Mulch to Compost to nutrients. The reduction in material size is matched by reduced size of organisms at each layer. These layers also protect roots from atmospheric temperature and moisture spikes. In natural systems the invisible soil bacteria attach to root hairs and facilitate uptake of critical nutrients, through biochemical processes. Some of these processes also deter diseases. We inoculate plant roots with this bacteria.

Shredders

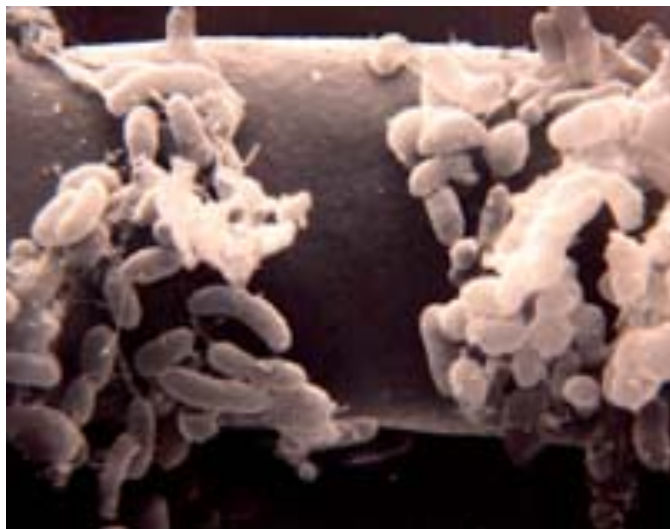


- The first group of macroinvertebrates to break down the detritus (leaves that have started to decompose).
- Includes craneflies, some caddisflies, stoneflies, sowbugs, and scuds.
- They break the detritus down into fine particles.

Macro debris: Leaves, stems, twigs and bark are referred to as **Mulch**. This material is broken apart by specialized **Macro Invertebrate Species**, which live in the mulch.



Meso debris: As mulch becomes further reduced it is referred to as **Compost**. This material is now partially digested by smaller, resident **Meso Invertebrate Species**.



Micro Invertebrate Species of Bacteria create chemical microclimates which provide nutrients in an acceptable form for absorption by roots. Soil pH is Critical to this role.