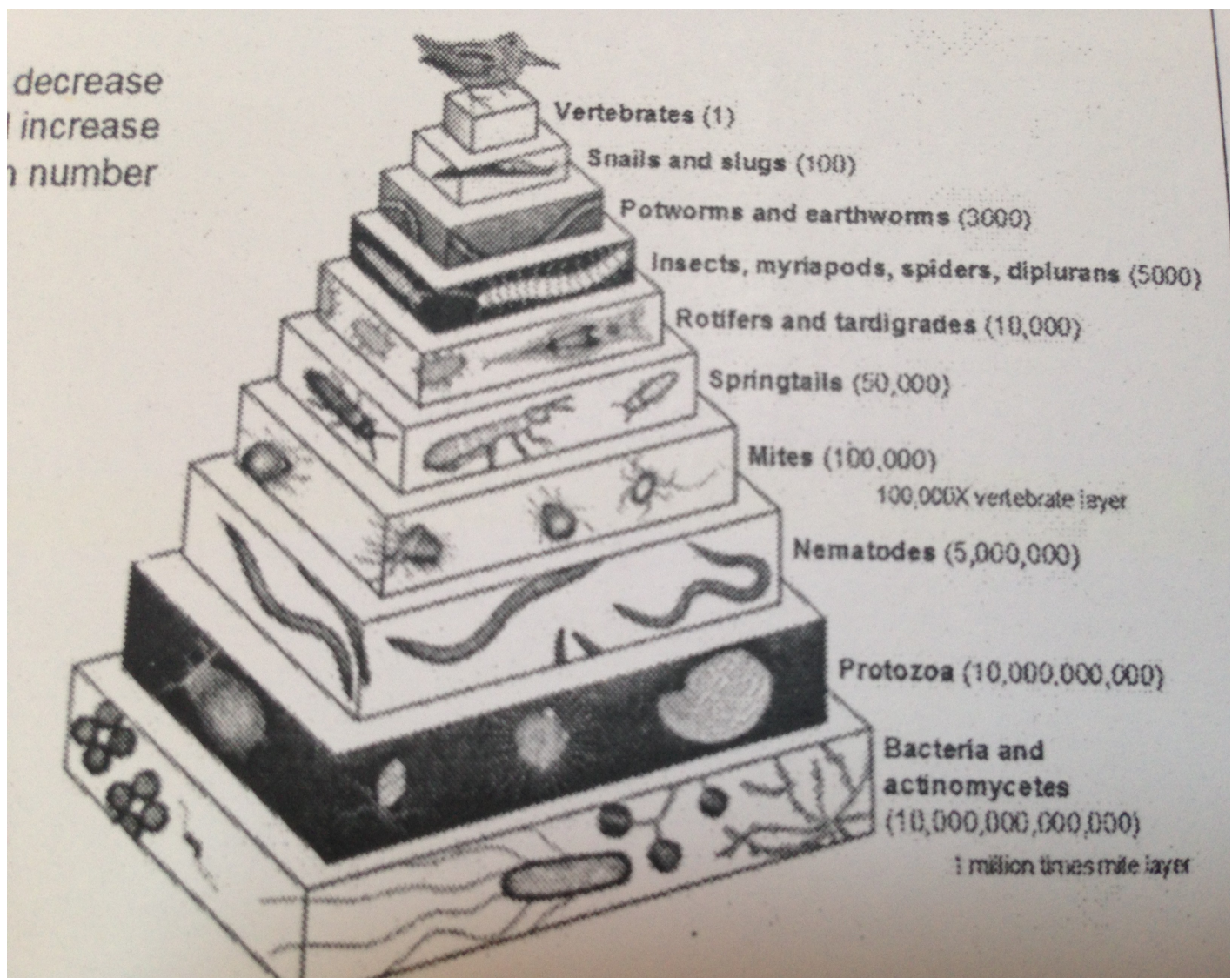


THE UNIVERSE OF SOIL, DESERTIFICATION AND WHAT'S GOING ON AROUND US

Soil is comprised of countless species which create a dynamic and complex ecosystem. On the picture below you can see what is going on in one square meter of soil. Besides the soil's more obvious inhabitants, which include rodents, insects, mites, slugs and snails, spiders and earthworms, there are countless microscopic residents. Bacteria are involved in enzyme transformation that make possible the growth of higher plants, including our food crops. Chemical reactions occur in the soil as a result of exchange of positive ions, or cations.

Some practices are incompatible with the ecological health of the soil. Increasing numbers of livestock, for example, leads to aridity, and compaction. As a result diverse native plant communities have vanished, giving way to mono cultures of weeds, (seems like sage in our area).



RESULTS OF TESTS FOR DETRIMENTAL EFFECTS OF LIVESTOCK GRAZING ON ARID ECOSYSTEMS

CATEGORY	PERCENTAGE OF DETREMENTAL EFFECTS
Rodent species diversity	87.00%
Vegetation diversity (shrubs,grasses,forbs)	47.00%
Shrub cover	56.00%
Grass cover	71.00%
Forb cover	53.00%
Total vegetation cover	50.00%
Total vegetation biomass (kg/ha)	91.00%
Seedling survival,trees	75.00%
Cryptogram crust cover	83.00%
Litter cover	50.00%
Soil water infiltration rate (cm/hr)	80.00%
Litter biomass	86.00%
Soil bulk density(g/sm)	78.00%
Seedling survival,non trees	100.00%
Rodent species richness	59.00%
Soil erosion(kg/ha)	100.00%

According to UN CONVENTION TO COMBAT DESERTIFICATION every year the cumulative effects of overgrazing,over-cultivation,deforestation,poor irrigation and climate changes,including those that cause drought, permanently degrade close to 10 million hectares of land. This has led to a creeping loss of places where food can easily be grown. 38% of the world's land is now in danger of turning in to a desert. Some 135 million people (equivalent of France and Germany) are at risk of being displaced.

YIKES!!!!



This is Venables Valley in August 2014.

In moist landscapes plants can recover their reserves after grazing if given a rest of a few months. In the arid areas the dry summer does not allow much, if any recovery. Soil becomes dirt and land becomes a desert. From 1990 to 2000 some of 1,374 square miles have turned onto desert each year. That's up from 840 square miles in the 1980's and 624 square miles in the 1970's. Global climate change contributes to this problem.