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Fill soil / ballast	In urban areas, the soil is often made up of imported fill material, which can contain a wide variety of substances. Natural layering is typically missing, and even topsoil is often brought in from elsewhere.
Asphalt	Asphalt does not let rainwater or light through. Asphalt collects the sun's heat and warms the surrounding area.
Sewer system and rain	Sewers directs rainwater away and thus remove the natural water cycle. In urban areas, the amount of rainfall is higher than in rural areas.
Earthworms	An important group of organisms in the park's topsoil. Maintains the aeration, drainage and nutrient richness of the soil. The number of these invertebrates is high and increases as the park area ages.
Bacteria as decomposers	Due to the high pH value of the soil, bacterial decomposers play an important role in parks.
Soil organisms	The soil organism community of park areas is diverse, but its composition differs partly from forest environments. Parks contain, among others, mites, ants, decomposer fungi, and various bacteria.
Brown roll-rim (*Paxillus involutus*)	In managed and fertilized environments, trees rely less on mycorrhizal fungi. However, Brown roll-rim (a type of fungus, Fin. Pulkkosieni) thrives in such conditions, especially where human activity is present. Fertilization and soil disturbance stimulate its fruiting.
Temperature	Urban areas are warmer than forests due to the urban heat island effect.
Planting	In heavily human-influenced areas, most vegetation is planted. Many of these plants wouldn't naturally survive in the local climate or soil conditions.
Dogs and human impact	Pets contribute significantly to nutrient loading in parks, which can also affect the soil ecosystem.

CLEAR-CUT AREA

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Mixed layers of soil	Due to human intervention, the layered structure of the soil has disappeared, as the layers have mixed.
Soil organisms deeper in the ground	Soil cultivation breaks up the soil structure, making it more aerated, while forestry machinery compacts the soil with its weight. In the mixed soil, soil organisms and decomposing litter end up deeper in the ground than just in the organic surface layer. Because of the mixed structure and increased organic matter, decomposition activity accelerates.
Bacteria, fungi and mycelia	The soil organisms living in clear-cut areas are mostly the same as those typically found in forest soil.
Stumps	Tree stumps are a significant source of dead organic matter in clear-cut areas. The felled trees no longer absorb CO_2 from the air, so this carbon sink is lost.
Fireweed (*Chamaenerion angustifolium*)	The first vegetation to colonize the clear-cut area consists of fast-growing pioneer species.
Sunshine	In treeless areas, the effect of solar thermal radiation is strong.
Rainwater	Once the trees are cut down, the water they would have used remains in the soil. Many clear-cut areas are also drained, and the water that falls on the soil eventually flows into water bodies through these ditches. This causes nutrient loading in aquatic ecosystems. Other negative effects of drainage include reduced biodiversity in wetlands and a lowering of the groundwater level.
Human impact	Human impact significantly alters ecosystem functioning.
Carbon dioxide (CO_2) release	Warming and mixed soil (2,6) and increased organic matter activate microbial activity → CO_2 emissions increase as a byproduct of decomposition.

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Layered podzol soil	Podzol is the most common soil type in Finland, and its structure consists of several layers from top to bottom: Organic layer, Topsoil (humus), Eluviation layer, Illuviated layer, Parent material and Bedrock.
Low pH	In coniferous forests, the litter layer consists of a lot of needles. Needles decompose slowly and release acids into the soil → Low pH
Enchytraeid worms / pot worms	An important decomposer group in decaying litter. The ecological significance of enchytraeid worms as decomposers is greatest in coniferous forests, where earthworms are almost entirely absent due to soil acidity.
Mycorrhiza and fruiting body	The role of mycorrhiza is significant as a symbiont of trees, where both partners benefit and support each other's growth. Some fungi reproduce through fruiting bodies that appear above the soil surface.
Soil organisms like Oribatid mite / springtail	Important as "breakers" of dead organic matter, making it available for fungi and bacteria.
Polypores, soil fungi and bacteria as decomposers	In coniferous forests, decomposer fungi (e.g. polypores) and their mycelia play a major role in decomposition. This is due to the acidic soil and the presence of specialized enzymes that allow fungi to break down hard-to-decompose substances like lignin. However, all types of soil contain some bacterial decomposers.
Moss (*Pleurozium schreberi*)	The moss layer can regulate the amount of nitrogen entering the soil, for example by forming symbiotic relationships with nitrogen-fixing cyanobacteria. Mosses also affect microbial activity by retaining moisture, which accelerates microbial processes, or by lowering soil temperature, which slows them down.
Shading	Trees provide shade and create favorable microclimates for a wide range of organisms.
Rain and water reserves	Forests increase rainfall, and soil plays an important role in filtering and storing water resources.
Carbon sequestration	Healthy forest soils act as significant carbon sinks. Carbon is stored in tree roots and other organic matter within the soil.