The Relationship between Residential and Commercial Zoning and the Concentration of Toxic Heavy Metals

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Toxic metals represent a serious threat to both the environment and human health which means that regulations that affect their dispersion are critical. The question of this observational study was how regulations on commercial and residential municipal zones impact soil metal levels. The central concern was whether or not regulations on commercial areas are sufficient for public health. Sample sites were randomly selected and samples were collected in a mid-sized American town. Samples were processed and then tested using X-ray fluorescence (XRF) analysis for lead, cadmium, mercury, zinc and zirconium. On average it was found that commercial sites had lead levels almost twice as high as residential sites. Additionally, lead levels were above 400 ppm on average in commercial sites, which is past the level generally considered ideal for human health. No other metal was found in a significant enough concentration to represent a danger to human health in either residential or commercial sites.

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