

TRENDS, OPPORTUNITIES AND RISKS FOR SOIL CONTAMINATION IN NEW ZEALAND

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Society is today very aware of the dangers of contaminants in food. Stories of heavy metal, pesticide and agrichemical levels in food products are common in media. While New Zealand does not have a legacy of extensive soil contamination from industrial sources, agricultural practices have introduced contaminants such as DDT, Cd and As in the soil environment. Many of the contamination pathways are/were diffuse and accurate knowledge of the specific location of contaminated land is often poor.

The growth of major New Zealand cities into what has traditionally been rural land has seen the transfer of land use from agricultural production to residential housing or lifestyle blocks. This is particularly true for Hamilton and Christchurch; the former due to the Auckland housing boom and the later a consequence of the 2011 earthquake. There are regular stories of new housing developments being sited on historic landfills or sheep-dip sites, where soil contamination levels exceed National Environmental Standards.

Understanding the relationship between the NES and urban development is an important area for New Zealand environmental management. There is good opportunity for research and teaching in this space to increase the capability of environmental professionals to provide sound environmental advice. The risk of contaminant concentrations above NES guidelines can be mitigated by timely environmental assessment, appropriate consideration of alternative land-use options, and, where necessary, soil amendment and/or remediation.

This paper will present an overview of topical contamination issues with New Zealand soil, and review specific case studies for As and DDT contamination at historic sheep dip sites, Cd contamination of pastoral land, and dioxin contamination of soil and sediments.

Editor's Note: A manuscript has not yet been submitted for this presentation.