

Sustainable and Risk Based Land Management in a Nutshell

With several decades of experience gained in land contamination management, the policy and technical consensus is that land contamination management decision should be made based on risks to human health and the wider environment. For a risk to be present, a source (of hazardous substance or property), a receptor (which could be adversely affected by the contamination) and a pathway (linking the source to the receptor) must be present. This is referred to as a Source-Pathway-Receptor (S-P-R) linkage.

A receptor might be a human, an ecologically sensitive site, water resources, or a building. While not generally legislated for, risks to ecological system 'goods or services' provided by the wider environment¹ may become an increasingly important receptor to consider. Risk management interventions can take place at any point in the S-P-R linkage, as long as it breaks the linkage. The source may be removed, the pathway intercepted, or the receptor behaviour or location modified. A range of risk management / remediation options are available at different points across any particular linkage. This risk-based approach to contaminated sites is termed "Risk Based Land Management (RBLM)".

The remediation process itself is not free of impacts. Remediation is not intrinsically sustainable and poorly planned projects can have serious negative impacts. Therefore, risk management should also meet sustainable development principles. Together this constitutes **sustainable risk-based land management** (SRBLM). SRBLM is recognised as the optimal approach for contaminated land decision-making, combining a risk-based framework for determining when harm (or potential harm) is unacceptable and where action is necessary, and ensuing sustainability is a part of deciding how such unacceptable risks are to be managed. It ensures a balanced decision is taken which optimizes overall benefit. Much has been learned in applying sustainability assessment to contaminated site management projects. In the best examples, significant improvements in project sustainability have been delivered, including concurrent reduction of the environmental footprint of the remediation, improved social performance, cost savings and/or value creation

¹ E.g. as described by the World Health Organisation: <https://www.who.int/globalchange/ecosystems/en>