Land Contamination Checklist

(Adapted from HPA 'Chronic Land Contamination Incident Checklist, October 2009')

Introduction

Contaminated land can represent a potential risk to human health through:

- the uptake of contaminants into the food chain or ecosystems;
- direct ingestion or inhalation of, or contact with, contaminants; and
- contamination of water resources;

Checklist

1. Identify contaminant(s) involved

- Consider contacting PHE-CRCE for information on the contaminant

2. Identify source of contamination

- **For acute events**: source of contamination should be easily identifiable
- **For chronic problems**: refer to historical maps/information about past activities on the site

3. Identify all potential pathways between contaminants and receptors

- Is there an aquifer used for drinking water abstraction?
- Is there a river or stream used for recreational purposes?
- Is the land used to grow food? Is there an allotment site? What types of food are grown in the soil?
- Are there other pathways that would transport the contaminants elsewhere?
- Are there plastic water supply pipes?
- Is a completed exposure pathway suspected?

4. Undertake preliminary desk study

5. Consider carrying out a site visit

6. Identify population at risk

7. Undertake full assessment of public health impact

- Determine exposure among local residents and users of the site
- Has the wider population potentially been exposed?
- Have appropriate actions to protect public health been taken?
- Consider whether an interagency incident response team (IRT) is needed.

- If there is a suspected cluster refer to the 2019 Cluster Investigation Guidance[1] on how to proceed with a cluster investigation when reported to a Department of Public Health Medicine / Medical Officer of Health. Other useful references are available in the resources section.

8. Consider a detailed investigation (appropriate specialist expertise may need to be commissioned)

- Consider contacting PHE-CRCE for advice on exposure assessment
- Consider development of health questionnaire to assess exposure and health effects
- Consider biological sampling of exposed population if appropriate test available
- Confirm that appropriate environmental sampling to determine extent of contamination on/off site have been taken
- Include control samples to determine 'background' levels
- Consider contacting FSAI re sampling and analysis of food grown in contaminated soil
- Develop detailed conceptual site model
- Collect maps and plans of the area to show geology, hydrogeology, any underground features, utility trenches, land drains, historical land use etc
- Determine direction of groundwater flow to help predict movement of chemicals through ground

9. Consider providing information to the public

- Advise not to eat food grown in contaminated soil or encourage thorough washing of food prior to consumption
- Encourage thorough washing of hands following contact with the soil

Useful Resources

- UK Recovery Handbook for Chemical Incidents, HPA, 2012: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/201024/UKRHCI_publication_31st_May_2012_web2.pdf

- Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites. Environmental Protection Agency, 2013. https://www.epa.ie/pubs/advice/waste/contaminatedland/contaminatedland/Guidance_on_the_Management_of_Contaminated_Land_and_Groundwater_at_EPA_Licensed_Sites_FINAL.pdf

[1] Collins et al: Cluster Investigation Guidelines: Guidance on how to proceed with a cluster investigation when reported to a Department of Public Health Medicine / Medical Officer of Health, 2019; HSE. https://www.hse.ie/eng/services/list/5/publichealth/publichealthdepts/env/cluster-invest.pdf

- Non-infectious disease clusters: investigation guidelines. PHE publications gateway number GW-201, 2019. https://www.gov.uk/government/publications/non-infectious-disease-clusters-investigation-guidelines

- EPA and Departments of Agriculture and Food, Health, Environment, Heritage and Local Government. (1997). Protocol for the investigative approach to serious animal/human health problems. Kelleher K *et al* (1997) and the Disease Cluster Investigation Protocols: http://www.lenus.ie/hse/handle/10147/283234

- Investigating Suspected Cancer Clusters and Responding to Community Concerns: Guidelines from CDC and the Council of State and Territorial Epidemiologists, *Recommendations and Reports*, September 27, 2013 / 62(RR08); 1-14. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6208a1.htm

- Ministry of Health. 2015. *Investigating Clusters of Non-communicable Disease: Guidelines for public health units*. Wellington: Ministry of Health. ISBN 978-0-478-44810-8. https://www.health.govt.nz/system/files/documents/publications/investigating-clusters-non-communicable-disease-guidelines-may15-v3.docx