

Assessment of Hg Exposure in Terrestrial Environments

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Assessment Overview

- Literature Review
- Floodplain Land-use Appraisal
- Floodplain Hg Survey
- Soil-Hg Levels of Concern
- Surveys and Studies



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Literature Review – Hg in Terrestrial Environments

- Alternative sources of Hg
 - Gold mining, incineration, pesticides
- Soil-Hg species
 - (Bio)availability
 - Species influence on uptake into plants
- Methodologies
 - Sampling and analysis
- Quality of Literature
 - Peer review
 - Studies using well-characterized soils
 - Detailed, generally accepted methodologies
 - Identify “exceptional” studies



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Floodplain Land-use Appraisal

- Site conceptual plan
- Gardening
- Farms and pastures
- Playground and athletic fields
- Other recreational areas with potential for significant exposure to soil



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Floodplain Hg Survey

- Identify areas with potential for significant soil-Hg uptake into plants
 - Routes of potential exposure
 - Plant → humans
 - Plant → animals → humans
- Survey for Hg
 - Surface to 50-cm deep
 - Total
 - Physical/chemical species



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Soil-Hg Levels of Concern

- Grounding for levels of concern in soils and plants
 - 503 Regulations governing land application of biosolids for beneficial reuse
 - Other pertinent literature



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Surveys and Studies

- Surveys
 - “Food basket”
 - Food processors
- Plant uptake studies
 - Greenhouse
 - Field studies



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