

SAB Review of Ecology's Working Definitions for Lead & Arsenic-Contaminated Soils

"This game is like swimming in syrup"

Tim McCarver (Describing Game 3 of 2005 World Series)

**Prepared for
MTCA Science Advisory Board
November 18, 2005**

Regulatory Dilemma

- Are there soil levels and/or exposure situations where it reasonable for Ecology to conclude that voluntary measures and actions under other authorities are appropriate ways to address arsenic & lead in soils at levels that exceed MTCA cleanup standards given:
 - Potential health risks associated with exposure to arsenic and lead & the uncertainties surrounding those estimates;
 - Variability in exposures & susceptibility among individuals;
 - Potential exposure to lead & arsenic from multiple sources;
 - Estimated effectiveness of measures under other authorities (in terms of reducing exposure) relative to measures implemented under MTCA.

Task Force Recommendation Tiered Response

High

- Traditional Cleanup Processes and Measures (e.g. removal & containment)
 - Institutional Controls and Periodic Review
-

Moderate
(Intermediate)

- Broad-Based Education & Awareness Building
 - Individual Protection Measures
 - Simple Containment Measures
 - Containment measures integrated with new construction/renovations
 - Periodic Program Review
-

Low

- No Further Actions

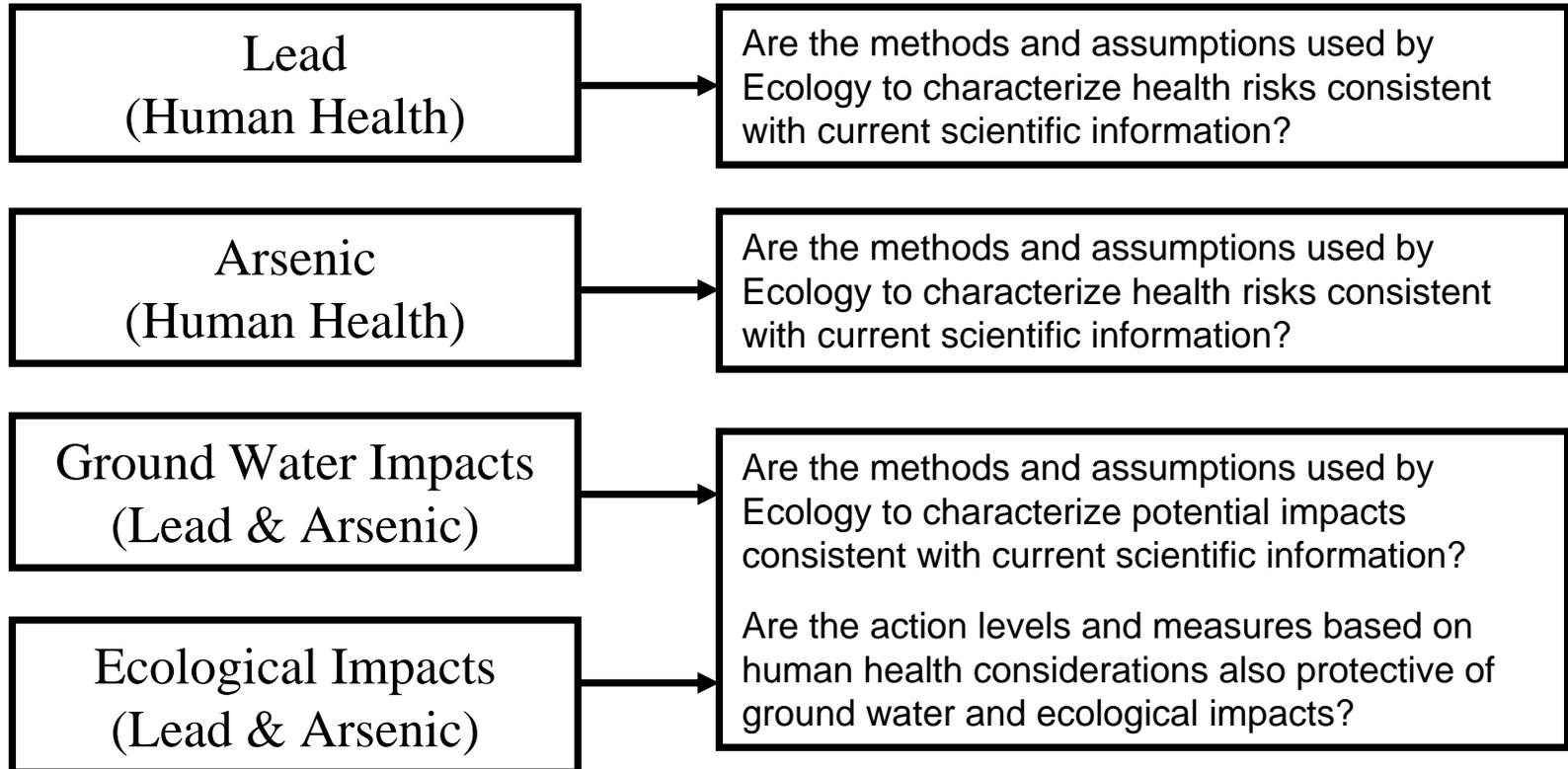
Moderate Levels of Arsenic & Lead Ecology 2003 Working Definition

	Lead	Arsenic
Residential Areas	250 - 500	20 - 100
Schools & Child Care Facilities	250 - 700	20 - 100
Commercial Facilities & Parks	250 - 1000	20 - 200

Science Advisory Board Review

Phase

Basic Questions



Lead-Contaminated Soils

Summary of SAB Conclusions

- Upper End of “Moderate” Range
- Lower End of “Moderate” Range
- Soil Concentrations Below 250 mg/kg
- Protection of Adults and Older Children
- Protection of Ground Water (ongoing discussion)
- Future Information Collection and Evaluation

Arsenic-Contaminated Soils

Summary of SAB Initial Conclusions

- The Board reviewed available information on the toxicity of arsenic and provided initial recommendations to Ecology in November & December 2004.
 - Cancer Slope Factor
 - Reference Dose (Chronic exposure)
 - Reference Dose (Less-than-lifetime exposure)

Next Steps

- November 2005 Meeting
 - Ground water impacts associated with lead-contaminated soils.
 - Describe methods & assumptions used by Ecology to develop working definition for arsenic-contaminated soils.
 - Identify additional information to facilitate Board review
- December 2005 Meeting
 - Discuss methods and assumptions (including additional information)
 - Board conclusions on methods and assumptions
- Consideration of ground water impacts (arsenic) and ecological risks (lead and arsenic)