

Food for Thought

Addressing the Gardening Pathway

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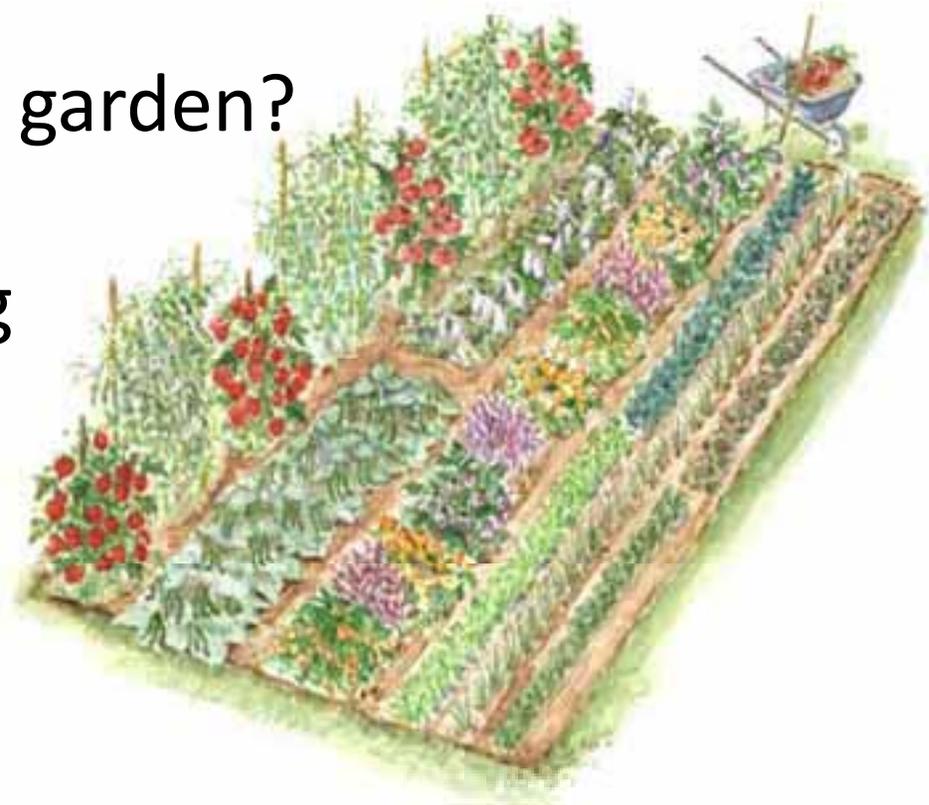
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1. Let's Talk About Gardens

- Who here gardens?
- How large is your garden?
- Who is still eating homegrown produce in January?



2. Let's Talk Garden Soil

- Who has tested the soil in their garden?
- Why?
- Why Not?



3. What Are You Concerned About?



Arsenic



Cadmium



Chlordane



Chromium



Lead



Nickel



PCBs



Zinc



4. Let's Talk MCP & Gardens

- Current Requirements
 - Method 1
 - Incorporated into S-1 Standards
 - No S-1 Standard BASED on Gardening
 - Several Standards MODIFIED by Gardening Pathway

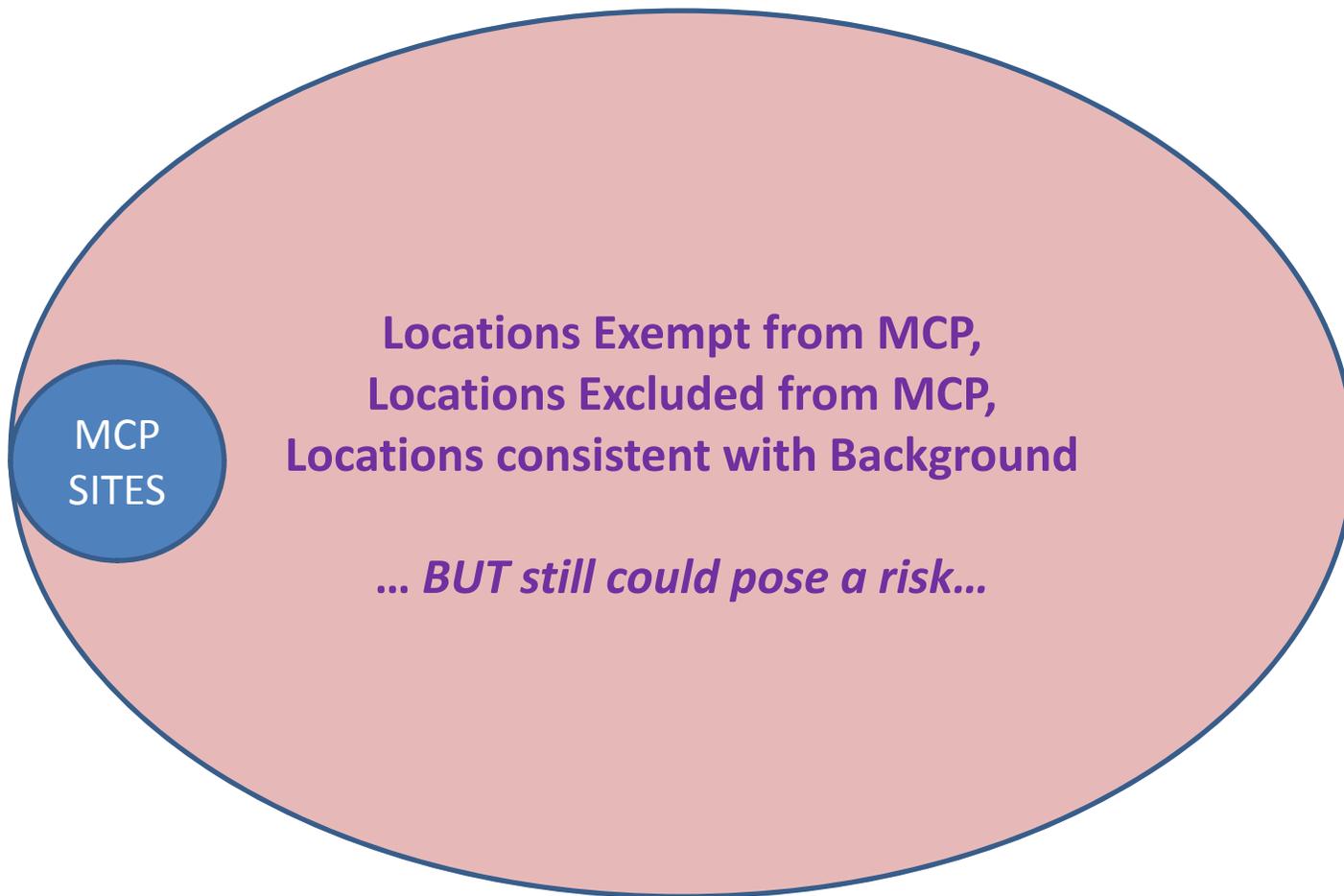


4b. Let's Talk MCP & Gardens

- Current Requirements
 - Method 3... *issues*...
 - MassDEP published PUFs (Plant Uptake Factors)
 - Associated with Current Residential Use
 - Therefore can't be AUL'd
 - Tends to drive risk/cleanup



5. Universe of Concern



WARNING: Graphic NOT drawn to scale!

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6. Issues to Address

1. Quantitative risk estimates of gardening pathway may not be of sufficient quality for remedial decisions.
2. Risks are real, if difficult to quantify.
3. Sites outside MCP process would benefit from broader approach
4. Method 1 vs Method 3 consistency needed



Pause & Reflect

Gardening in Urban Soils

W. Heiger-Bernays & Many, Many
Students & Collaborators

BU School of Public Health

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The logo for Boston University, featuring the words "BOSTON" and "UNIVERSITY" in white, serif, all-caps font, stacked vertically within a red rectangular border.

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Gardens – Not all Created Equally

Boston Community Gardens VS



“Backyard” Gardens



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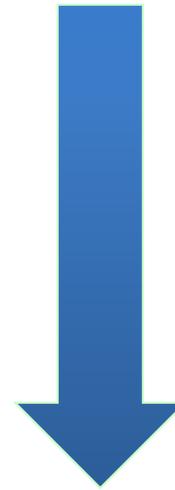


Garden Pathway is of Concern

- Lead & Arsenic
- PAHs
- Many Others!

Exposure is REAL (multiple routes)!!!

Toxicity of these agents is understood



Alternative Approach



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Best Management Practice

- Due diligence
- Convincing evidence of the life of the property
- Assume presence of Pb, As, PAHs... others
- Assume unlimited access, exposure & absorption
- Limit exposure to existing soils – removal
- Replace with “clean” material & cover adjacent areas
- **Education of gardeners**

Confirm Use of “CLEAN” Compost & Soil



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Back to MassDEP...

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7. Preliminary Thoughts

1. Discontinue quantitative evaluation of gardening pathway
2. Base Method 1 standards & Method 3 risk estimates on more direct exposures (e.g., dermal & ingestion).
3. Develop & Push qualitative approach – BMPs Appropriate to MCP and non-MCP locations
4. Question of notice & AULs?

