



MISSOURI DEPARTMENT OF  
**HEALTH &  
SENIOR SERVICES**

# **Environmental Public Health**

Former Tronox/Kerr-McGee Wood Treatment Facility, Springfield, Missouri  
Community Meeting, March 14, 2024

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# What is Environmental Public Health?

**Environmental public health focuses on the relationship between the environment and human health.**

MDHSS-BEE protects human health by:

- Evaluating human exposure to contaminants in the environment,
- Making health-protective recommendations, and
- Providing community education.

# Evaluating Environmental Health Risks

**DHSS uses data to evaluate potential health risks from exposure to contaminants in the environment:**

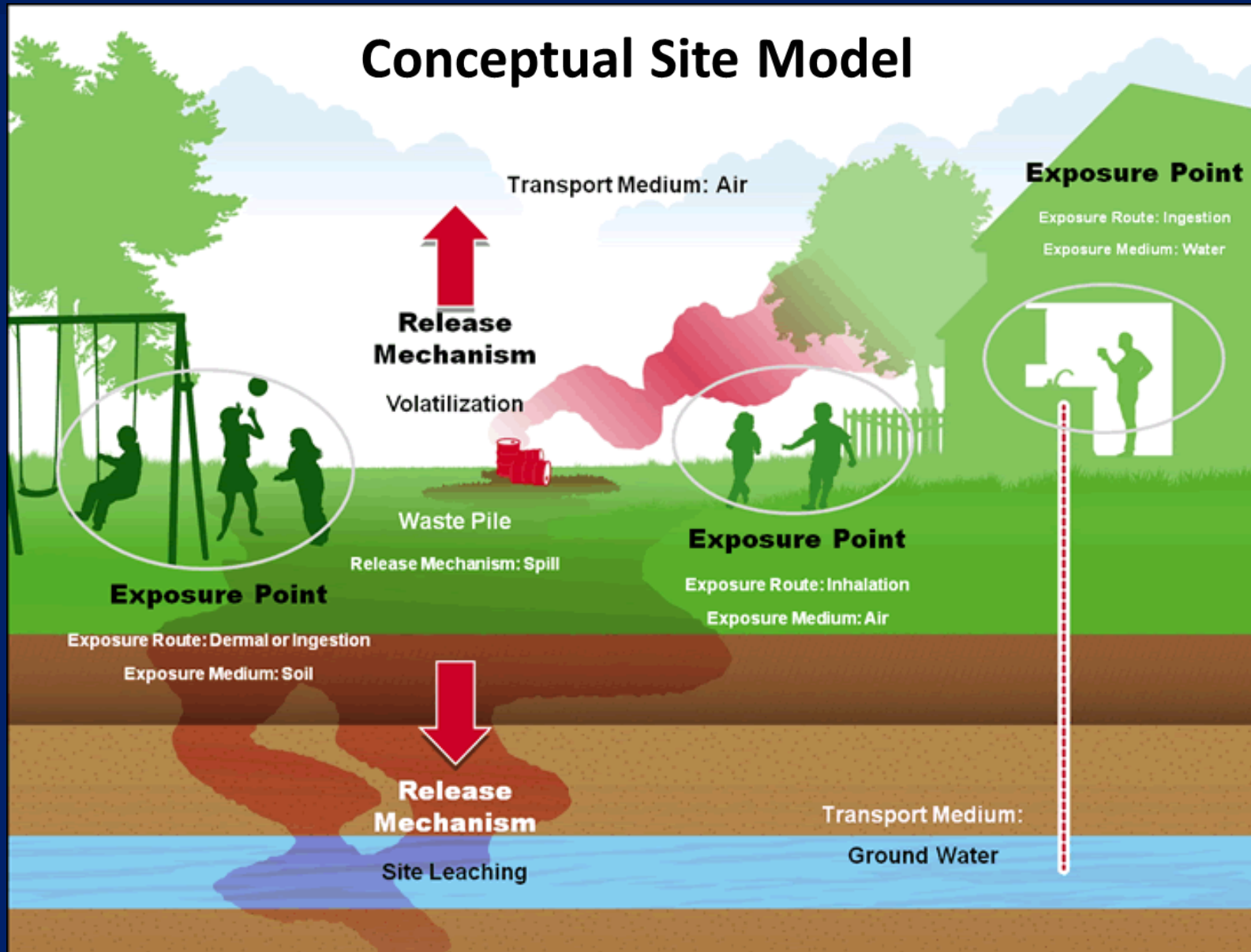
- Environmental sampling data (air, water, soil, etc.)
- Chemical-specific data (toxicity data, physical properties)
- Human exposure estimates (exposure frequency, duration, etc.)

**Our evaluation seeks to answer:**

- What contaminants exist and are of potential concern?
- How might people be exposed to the contaminants?
- At what level of exposure are cancer or non-cancer effects possible?
- What are the potential risks and uncertainties?
- How might risks be reduced or minimized?



# Conceptual Site Model



**Before a contaminant can harm you, it has to enter your body.**

# Exposure and Potential Health Effects

**Not all exposures cause harmful effects.**

The effect of exposure to a contaminant depends on a variety of factors, including:

- the toxicity and concentration of the chemical.
- how the chemical enters a person's body.
- how much, how often, and how long exposure occurs.
- In addition, individual health, sensitivity, and other personal factors play a role in whether or how much an individual may be affected from exposure to a contaminant.

**Due to this variety of factors, it's not possible to definitively link any illness to specific environmental exposures.**

# Evaluating Results and Determining Response Actions

Sampling data are compared to guideline values protective for even the most sensitive individuals:

- For carcinogens, risks are estimated as the probability of an individual developing cancer over a lifetime as a result of the exposure.
- For non-carcinogens, a threshold level is used below which adverse health effects are not expected to occur.

# Potential Environmental Health Risks Under Investigation at the Site

Environmental Sampling includes:

- Vapor Intrusion (VI)
- Residential Soils
- Groundwater
  - Domestic Wells
  - Public Water Supply
- Surface Water and Sediment

*Investigation and evaluation is ongoing to address  
potential health risks.*

# Community Cancer Concerns

## General information on cancer and chronic disease concerns:

- Cancer is not one disease.
  - Different cancers, like other chronic diseases, have different causes and risk factors.
- Cancer affects many people.
  - Approximately 1 out of every 3 people will be diagnosed with some type of cancer in their lifetime.
- Environmental contamination is just one of many risk factors.
  - Age, family history (genetics) and lifestyle factors (diet, exercise, alcohol or tobacco use) are usually more important risk factors for cancer than environmental contamination.



# Community Cancer Concerns Continued

## Cancer Inquiry (CI) Process

- Cancer is a reportable disease in Missouri and a state cancer registry is maintained.
- MDHSS uses a systematic, multi-disciplinary approach, consistent with national guidelines, to determine if a perceived cancer excess is real.
- The goal of the cancer inquiry (CI) process is to work with individuals or communities in exploring the nature of their cancer concern, provide health education on cancer risk factors, and, when appropriate, provide epidemiological information.

Bureau of Cancer and Chronic Disease Control:

<https://health.mo.gov/living/healthcondiseases/chronic/cancer/>

For health-related questions, contact:  
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MDHSS Vision: Optimal health and safety for all Missourians,  
in all communities, for life.

MDHSS Mission: To promote health and safety through  
prevention, collaboration, education, innovation, and response.