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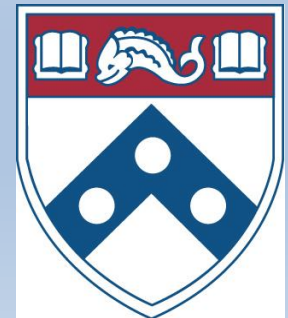
Realities of environmental toxicity and their ramifications for community engagement

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The Community of Ambler, PA

Suburban Philadelphia, 18 Miles from City

1881: Keasby & Mattison, Milk of Magnesia manufacturer, moves to Ambler

1897: Dr Mattison's laboratory accident – discovers insulating and strength properties of dried Milk of Magnesia + Asbestos

1897: Sectional Pipe Coverings containing asbestos - instant success, more products

1910-1920: Worlds largest producer of asbestos products “The BEST in asBESTos”



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The Community of Ambler, PA (cont.)

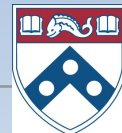
Quintessential factory town:
company houses, electric
lighting, reticulated water, Opera
House

2000+ workers: Italian stone
masons, African-Americans

1930s-1984: asbestos
contamination and waste sites

1970s-1980s: plants close, leads
to urban decay

1990s: renaissance, art and
restaurant scene, family friendly
community, top ranked schools



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Ambler, PA - the Asbestos Legacy

Ambler South

Asbestos piles, the “White Mountains” - 24 acres, 30 meters high, ~ 800,000 cu meters of asbestos-containing & other wastes

1984-1996: Declared an EPA “Superfund Site” - capping, slopes graded, hydroseeded, fencing and signs, dismantled playground

Subsequent erosion, uprooted trees, animal burrows, unauthorized access

Current: Remains fenced off



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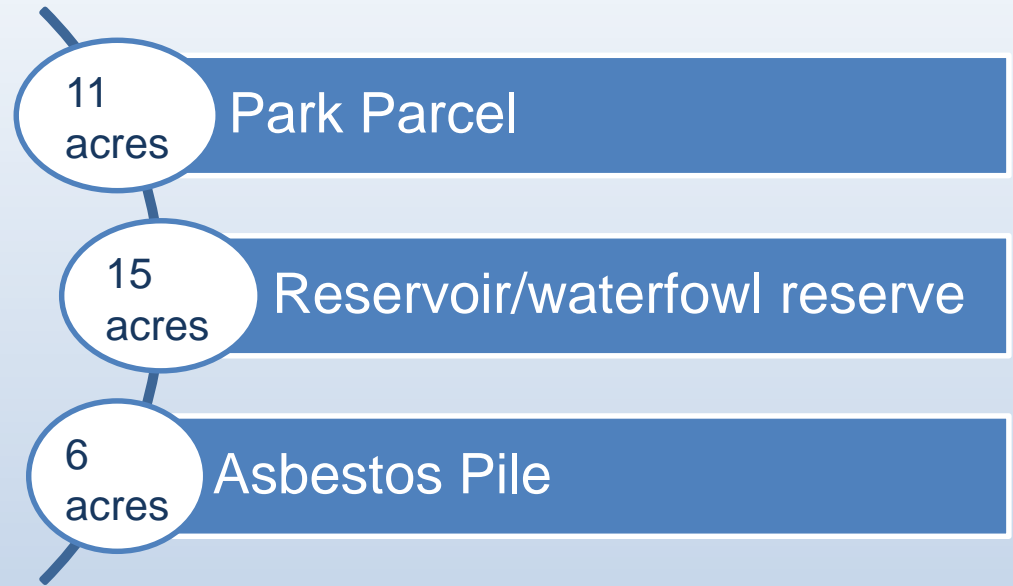


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Ambler, PA - The Asbestos Legacy

Bo-Rit Site



1984: fenced off, no access to park/playground, 22% asbestos in soil.

2009: declared EPA Superfund Site

Current: removal of immediate hazard almost completed, final remediation plan anticipated. Reuse and remediation concerns from community



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Family Photo - Ambler 1960s Credit: Joe Marincola



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Ambler playground after fence c.1984



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Bo-Rit: 1930s vs. 2008

Credit: Sal Boccuti



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Aerial Map Bo-Rit Site 2010 Credit: Sal Bocchuti



Before and After Phase 1



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Before and After Phase 1



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University of Pennsylvania SRP Involvement

◆ Preceded SRP:

- Joined the 25 member Bo-Rit Community Advisory Group (CAG)
- Stimulated development of SRP to study the issues raised for the Ambler Community

◆ Sources of information and enlightenment:

- Our experiences through CAG/ other activities
- In-depth interviews with community members
- Community members as part of research team
- Community surveys
- REACH Ambler Project (NIH-SEPA grant funding)



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Community Engagement Challenges

- 1) Addressing Community Ambivalence or Antipathy to Science
- 2) Developing and Sustaining Trust
- 3) Dealing with the Range of Risk Perceptions
- 4) Sustained involvement in a Lengthy Process



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1) Addressing Community Ambivalence or Antipathy to Science

- ◆ **Avoiding Arrogant Information Provision**
- ◆ **Listening and Waiting to be Asked**
- ◆ **Respectful relationships with all parties**
- ◆ **Help that is not narrowly defined**
- ◆ **Useful contributions to understanding and assistance in problem-solving**



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2) Trust

- ◆ Trust is slowly developed, can be quickly lost
- ◆ Community initially lost trust in EPA at Bo-Rit
- ◆ Other Agencies maintained trust
- ◆ Trust can be slowly regained
 - Example:
 - CAG and other citizen public comments on the Proposed Remediation plan requesting continuing EPA role



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3) Range of Risk Perceptions

- ◆ EPA spent a lot of time, energy and money
- ◆ Actions fed inherent community distrust of government/
conspiracy theories
 - ◆ Ex: bulldozing and tree removal on windy days without promised community notifications, seen from aerial photographs
- ◆ Some residents came to view some employees as dishonest and/or incompetent
 - Ex: Presented removal as quick and relatively inexpensive (was neither) → “the EPA is going to do what the EPA will do. You are not going to change it”



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3) Range of Risk Perceptions (cont.)

In-depth interviews of Ambler community stakeholders:

- Extreme range of views on risk
- Different attitudes about optimum remediation
- Not based on Environmental Health Literacy
- Need for better understanding of the basis for different attitudes and perceptions to help us work together

Clapp JT,. Roberts JA, Dahlberg B, Berry LS, Jacobs LM, Emmett EA. Barg FK. 2016. Realities of environmental toxicity and their ramifications for community engagement. Social Science & Medicine 170: 143-151.



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4) Sustained Long-term Involvement

◆ Process:

- Is dynamic
- Has different stages
- Requires a variety of inputs
- Needs a long-term perspective



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