

History of abandoned urban sites found stored in soil

April 5 2012

Old houses and vacant lots may not look like much to the naked eye, but to some, the site is better than gold. Excavations over the years can create a challenge to study what's left behind and often appears as if dirt and debris ended up mixed in a blender then pressed by a giant trash compactor.

However, in Detroit, one scientist and geologist is finding some of the city's abandoned lots provide a surprising "natural laboratory" for studying certain processes involved in [soil formation](#); particularly the [weathering](#) of rocky and mineral objects within the soil layers. Jeffrey Howard's analyzed soil in the heart of the Motor City since he first dug an experimental pit on the site of a demolished building a few blocks away from his office at Wayne State University. And Howard says what he's been finding ever since, continues to amaze him, leading to his newest research.

"With an urban soil, we know what 'time zero' is," says Howard. "We don't know that as well in nature." If he's working on a vacant lot where the building was demolished in 1969, for example, "that's when the soil started to form." Howard's learned he can further date the processes in his "natural laboratory" by digging at sites where a dated cornerstone or other historical record tells him exactly how long the processes have been taking place. He's also finding Detroit the perfect starting place, where urban soil is slowly revealing the city's story as a world leader from the [Industrial Revolution](#) through [World War II](#), to the now dramatic contraction of surplus houses, abandoned factories and

crumbling landmarks.

The results map the passage of time, showing some of the old underground debris may be having a beneficial effect in certain polluted soils. And he's finding a mix of manipulated conditions. Howard says, "They didn't know that's what they were doing then, but scientifically, now we're able to see something that we otherwise wouldn't have seen. And that's huge."

More information: See the complete results from this study in the just released, online only publication, *Soil Horizons*, at:

www.soils.org/publications/sh/articles/53/2/6

Provided by American Society of Agronomy

Citation: History of abandoned urban sites found stored in soil (2012, April 5) retrieved 20 March 2024 from <https://phys.org/news/2012-04-history-abandoned-urban-sites-soil.html>

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