



# Brownfields Briefs

## Youth Organizing and Brownfields

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The dominant language of brownfields policy that reaches its yearly crescendo at the national brownfields conference—targets of opportunity, fixed priced contracts, the art of the deal—has pushed to the margins other “uses” of brownfields. In this policy brief we examine how, in low-income and minority neighborhoods, young people are using brownfields as a means to organize local residents and to encourage youth political engagement.

For example, in New York City’s South Bronx, having “access to the water” often means opening up fire hydrants in the summer to cool off. A local faith-based group, the Youth Ministries for Peace and Justice (YMPJ), saw the nearby Bronx River as an opportunity to do more, to create much needed water access and parkland for South Bronx residents. The problem was that the southern reaches of the river were polluted and flowed through abandoned industrial sites and poorly maintained properties with few public access points.

To address the issue, YMPJ formed a RIVER Team, comprised of young volunteers from the neighborhood. The team began a sustained advocacy campaign to clean up the river and to identify shoreline properties—old industrial sites—that could be redeveloped as parks. As part of its organizing strategy, the RIVER Team secured canoes and began paddling local residents and others, including local and state politicians, down the river. They thus brought the long neglected Bronx River to the attention of federal, state, and local agencies. As the result of YMPJ’s advocacy and its participation, with other community and government stakeholders, a number of improvements were made to the river and its shoreline: Stretches of the river were cleaned up; new parks were created in the place of old abandoned industrial sites, and funding was put in place to build new community facilities, including a boat house, along the river.

In Hammond, Indiana, students are taking a closer look at brownfields in their neighborhoods as part of an innovative school curriculum project. In this project student teams first build an assessment of a local brownfield by reviewing local ownership records, aerial photographs, city directories, files from local and state regulatory agencies, and other sources. They are then asked to come up with realistic reuse plans for the site. To do so, they design and conduct a community brownfields survey to gauge neighborhood attitudes toward site cleanup and potential future uses of the property.

This information and the connections the students make with local residents invariably inform their reuse plans. In the third part of the project, students design and then present their reuse plans to community members. Throughout this investigation, students continually are asked to consider why their neighborhood looks the way it does, to consider how zoning, racial segregation, disinvestment and other forces have shaped their community. In this way local history is framed through a brownfield lens. Student projects have resulted in EPA targeted site assessments.

### **Toxic Soil Busters**

In Worcester, Massachusetts, a group of high school students, known as the Toxic Soil Busters (TSB), has developed the expertise and resources to test soils for lead in backyards and in community gardens. Not only are the students helping local residents from the city's poorest neighborhoods protect themselves from lead in soils, but they are also conducting long-term phytoremediation experiments—that is, using plants to clean up pollution—to determine which kinds of plants best remove lead from the soil.

TSB is a youth program of a grassroots organization, the Worcester Roots Project, which was formed by Worcester residents concerned about lead poisoning from soils where children play.

Worcester has one of the highest incidences of childhood lead poisoning in the state of Massachusetts. Between 2001 and 2006 some 50 cases of childhood lead poisoning were reported, and children living in rental housing built before lead paint sale was outlawed in 1978 are most at risk. In the South Main and Piedmont neighborhoods of Worcester, where the TSB focus their testing and outreach efforts, much of the housing consists of older wood-frame triple-deckers, and only 12 percent of the housing stock is owner-occupied. Unlike the City of Worcester as a whole, where 70 percent of the population is white, between 60 and 75 percent of the population in the two neighborhoods is Latino, African-American, or Asian. More than 40 percent of school-age children in the area live below the poverty line.

While exposure to dust from lead paint in the home appears to be the biggest source of blood lead in children, lead in soils—from peeling outdoor paint, past auto emissions, and industrial sources, particularly in inner city neighborhoods—can pose significant health risks. The Piedmont and South Main neighborhoods have dense road systems and high traffic counts, and although gasoline no longer contains lead, deposits from earlier use remain. Flaking paint from the neighborhoods' wooden triple-deckers also contributes to high lead levels in soil.

In Worcester, the soil contamination and TSB's soil testing intersects with a strong community gardening movement. Of the 25 community gardens operating in Worcester, the TSB have taken soil samples from seven sites. The TSB also take samples from potential community garden sites—derelict lots—that can be transformed into community-run gardens or green space. These samples are sent to labs at the University of Massachusetts in Amherst, or to the lab at the Worcester Department of Public Health. Supported by grants from local foundations, the TSB offer free soil testing to residents and community gardens in the target neighborhoods.



### **Toxic Soil Busters outreach skit**

The TSB have received training from soil scientists, including faculty at local universities and environmental consultants. They have also participated in trainings offered by Lead Safe Cambridge to learn firsthand acceptable soil sampling protocols.

Once the soil is tested, the TSB help the community gardeners evaluate the possibilities of using the site. In areas with a large amount of lead in the soil (over 900 ppm), the TSB often encourage gardeners to excavate a layer of soil (depending on the extent of contamination) and replenish it with clean topsoil. Alternatively, they suggest that residents avoid growing leafy vegetable and root crops and give preference to fruits or flowers, or use plastic-lined raised beds. They have set up a garden demonstration site in the neighborhood and produced a variety of outreach materials. They perform skits to inform local residents about gardening practices that reduce the possibility of lead exposure. And they demonstrate methods, such as phytoremediation, for removing lead from community gardens and yards.

In phytoremediation, plants remove contaminants from the ground when their roots take in water and nutrients from polluted soil. Although there are some challenges associated with the phytoremediation of lead—it has low solubility and thus in many cases is not readily available for plant uptake—phytoremediation is a promising strategy, especially in contrast to the cost of alternative cleanup methods, such as excavation, that are beyond the means of most community groups gardening on urban lots.



The TSB have experimented with different plants—scented geranium, pumpkins, Indian mustard—and with different soil additives to lower soil pH to increase plant uptake. At certain test sites they have used phytoremediation to reduce lead in soils by some 35% over the course of a growing season. At other sites, however, they have met with less success. The lead-rich plant material is harvested and removed from the site without extensive excavation or disposal costs.

TSB currently sends plant material to a high temperature incinerator, a means of waste disposal that can be problematic. Even at state of the art incinerators, pollution-control equipment can remove some but not all heavy metals from stack gases, so some metal will be emitted into the air from the smokestacks. For larger projects, TSB is exploring the option of sending plant detritus with high lead content to a lined landfill.

The work of the Toxic Soil Busters is remarkable. In the brownfields context small infill sites typically have little economic value to private sector investors but often have considerable value to communities as gardens or green space. These urban infill sites, under current brownfields policies, are typically not being assessed or cleaned up. The Toxic Soil Busters provide an example of how youth organizing and community-based science, helped along by the technical knowhow of experts and start-up funding from foundations, can help inner-city communities make them useful. The Toxic Soil Busters, as unlikely risk managers, have been able to mobilize community resources—commitment, emotional allegiance, and acceptance—typically unavailable to government officials.

The young people who are part of the Toxic Soil Busters do not see themselves as a youth group, but rather as a burgeoning cooperative. To put TSB on more secure footing, they are considering offering fees for service, selling test kits, contracting as site designers, and leveraging funding from grants going to the city to make yards lead-safe.