

**INNER-CITY PESTICIDE USE AS AN
ENVIRONMENTAL INJUSTICE:
A BOSTON NEIGHBORHOOD CASE STUDY**

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Neighborhood Pesticide Action Committee (NPAC)

Foreword:
Pesticides and Environmental Justice in Boston
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Where you live does make a difference with respect to environmental quality. In Massachusetts, lower-income neighborhoods and communities of color are disproportionately impacted by the presence of toxic waste sites, trash transfer stations, polluting power plants and industrial facilities, and other environmentally hazardous sites and facilities. Communities of color, for instance, have 23 times more hazardous waste sites per square mile than do white communities and receive 10 times more pollution from large industrial facilities. Furthermore, communities of color receive more than one-third of the cancer-causing pollutants (carcinogens) and reproductive toxins released by these industries, even though they account for only 9.4 percent of all communities in the state. Twenty-four of the 30 most environmentally overburdened towns in the state are communities of color.

Jamaica Plain, as well as Mattapan, Roxbury, Dorchester, Hyde Park, and Roslindale, are among these 24 most environmentally overburdened communities. One explanation for this concentration of burden is that businesses and local/state agencies often adopt pollution practices that are not only more economically efficient but also the most politically expedient. And in Massachusetts, the less political power a community possesses, the fewer resources that community has to defend itself from ecological abuses; the lower the level of community awareness – and the less able the community is to mobilize against potential pollution threats – the more likely that community is to experience arduous environmental and human health problems at the hands of government and industry.

As a result, residents of these communities must often live each day with substantially greater risk of exposure to environmental health hazards than the general citizenry. In addition to living, working, and playing in close proximity to polluting industrial facilities and waste sites, these residents are regularly exposed to (1) deteriorating schools and substandard housing (with lead paint, asbestos, and molds); (2) higher rates of “indoor” exposure to toxic pollutants of all kinds at the jobsite; (3) air pollution from nearby highways, bus terminals, and airports (source of asthma and other respiratory diseases); and (4) closer contact with arsenic, pesticides, and other poisons in schoolyards, parks and playgrounds, and other public spaces.

While much attention has been afforded to issues of lead paint, industrial air pollution, etc., insufficient attention has been paid to the potential health threats posed by pesticide use. According to the U.S. Environmental Protection Agency, 95 percent of the pesticides used on residential lawns are possible or probable carcinogens. In fact, working as a Golf Course Superintendent has been found to

significantly increase the risk of dying of four cancer types – brain cancer, lymphoma, prostate cancer, and cancer of the large intestine.

Pesticide exposure in children is especially problematic, given the vulnerability of their still-developing neurological systems. Children who live in homes where indoor or outdoor pesticides are used regularly face a far greater chance of developing leukemia – nearly 6.5 times greater – than those who live in homes that are pesticide free. American children typically have about 100 toxic chemicals (including many pesticides) present in their bodies – a body burden that is believed to be a major factor in the growing cancer epidemic among children. For the first time in history, cancer now kills more American children than any other disease (and is second only to accidents as the leading cause of death). Yet Congress recently found that 90 percent of the pesticides on the market lack even the minimal required safety screening. For instance, of the 34 most used lawn pesticides, 33 have not been fully tested for human health hazards.

In response to the threats posed by environmental injustices, a new wave of grassroots environmentalism is building in Massachusetts. In lower-income neighborhoods and communities of color across the Commonwealth, people who have traditionally been at the periphery of environmentalism are now joining ranks to challenge the ruination of the land, water, air, and community health by indifferent government officials and corporate polluters. Fusing the struggles for civil rights, social justice, and a healthy environment, these community-based movements for environmental justice are committed to reversing the manner by which industry and the state disproportionately displace ecological and economic burdens onto white working families and people of color. In Boston, the Neighborhood Pesticide Action Committee (NPAC) has taken up the cause of protecting the residents of Jamaica Plain and surrounding communities from the dangers posed by pesticides. This report is a critical component of this important struggle.

Widespread public exposure to pesticides and other poisons constitutes a fundamental violation of our basic human right to a clean and safe environment. Citizens must come together to stop the poisoning, strengthen our laws and regulations, and hold our government officials accountable. More importantly, we must begin to move away from the use of poisons in general in favor of a more precautionary and preventive approach to pesticides, including the use of safe substitutes and alternative pest management systems. Dedicated organizations such as the Neighborhood Pesticide Action Committee are essential to this effort, as is the involvement of ordinary citizens from all walks of life. Utilizing the information provided in this excellent report, working together we can make a difference.

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Collaborative. He is also a Board Member of the Alliance for a Healthy Tomorrow (AHT), a broad-based coalition of citizens, scientists, health professionals, union officials, business leaders, and environmentalists working to implement a precautionary and preventive approach to environmental policy in Massachusetts. In 2006, Dr. Faber received the “Champion for Justice Award,” granted by the Alliance for a Healthy Tomorrow for his contributions in forging new environmental policy initiatives in Massachusetts around safer alternatives to toxic chemicals and environmental equity.

Executive Summary

It has been well established that working class communities and communities of color in Massachusetts are disproportionately burdened with environmental toxins due to the unequal distribution of such hazards as toxic waste sites and commercial/industrial polluters. This report contends that the use of pesticides may be an additional contributor to the toxic burden in many of these communities. In the pages that follow, we show the application of pesticides to be a significant additional assault in the case of one Boston neighborhood, Jamaica Plain. This case provides evidence that pesticide use must be among the environmental hazards that are weighed in determining environmental risk and burden in our communities.

This report provides a detailed analysis as to why we need to replace current pesticides with safe alternatives. At the present time, there are more than 6,000 certified pesticide products on the market with over 500 registered active ingredients. Of these 500 ingredients, 90 percent were certified 25 to 45 years ago. This means that there are hundreds of pesticides sold to the public containing ingredients that were assessed based on standards much less rigorous than those that are deemed acceptable today.

Our city and town parks departments and our state government have become habituated in their use of pesticides to kill weeds and insects, often justifying their use with research conducted as much as 20 to 30 years ago. Many of our public health departments include pesticides in their arsenal against such illnesses as West Nile virus and Eastern Equine Encephalitis (EEE), despite the relatively low risk these illnesses pose to overall public health. Residential pesticide use has increased by over 25 percent in the past decade in Massachusetts. The Centers for Disease Control and Prevention has found that, at any given time, 25 percent of Americans contain 2,4-D (the most commonly used chemical pesticide in the U.S.) in their bodies, with children carrying higher levels than adults. 2,4-D has been linked to human cancer and was banned by the European Union in 2003. Nevertheless, our state government, local municipalities, and the general public continue to overlook the facts. What is now known and supported by indisputable evidence is that when we use chemicals to harm other living things, they almost always cause similar harm in humans.

The writing of this report was inspired by the discovery that the neighborhood of Jamaica Plain (where the Neighborhood Pesticide Action Committee [NPAC] is supporting a pilot for pesticide-free parklands) has been identified as the 15th most intensively environmentally burdened of the state's 362 communities. A study from the Philanthropy and Environmental Justice Research Project documenting the unequal distribution of environmental hazards in poor and minority communities has found that Jamaica Plain has more active hazardous waste sites within its borders than 348 other communities in Massachusetts. NPAC has re-analyzed the original data used for this study with respect to Jamaica Plain. We have found that within the three square miles of Jamaica Plain's borders, there is a one-square-mile section that is burdened with over three-quarters of all of its environmentally hazardous sites and a full two-thirds of its most severely hazardous sites. In this one square mile, there are currently 76 unremediated hazardous waste sites in what we refer to in this report as the Southwest Corridor Park (SWCP) community. A joint report by MIT and the Boston Public Health Commission has called the SWCP community "a hot spot of environmental risk."

Our research and analysis has found the following:

- ***There is an historical legacy of toxic waste dumping, poor air quality, and industrial pollution in minority communities throughout Massachusetts.*** Because environmental pollutants play a role in the health disparities seen in poor communities of color in the state, these facts need to be communicated to residents, health and environmental groups, and public officials.
- ***Jamaica Plain ranks as the community with the sixth largest percentage of people of color in the state.*** Fifty percent of the population are ethnic minorities, while 21 percent live below the poverty level.
- ***Asthma rates in poor communities of color in Massachusetts are 50 percent higher than in the state's white affluent communities.*** The asthma hospitalization rate among children ages five and under living in Jamaica Plain is *20 percent higher* than the overall Boston rate. In contrast, the three predominantly white neighborhoods surrounding Jamaica Plain have rates *35 percent below* the overall Boston rates.
- ***There is now ample evidence that pesticide exposure increases a person's risk of developing asthma and cancer, among other illnesses.*** Similar to other toxic chemicals produced by polluting industries and leaching waste dumps, pesticides have the potential to cause harm to humans. Common pesticide products that have been used in parks, such as 2,4-D, Roundup, and resmethrin, are known respiratory irritants that have been reported to trigger the onset of asthma attacks.

Children under the age of one that have been exposed to pesticides show increased rates of asthma.

- ***Research studies have consistently found a greater likelihood of susceptibility to the adverse effects of pesticides among children.*** The National Academy of Sciences Committee on Children's Health states that the "critical differences" between child and adult susceptibility to illness have prompted the need for children's health to be held to a standard different from that used for adults. For example, a six-month-old child will receive twice the exposure of an adult when in the presence of a pesticide, and that child's lungs and cells, which are not yet fully developed, can sustain permanent damage. In six recently published studies, home pesticide use during pregnancy or childhood was found to be associated with childhood acute leukemia.
- ***Inner-city children especially bear the burden of greater exposure to numerous environmental toxins, including pesticides.*** Use of pesticides in urban areas carries particular risks due to urban density coupled with other factors, such as the persistence of pesticides in both the outdoor and indoor environment, which are detailed in this report.
- ***There is no system in place that allows a citizen of Boston to know on any given day what pesticide is being used and where.*** The MBTA regularly sprays herbicides along its tracks without notifying the public. Warning flags in city parks are highly ineffective at keeping kids away; children either cannot or do not read them. Adults not fluent in English cannot read them either and often do not know their meaning. Pesticides typically remain dangerous for weeks to months after flags have been removed.
- ***In certain areas of Jamaica Plain, residents have no choice but to use the public parks, even if they fear for the parks' effect on their health.*** The most densely populated areas of the city contain much more built environment than private open space. Residents of these neighborhoods simply have fewer choices as to where they might enjoy outdoor space or where their children might play. If residents must use public parks as their only source of outdoor space, then this becomes an environmental justice issue, especially when that lack of choice is disproportionately borne by a poor minority community.
- ***State and local policies do not adequately protect citizens and often reach poor communities last.*** The evidence presented in this report suggests that preventing public exposure to chemicals suspected of causing cancer and asthma should be a priority. Yet state laws protect children only while they are on school grounds, and local laws protect only our wealthiest communities.

In order that residents' health be protected, the public has, first and foremost, a right to know and be adequately informed of risks to their health that are before them. Additionally, policies that protect all citizens must be instituted and passed by state legislators. At this writing, two bills are before the Massachusetts legislature that would, if passed, make great strides in protecting public health. (For up-to-date information about these and related bills, go to www.healthytomorrow.org.) Lastly, local actions to reduce pesticide use should be employed by residents and encouraged by city and state officials.

We hope this report will

(1) provide information for SWCP residents on their community's environmental burden and serve as a model for others to follow in researching their own community's pesticide burden;

(2) increase health and environmental organizations' understanding of the effects of pesticides on human health and the environment and its link to environmental injustice so that the practice of promoting environmental justice can be effectively integrated into the work that these organizations undertake; and

(3) communicate to public officials and city and state agencies the need for changes in the policies and practices in the use of pesticides at the community, city, and state levels.

This could be accomplished firstly by employing the precautionary principle* to protect the public from the hazards of using pesticides in public spaces; and secondly by expanding the state's environmental justice definition to include pesticides as hazards that can impact the environmental burden in a community.

*The precautionary principle holds that "precautionary measures" should be taken when an activity threatens to harm human health or the environment, even if it has not been fully established scientifically that harm will result.