

**RIGHT TO BREATHE/RIGHT TO KNOW:**

**INDUSTRIAL AIR POLLUTION IN GREENPOINT-WILLIAMSBURG**

A special report by the Community Environmental Health Center

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**RIGHT TO BREATHE/RIGHT TO KNOW:  
INDUSTRIAL AIR POLLUTION IN GREENPOINT-WILLIAMSBURG**

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This report is published by the Community Environmental Health Center at the Hunter College. The Center is based at the Hunter College School of Health Sciences. Supported primarily with foundation grants, the Center assists community organizations in low-income, African-American and Latino neighborhoods in New York City to protect their communities against environmental health hazards such as lead poisoning, asbestos, air and water pollution and toxic wastes.

The Center works with community groups to develop effective organizing strategies that will protect their neighborhoods from environmental health problems. The Center provides technical assistance, training and consulting services. It can help groups obtain relevant information from public officials, scientists, health professionals and industry, evaluate whether a suspected hazard poses a health danger, and develop effective strategies for community education and action.

The Center's projects include the Youth Environmental Action Project (YEAP) which assists already established community-based youth groups in the development of environmental health projects and the Northern Manhattan Project which provides comprehensive assistance to community groups in Washington Heights, East, West and Central Harlem. The Center also has lead poisoning prevention projects in Harlem and in Bedford-Stuyvesant, Brooklyn, the heart of the New York City "lead belt." The Center provides internships that help to train the environmental health professionals of the future to work with community organizations.

The Community Environmental Health Center is located at 425 East 25th Street, Box 596, New York, New York 10010 and can be reached at (212) 481-4355. Nicholas Freudenberg is the Executive Director and Marjorie Moore is the Program Director of the Community Environmental Health Center. The Center's former Program Director, Carol Steinsapir is one of the authors of this report.

## TABLE OF CONTENTS

	Page
Acknowledgements	iii
Preface	iv
Executive Summary	vi
Section I - Introduction	1
Section II, Greenpoint-Williamsburg	3
A. Land Use and Zoning	7
B. The People	7
C. Local Industry	7
Section III, Toxic Air Pollution: Sources of Information	11
A. NYS Air Pollution Source Management System	11
B. The Toxic Release Inventory of the Emergency Preparedness and Community Right-to-Know Act	11
C. Other Potential Information Sources	15
Section IV, Air Pollution in Greenpoint-Williamsburg	16
A. TRI Emissions	16
B. Adjusted Estimates Using APSMS Data	21
C. Other Sources of Air Pollution	24
Section V, Health Hazards from Air Pollution	26
Section VI, Conclusion: Cleaner Air for Greenpoint-Williamsburg	30
A. The Air Pollution Problem	30
B. Recommendations for Reducing Air Pollution	31
Appendix A, US-EPA Form R	37
Appendix B, Chemical Profiles	42
Appendix C, Company Profiles	45
Appendix D, Sources of Data	50
Bibliography	51

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The Center wants to express its appreciation for general support to the Charles Stewart Mott Foundation, the Norman Foundation and Fund for the City of New York.

Finally, we want to express our continued support to the residents of Greenpoint-Williamsburg in their undaunting fight against environmental hazards. We are confident that they will continue to be an inspiration to us and other neighborhoods as well.

## PREFACE

by

**Jose Morales, Adviser, Toxic Avengers at El Puente in Williamsburg**

Power to the people!! I heard this phrase when I was a young person: it's a phrase that has particular significance in today's world. The people of the Commonwealth of Independent States (formerly the Soviet Union), Southern Africa, Chile and Europe amongst others, have recently expressed their outrage at the conditions in which they live and the attempts to take from them their right to determine their way of life. These peoples have then courageously demanded the right to their self-determination and have acted. I say the people of Greenpoint-Williamsburg are moved by the same spirit of outrage and self-determination in regards to the environment in which they live.

A commitment to environmental self-determination resonates with the political atmosphere at the grassroots in this country. There is a growing shift in the political atmosphere of environmentalism--a move away from solely conservation and preservation to include and emphasize battling environmental injustice, in other words, human centered environmental concerns. Beginning with the Love Canal incident, what has been called the grassroots anti-toxics/environmental justice movement has grown dramatically. There are a variety of estimates that there are thousands of grassroots groups confronting environmental issues in their neighborhoods. The communities of Williamsburg/Greenpoint are not different; each has its own list of environmentally conscious groups growing everyday--from the Toxic Avengers of El Puente to RAW, WABBA, GASP and Concerned Citizens Greenpoint. The impact that these groups in Brooklyn and elsewhere have had is a shift and expansion in the agenda of the environmental movement in the USA, a more inclusive agenda that is growing to include the concerns of many constituencies.

It is precisely groups like these that have been the focus of the charge of the Hunter College Community Environmental Health Center. For the last six years, the Center has provided advise and consultation on environmental hazards to low income community groups in New York City.

"Right to Breathe/Right to Know is an example of what our movement must do. To gather, assess and present information that is relevant to the movement is essential. Furthermore, it must be said that a report like this arises as a response to the neglect of official authorities. Right to Breathe/Right to Know shows that linkages can and must be forged between grassroots groups and environmental professionals.

In the political arena, where credibility is a valuable commodity, environmental activists must produce evidence to back their claims or they stand on a rug that may be pulled from under them. Right to Breathe/Right to Know is the kind of documentation that catalogs the

issue of toxic emissions with reliable data from which the people can base their concerns, claims and demands. In this way, Right to Breathe/Right to Know is also a step towards the democratization of scientific/technical information. The movement must be conversant with the scientific and technical information necessary to make credible claims about the impacts on human health and the environment. Most of the time, this information has either not been generated or it has not been disseminated and is hence inaccessible. This report shows how lay people and CEHC staff collaborated to present the information in an accessible way, the most valuable of efforts for the movement.

The Hunter College Community Environmental Health Center, through its reports, provides tools for a community's self determination, a seed for a true environmental democracy that can lead community residents to move to determine what kind of environment they live in. This means that we pass through the phases of NIMBY to NIABY, from Not In My Back Yard to Not In Anybody's Backyard. This growth in our thinking moves from a forced, narrow, local way of thinking and self interest to a broader sense of everyone having a backyard.

North Brooklyn is a lesson in this process where we all suffer from different types of environmental degradation, we all look for support and alliances with each other and we have the experience of working together. It seems that if we look to each other as allies, we can't look at each other as another backyard to have our problems dumped into. Rather, we look at each other and declare: not in my backyard, not my friend's and for that matter not anybody's!!

This way of thinking may eventually lead us to ask the questions: why does this stuff have to be in anybody's backyard or air? What is our society doing creating hazardous materials and pollution in the first place? For what reasons are they doing it? Is it the right to profits? At whose expense are they creating these things? Doesn't the whole society pay the price of health care and clean up for the messes made? With this type of thinking, questions and hopefully their answers, we may move away from the slow but sure destruction of our communities and beyond, towards real solutions to these problems and the long term health of our bodies, communities, society and planet.

Jose Morales is an adviser to the Toxic Avengers. This group is based at El Puente which is a holistic multi-service youth center in Williamsburg Brooklyn.

## EXECUTIVE SUMMARY

Using publicly available data, the Community Environmental Health Center at Hunter College (CEHC) has prepared the first estimate of the aggregate toxic air pollution load from industrial sources in the Brooklyn communities of Greenpoint and Williamsburg. CEHC's projections indicate that, in 1987, an estimated 2.9 million pounds of toxic chemicals were emitted into the air by 201 companies in the area. This is equivalent to an emission rate of 580,000 pounds of toxic chemicals per square mile per year.

This estimate is limited to emissions of the 326 chemicals and chemical categories reportable to the Toxic Release Inventory (TRI) program established by the federal Emergency Planning and Community Right-To-Know Act. Moreover, it does not include emissions from the Greenpoint Incinerator, the Newtown Creek Sewage Treatment Plant or from the heavy motor vehicle traffic that crosses the neighborhood on the Brooklyn-Queens Expressway as well as local streets.

The aggregate air pollution estimate was developed from two sources of air emissions data: the TRI program itself and the New York State Air Pollution Source Management System (APSMS). The companies regulated by the TRI program must annually report their total emissions into the environment of a selected group of toxic chemicals; those chemicals have been determined by the United States Environmental Protection Agency to be hazardous to the environment or to cause acute or chronic health effects. The APSMS contains a broader range of emission data for a companies that have state or city air emissions permits.

Analysis of the data from both sources leads to the following conclusions:

- o TRI reports reveal that eleven companies in Greenpoint-Williamsburg emitted 220,494 pounds of toxic chemicals into the air in 1987. In 1988, a slightly different group of eleven companies reported air emissions of 252,853 pounds of toxic chemicals.
- o Analysis of the 1987 and 1988 TRI data indicate that in both years only thirteen percent of the emissions were deliberate releases from facility stacks. The other eighty-seven percent were fugitive emissions which are discharges resulting from leaky valves, faulty equipment, evaporation from spills or during normal production processes. Since these discharges typically occur close to the ground, it is estimated that they can have a health impact ten to forty times greater than stack emissions. (US - EPA, NATICH newsletter)
- o Toxic emissions into the air in Greenpoint-Williamsburg, as reported to the TRI program, were sixty times greater per square mile than the average for the United States as a whole.

- o The data from the New York State APSMS reveal that an additional group of 190 companies, in just two of the zip code areas in Greenpoint-Williamsburg, reported annual stack emissions of some 351,689 pounds of toxic chemicals. (This figure includes only those chemicals reportable to the TRI program; APSMS emissions data for other pollutants were not included in the analysis).
- o Extrapolating the eighty-seven percent fugitive emissions rate from the TRI data and applying it to the APSMS stack emissions results in an estimated total emissions of some 2.7 million pounds of toxic chemicals from the 190 companies listed in the APSMS.
- o Adding the 1987 TRI emissions of 220,494 pounds to the estimated APSMS emissions of 2.7 million pounds results in an estimated total of some 2.9 million pounds in 1987 alone for Greenpoint-Williamsburg.

The 2.9 million pound estimate understates the actual toxic air emissions in the community. First, it does not include APSMS emission data for those companies in two zip code areas which are only partially located in Greenpoint-Williamsburg. Second, it is possible that some companies have failed to report their toxic air emissions to either the APSMS or the TRI program. Finally, this analysis considers only industrial sources for which emission data are available through the APSMS or the TRI Program. A more complete assessment of air quality in the area would have to consider the emissions from the Greenpoint Incinerator and the Newtown Creek Sewage Treatment plant, as well as the background pollution from the heavy vehicular traffic around and through the area.

When the TRI data alone is compared to TRI data for the rest of the country (see the table below), it becomes clear that Greenpoint-Williamsburg experiences far greater pollution per square mile. Indeed, as noted earlier, the aggregate load in these Brooklyn communities is nearly sixty times greater than the average for the United States as a whole. At the same time, the population density is 400 times the national average. So a large number of people are potentially exposed to a relatively high concentration of toxic air pollution.

POPULATION AND TOXICS PER SQUARE MILE  
(1987 Toxic Release Inventory Data)

Area	Pop./Sq.Mile	Lbs.Toxics/Sq.Mile
United States	64	750
New York State	371	2,001
New York City	23,416	4,182
Kings County	31,872	9,292
Grnpnt./Wllmsbrg.	28,400	44,099

As they have begun to address the problem of toxic industrial air pollution, environmental regulatory agencies have tended to focus their concern on large industrial facilities that individually emit hundreds of

thousands or even millions of pounds of pollutants each year. By contrast, this report spotlights an urban community where a large number of relatively small pollution sources are concentrated in a small, densely populated area.

Evaluating the potential impact of industrial air pollution on the health of Greenpoint-Williamsburg residents would be a complex process far beyond the scope of this study. Projecting the risk of population health effects requires identifying the number of people potentially exposed as well as estimating the intensity and duration of exposure. Making such an exposure estimate requires consideration of a variety of factors. For example, weather, topography (in an urban setting this includes the height of buildings), stack height and a host of other variables can affect the speed with which pollutants are dispersed. The degree of dispersal will, in turn, affect the potential exposure of community residents and workers to toxins in the air. The health risk to an individual will reflect the amount and potency of toxins actually absorbed into the body but also will be influenced by factors such as health status and age, which can produce a range of individual vulnerability to health effects from a particular dose of toxic chemicals.

While we cannot estimate in this study the number of cases of cancer, reproductive health damage or other illnesses that may occur as a result of exposure to air pollution in Greenpoint-Williamsburg, there is no question that the toxic chemicals emitted into the community's air can be dangerous to human health. In 1987, sixty-one percent of the TRI emissions in the study area were carcinogens or reproductive toxins or both. In 1988 this figure rose to seventy-eight percent of the total. It is important to take steps to minimize exposure to these dangerous chemicals.

A previous report prepared by the Community Environmental Health Center at Hunter College, "Hazardous Neighbors? Living Next Door to Industry in Greenpoint-Williamsburg", addressed the question of whether it is possible for an accidental release of hazardous chemicals to endanger the health of the community's workers and residents. This report focuses instead on the less dramatic but no less serious issue of the daily threat posed to the community's health by the routine emissions of toxic chemicals.

Greenpoint-Williamsburg was selected for these studies because of its special characteristics: a large industrial base, co-existing with a densely populated residential community. The neighborhoods of Greenpoint and Williamsburg, which together comprise Brooklyn Community District #1, are located in the northwest corner of the borough.

The district encompasses only five square miles, but supports a population density of 28,000 people per square mile (1980 census) as compared to 23,400 for the City as a whole. The area has the highest proportion of industrial land use of any community district in the City; twelve percent as compared to 2.2 percent for the borough and 1.9 percent

for the City. This figure is higher still for Greenpoint alone where fully forty percent of the land is zoned for industrial use.

Because Greenpoint-Williamsburg was settled in the latter half of the nineteenth century, before New York City adopted its first zoning resolution, residential, commercial and industrial uses often co-exist in close proximity. This means that residents are likely to be exposed to toxic chemical emissions from local factories.

Cleaning up the air in Greenpoint-Williamsburg will require action by state and local government and by industry and community residents. Necessary steps include:

**1. Developing an accurate, comprehensive picture of air pollution in the area.**

The New York City Department of Environmental Protection should update the analysis in this report using 1989 and 1990 TRI reports and the latest APSMS data. It should supplement that information with the results of the door-to-door industrial survey it is conducting in Greenpoint-Williamsburg with the New York State Department of Environmental Conservation as well as with ambient air quality data from the monitoring station that was established in the community in 1990.

**2. Enforcing existing air pollution controls more aggressively.**

Companies lacking required permits and those failing to comply with permit requirements should be punished to the full extent of the law; enforcement actions should be publicized as a deterrent to other violators. The Greenpoint Incinerator should not be allowed to operate in violation of federal air quality regulations. Community residents should advocate for greater funding for enforcement efforts.

**3. Enacting new regulations to dramatically reduce fugitive emissions.**

Unregulated fugitive emissions may represent the bulk of the toxic pollution load in Greenpoint-Williamsburg and may pose a greater threat to public health than stack emissions. Federal and/or state regulations should be developed to require that companies redesign production processes, improve maintenance and housekeeping, and reduce their use of toxic chemicals in order to minimize their fugitive emissions.

**4. Reducing air pollution by preventing it at the source.**

Pollution prevention -- accomplished by reducing the use of toxic materials in production -- can be more effective and economical than controls designed to capture toxic wastes before they enter the environment. Government can require that companies implement pollution prevention plans and can foster

compliance by providing financial incentives and technical assistance. Community residents can confront local industries directly and push them to cut their discharges to zero within a negotiated timetable. Area residents also can support legislation to make pollution prevention state policy as it is in Massachusetts.

5. **Developing new regulatory tools to protect communities against the cumulative impact of air pollution from multiple sources.**

Changes in zoning regulations, adoption of a community-initiated land use plan as provided for in the New York City Charter, and enforcement of new "fair share" rules developed by the City Planning Commission to guide allocation of public facilities among city neighborhoods may help to protect Greenpoint-Williamsburg from the introduction of new air pollution sources.

6. **Declaring a moratorium on the construction of any new sources of environmental pollution.**

New York City Department of Environmental Protection (DEP) recently has begun a comprehensive environmental assessment of Greenpoint-Williamsburg as part of a commitment to remediate environmental problems in the area. New York City government should support the demand by local residents for a moratorium on construction or expansion of any facilities that might add to existing environmental hazards until the DEP assessment is completed. The DEP report should contain a remedial plan that includes regulations and other measures to prevent further environmental damage.

7. **Revising the TRI program requirements to provide more useful air pollution information.**

Federal Right-To-Know regulations should be revised to require reporting of a more extensive list of toxic chemicals by a larger number of companies. Short term, as well as annual emission totals, should be reported.

These recommendations focus on steps that must be taken by government and industry to reduce air pollution in Greenpoint-Williamsburg. Those responsible for the pollution must clean it up. But community residents have a critical role to play in the process as well. As residents of Greenpoint-Williamsburg already know, neither government agencies nor local industries are likely to address the environmental problems in Greenpoint-Williamsburg in an effective manner unless vocal and knowledgeable residents ensure that they do so. Those residents who have already become environmental watchdogs should continue to monitor government and local industries. With the help of their neighbors, they can win the fight for a safer and healthier community.

Although the recommendations in this report are directed toward cleaning up the air in Greenpoint-Williamsburg, their implementation would protect many other communities as well. Industrial air pollution in Greenpoint-Williamsburg may be particularly severe but its situation is by no means unique. There are other communities in New York City and throughout the country where a concentration of industrial facilities emitting toxic pollutants poses a potential threat to the health of area residents. The problem of unregulated fugitive emissions also is a national one, although Greenpoint-Williamsburg may suffer more than other communities since eighty-seven percent of toxic discharges there appear to be fugitive emissions as compared with the national average of thirty-two percent. It is critical that federal, state and local environmental agencies direct more attention to the problems of fugitive and cumulative emissions and implement regulatory reforms to protect public health. New programs that will foster pollution prevention offer the best hope for clean air and healthier communities.