

# **Social Institutions and Environmental Injustice: The Legacy of Racism in New York State and Buffalo, NY**

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## **Abstract**

An abundance of research demonstrates the tendency for working class communities and communities of color to bear a disproportionate burden of ecological hazards. This is true across the state of New York, but not true for all communities. This paper summarizes the toxic waste crisis in New York and presents two portraits of the crisis. The first portrait is based on findings from a New York Public Interest Research Group (NYPIRG) study that analyzes racial biases in the distribution of air pollution, water pollution, and toxic sites among non-white populations. The second portrait is based on findings from a study of Buffalo, NY that analyzes the lack of patterns of racial bias in the distribution of ecological hazards across zip codes in the city. Despite the differences between these portraits, the racist tendencies of social institutions can be used to explain existing spatial patterns of exposure. The findings offer a framework for future environmental justice activism.

## **Introduction**

Social institutions are generally thought of as stable social arrangements that coordinate human activities in ways that meet social needs. A second, though less common, understanding of social institutions is that they channel human behavior. In the first sense, social institutions are functional in that they meet societal needs while in the second sense they are agents of social control, influencing behavior patterns. This logic can be extended to the realm of ecological hazards in that social institutions, not individuals or organizations, play significant roles in the coordination of waste production and disposal, often in communities of color and communities of lower class standing. The challenge for proponents of a radical frame transformation is that populations of higher socioeconomic status are asked to critically assess the

environmental impacts of the social institutions that have benefited them the most. The following analyses demonstrate the extent and distribution of cost externalization in the process of capital accumulation.

### **Structural Sources of Injustice**

While a vast multitude of factors contribute to environmental injustices, this article discusses three factors that racialize communities in ways that foster disproportionate exposure to ecological hazards: 1) the tendency for capital to externalize waste onto third parties, 2) the emergence of a *path of least resistance* in which some communities are less able to resist (or more dependent on) polluting industries, and 3) the historical failure of the state to effectively regulate toxics use and disposal. These institutional forces have shaped current injustices and serve as indicators of the relative power imbalance between private capital and host communities.

Capitalist commodity production is dependent upon both the exploitation of labor and the depletion of nature. James O'Connor (1988) refers to these as the first and second contradictions of capital. The first contradiction, as outlined by Marx (1867/1977) is based on a critical examination of the social relations of capitalist production in which the labor class produces a greater amount of wealth than it receives in exchange for work. Marx hypothesized that this will result in a shift of wealth toward the capitalist class and conditions conducive to a labor revolt that would signal the end of capitalism. History has shown, however, that capitalism is far more resilient than Marx had predicted and that the social relations of production are in a constant, yet exploitative, state of struggle. The second contradiction of capital refers to the use of nature as a point of economic departure in the process of capital accumulation. This includes the use of nature as both tap (the extraction of raw materials) and sink (the disposal of post-manufacturing wastes) in the accumulation process. While capitalism has been very successful in overcoming the crises in the social conditions of production (the first contradiction), it is doubtful whether it can overcome crises in the natural conditions of production (the second contradiction).

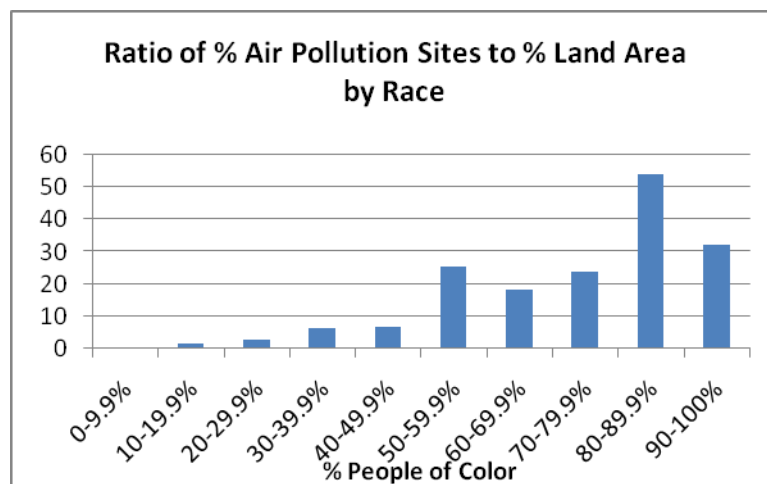
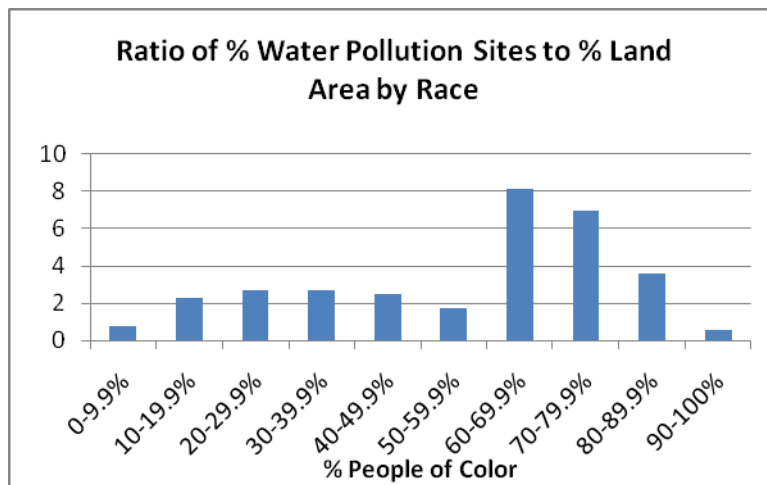
Not surprisingly, the combination of social exploitation and environmental destruction has led to a condition in which less powerful working and lower class communities (those labor forces highly disciplined by labor) are more likely to bear a disproportionate burden of ecological hazards relative to wealthier communities. Research in the field of environmental justice demonstrates that this is usually the case; however, an even greater amount of research shows that racial bias to the distribution of ecological hazards is more pronounced than class bias. The association of working class communities and communities of color with ecological hazards is, in part, explained by the concept of the *Path of Least Resistance*. This refers to the tendency of hazards to end up in those communities least able to resist them, or in many cases, communities that actively recruit “dirty” industries as a way to boost employment and/or local tax bases.

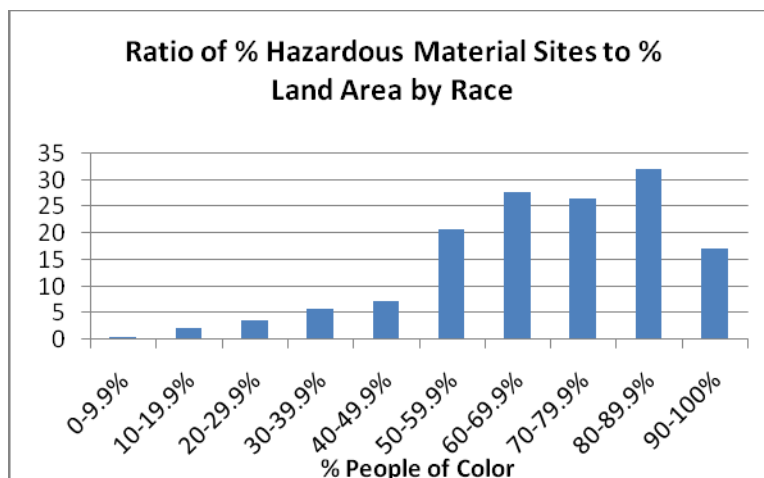
The following sections summarize two studies that test the environmental justice thesis. The first (Chase, 2004) is based on findings from a study conducted by the Citizens Environmental Coalition which analyzes racial biases in the distribution of air pollution, water pollution, and toxic sites among non-white populations. The second (Krieg, 2004) is based on findings from a study of Buffalo, NY that analyzes the lack of patterns of racial bias in the distribution of ecological hazards across zip codes in the city.

### **Spatial Analysis of Pollutants by Race in New York State**

In March of 2004, the Citizens Environmental Coalition published a study testing for patterns of environmental racism in the state of New York. The study employed a sophisticated methodology in which the state was divided into Zip Code Tabulation Areas defined by the U.S. Bureau of the Census. The frequency of ecological hazards was then matched to each zip code and census data was added. The end result is that each zip code constitutes a single case with data for both race and ecological hazards. The Zip codes were then classified according to percentage of the population consisting of people of color.

A ratio of the percentage of ecological hazards to the percentage of total land area was then calculated for each racial grouping. A ratio of 1:1 (a value of 1 on the vertical scale in the charts below) indicates that zip codes comprising 15% of the total land mass house 15% of the total ecological hazards. Therefore, any ratio greater than 1.0 indicates a disproportionate burden. For example, a ratio of 2 on the vertical axis indicates twice the predicted rate of exposure. The results are presented in graphic form below.





Consistent with the overall environmental justice thesis, these results indicate that people of color communities (zip codes) bear a significantly greater burden from the risks posed by toxic hazards relative to white communities. The results, however, represent patterns found at the state level and may not be generalized to the local level. To assess whether state-level findings are reflected at the local level, a similar analysis is conducted in the city of Buffalo, NY.

### **(The Absence of) Environmental Racism in Buffalo, NY**

African American history in Buffalo is a history of social relations, particularly the role of African Americans in the Buffalo labor market. This history can be used to understand environmental racism and classism in Buffalo in light of existing patterns of residential segregation.

The Erie Canal, completed in 1825, was located at the eastern terminus of the Great Lakes close to downtown Buffalo. Access to Lake Ontario by way of the Niagara River was made impossible by the 160 foot high escarpment that is Niagara Falls. The opening of the Erie Canal therefore meant that a great deal of trade to and from the west eventually made its way through Buffalo's harbor and onto canal boats for the trip east. The African American population was small at this time, around 60, and African Americans were effectively blocked from dock work which the Irish largely monopolized.

Thus despite geographic proximity to downtown and commercial work on the harbor and Erie Canal, African Americans were relegated to service industry jobs.

In 1830, the African American population numbered about 60 individuals and by 1905 grew to only about 1,200 in a city of roughly 400,000, just .3% of the total population (Williams, 1999:27). African American males were employed primarily in hotel and railroad service positions as waiters, cooks, bartenders, bellhops, and janitors. African American females faced an even smaller labor market that offered unskilled work in hotels or as domestic servants in wealthy white households (Williams, 1999). Employment was dependent upon geographic proximity to downtown in light of the lack of mass transportation systems. Consequently, a vast majority of African Americans resided in an area to the immediate east of downtown. The Michigan Avenue Baptist Church, near the intersection of Michigan Avenue and Broadway, was a cornerstone of the community and remains a well-known landmark, having played a significant role in the Underground Railroad in the early part of the 19<sup>th</sup> Century.

The history of the Erie Canal in Buffalo is a relatively short (25 year) period defined by ethnically segregated labor markets. The construction of railroads accelerated the demise of the Erie Canal and by the 1850s the canal was considered largely inefficient compared to rail. As rail travel increasingly dominated transportation infrastructure, Buffalo was bypassed as a commercial center, and its economy began to transform into an industrial/manufacturing base. The local economy shifted from one that moved commodities to one that produced commodities. While some steel production did take place during the 19<sup>th</sup> century, Buffalo was not recognized as a "steel city" until 1904 when Lackawanna Steel began receiving iron ore from Minnesota and coal from Pennsylvania. Three years later, in 1907, Lackawanna steel employed as many as 6,000 workers (Goldman, 1983:141). At this time, only Chicago surpassed Buffalo in total rail traffic (Williams, 1999:10). Buffalo's African American population remained small until about 1915, when thousands of African Americans migrated from southern states, in search of work (primarily unskilled) in northern cities. By 1937 the African American population reached roughly 13,000 and was predominantly male (Williams, 1999:3). As Buffalo's economy transformed from commercial to industrial,

the social relations of production redefined the role of African Americans in the labor force.

This transition to a manufacturing/industrial economy was spurred by rising demands for labor during and after World War I. It is in this part of the 20<sup>th</sup> Century that Buffalo's African American population and its role in local labor markets underwent significant changes. Previously excluded from industrial work that was largely dominated by Irish and German workforces, African American males began to enter manufacturing jobs as overall demand for labor grew. Despite growing access to this new class of work, African Americans were excluded from those neighborhoods closest to the mills which were originally built as company towns to house a workforce of mostly European decent. Most of the city's African American population lived near downtown, several miles north of the steel mills. Distance alone blocked African Americans from working in the mills and those who did were generally excluded from steelworkers unions. At times, as in the steelworker strike of 1919, African Americans from other parts of the country were hired to work in Buffalo, only later to find that their jobs were to act as scabs in the steel mills to help management break strikes. The combined effect of these events confined African Americans to a specific geographic region of the city - a region removed from jobs in the mills to the south.

Historically, the lower east side of Buffalo had been an area of immigrants, a transitional kind of neighborhood where people of various ethnic backgrounds lived among one another. As upward mobility provided the means for Germans and later Jews to move to the northern sections of the city, such opportunities were not afforded to African Americans. Plentiful housing and a growing population of African Americans moving from the south into northern cities transformed the lower east side into a lower income and predominantly African American neighborhood. While new industries sprang up in other parts of the city (chemical, automobiles, and airplane manufacturing), the African American population was largely limited to the lower east side, increasingly taking on the characteristics of a marginalized labor force.

The east side remained racially integrated until the period immediately following World War II which marked the beginning of a new era of residential segregation.

Massive increases in suburban housing outside of the city were spurred by the rise of an automobile culture, interstate highways, and racist housing policies. Like most cities in the 1950s, Buffalo underwent a massive emigration of whites into the suburbs. Census data show that the city's population peaked at some point in the 1950s and rapidly declined with the suburbanization of surrounding areas during the next 50 years. In addition to the decline in overall population was an even more pronounced decline in the city's white population. Between 1950 and 1960, the city lost nearly 20% of its white population (over 80,000 residents) while the African American population nearly doubled to over 70,000 residents (Goldman, 1983:285).

Racist housing policy spurred a classic pattern of "white flight" to the suburbs. Lending agencies have a great deal to gain by limiting residential integration. The Federal Housing Authority can control real estate markets by issuing credit ratings which are determined by the demographic composition of the community. Consequently, communities with diverse racial populations are issued low credit ratings thereby driving down home ownership. In this way, banks directed white homeowners into the suburbs and falling real estate values subsequently pushed and pulled African American residents pushed and pulled into the vacated neighborhoods of the east side. Figure 1 is a street map of the 17 zip codes that encompass the city of Buffalo. Using 2000 Census data, zip codes are trifurcated and shaded according the percent of the population that is African American.

As shown in Figure 1, the African American population of the city is concentrated in an east to northeast band beginning around downtown to the west and extending northeastward. Zip code 14203, which consists of a northern section around downtown and a southern section on the shore of Lake Erie, contains essentially no population in its southern section. This area consists almost exclusively of rail yards, shipping docks, and industrial land largely vacant since the days of steelmaking.

### **Race and Class in Buffalo Today**

The historical trends described above are reflected in current demographic patterns. In the past 50 years, Buffalo has lost nearly half of its population. According



to the 1950 U.S. Census (U.S. Bureau of the Census, 1998), Buffalo was the 15<sup>th</sup> largest city in the U.S. with a population of 580,132. By 2000 the population had shrunk to 292,648, a 49.6% loss (U.S. Bureau of the Census, 2000). Accompanying the overall population decline are emerging patterns of racism and segregation, particularly in terms of African American/white comparisons. In 2000, median household income for whites is \$28,484 and only \$19,795 for African Americans, only 69.5% of white median household income. Similarly, African American per capita income is only 69.1% of white per capita income. Citywide, African Americans comprise 37.2% of the total population and 48.4% of the population living in poverty. By comparison, whites make up 54.7% of the population, and 37.4% of the population living in poverty. Overall, African Americans are nearly twice as likely to live in poverty (33.3%) than are whites (17.5%). Table 1 shows social and economic indicators for the city of Buffalo. As Figure 1 shows, this population is located close to downtown and northeast of downtown.

Table 1: Social and Economic Characteristics of the City of Buffalo (1990 and 2000)

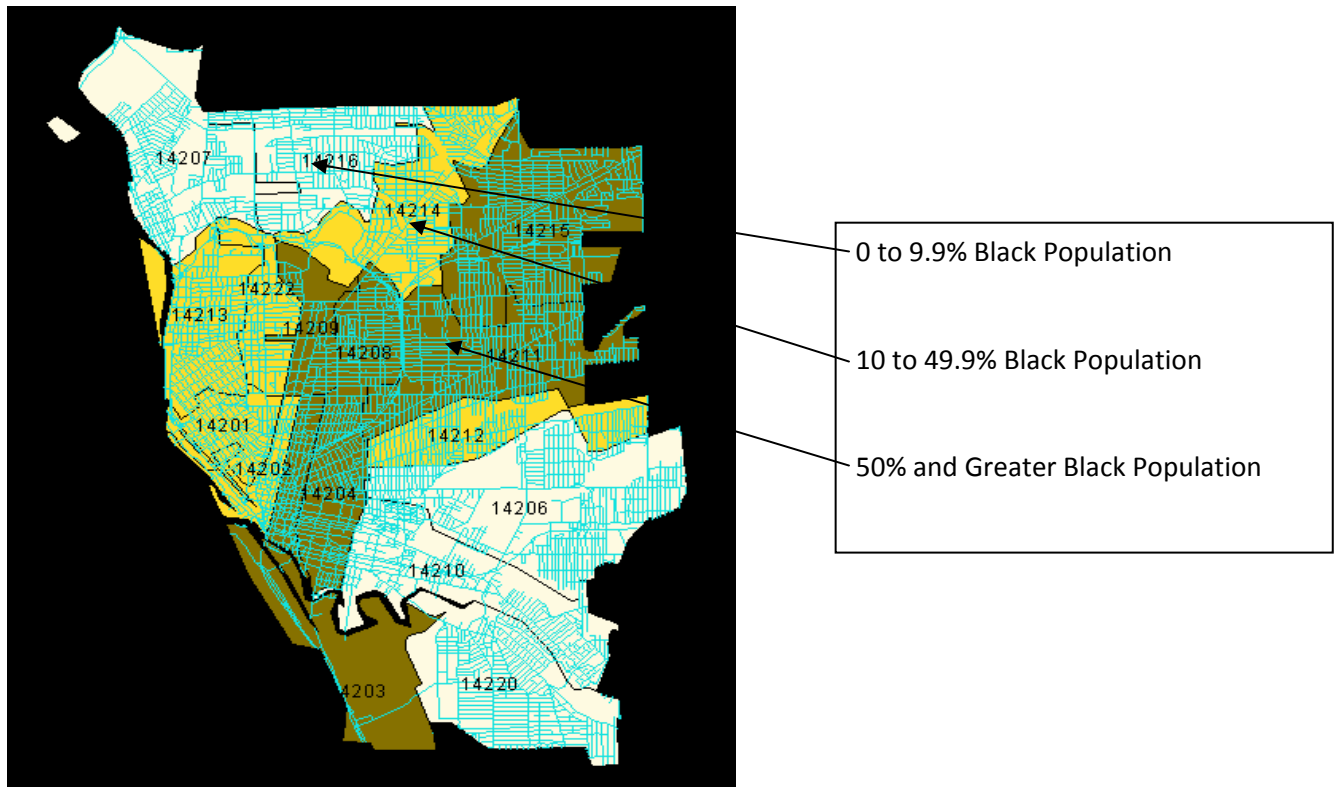
Social Indicator	1990 Census	2000 Census*
Population	328,123	292,648
Median Household Income	\$18,482	\$18,623*
Median Family Income	\$23,887	\$23,236*
Per Capita Income	\$10,445	\$11,378*
Percent of Population Living in Poverty	24.9	26.6
Percent of Families Living in Poverty	21.7	23.0
Percent of Children (0-17) Living in Poverty	38.5	38.4
Median Housing Value	\$46,600	\$45,009*
Median Gross Rent	\$352	\$358*

\* Dollar amounts are expressed in 1990 dollars to control for the effects of inflation.

Amounts listed by the 2000 Census are multiplied by .759 to obtain 1990 values.

The literature on environmental justice predicts that the distribution of ecological hazards over a geographic area will not be even. A significant number of studies identify race and or class biases to the distribution of ecological hazards. One could therefore predict that in Buffalo, the area shaded darkest in Figure 1 would be disproportionately impacted by ecological hazards. To analyze this distribution, zip codes are selected as the unit of analysis and used to test for patterns of environmental racism and environmental classism. Environmental racism is assessed by comparing the frequency of ecological hazards in each of the three regions identified in Figure 1.

According to data from the 2000 U.S. Census, 17 zip codes are located within the city limits with 6 of these extending slightly into the neighboring towns of Tonawanda, Cheektowaga, and West Seneca. Therefore, Buffalo cannot be analyzed by zip code without including a small portion of these other communities. When the 17 zip codes are combined, the aggregate population is 315,081 (22,433 greater than the population of the city of Buffalo). Because the additional population live along the city's eastern limit, there is little evidence to suggest that the aggregate demographic characteristics of the population of the 17 zip codes are radically different from that of the city. Table 1 shows statistics from the 2000 U.S. Census representing the city and the 17 zip codes aggregated for the study.



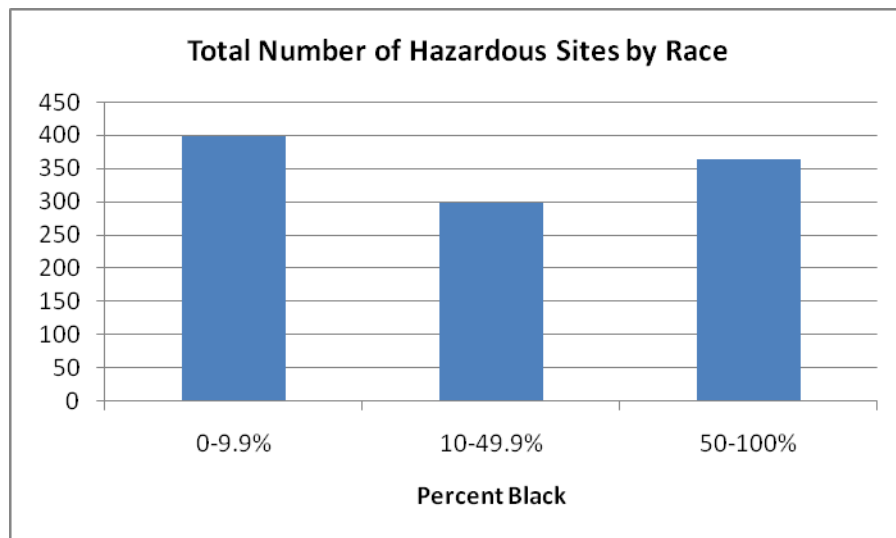
The data in Table 1 show that the degree of racial segregation and class inequality found in the 17 zip codes parallels that found in the city. Whites constitute a slightly larger percent of the population in the study area while African Americans constitute a slightly smaller percent. Compared to the city of Buffalo, income and poverty levels between whites and African Americans remain relatively constant in the study area. Overall, the 22,433 additional residents in the study area do not bias the data.

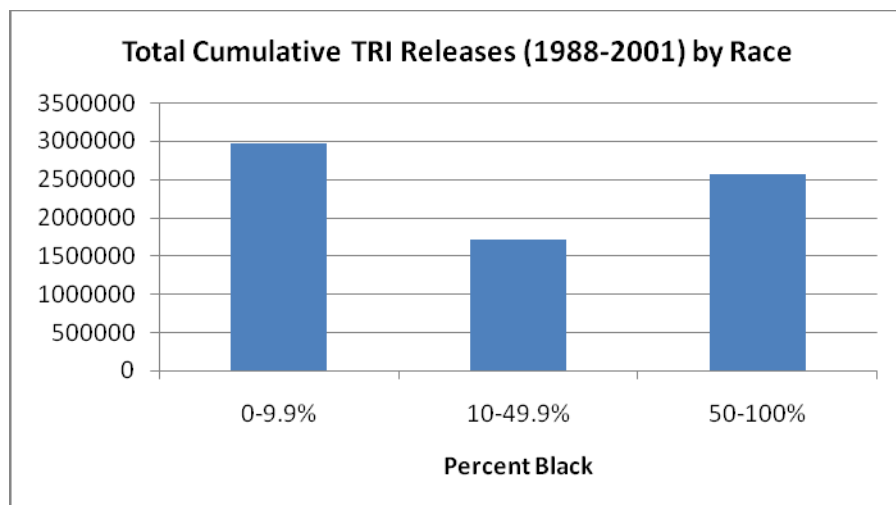
### **Ecological Indicators**

Claims of environmental injustice can be assessed by comparing average numbers of ecological hazards between communities. Ecological hazards can take a variety of forms including waste sites of various types, disposal facilities, transfer stations, and industrial emissions. Other less visible forms of ecological hazards can include ambient air quality, noise pollution, the presence of highways, a lack of access to parks and other environmental amenities, indoor air quality, lead-contaminated soil,

drinking water quality, quality of local diets, and others. The indicators used in this study consist of EPA Regulated Sites and Toxic Release Inventory data. Data were obtained using the U.S. EPA EnviroFacts Warehouse web site.

The two indicators of ecological hazards included in the analysis are the sum total number of pounds of on-site toxic releases from reporting years 1988 to 2001 and the total number of EPA regulated sites as reported on January 31, 2001. Toxic Release Inventory (TRI) data were gathered using the U.S. Environmental Protection Agency's *TRI Explorer* website on January 20, 2004. The search was conducted for all reportable chemicals. In sum, the 17 zip codes contain 37 Toxic Release Inventory (TRI) reporting facilities in 2002, a cumulative total of 7,247,225 lbs. of on-site TRI toxic releases between 1988 and 2001, and 1,059 EPA regulated sites. The data for EPA Regulated Sites were gathered on January 31, 2001 using the U.S. Environmental Protection Agency's *EnviroFacts Warehouse* website using a "Multi-system Query". EPA-regulated sites consist of a wide-range of existing and potential hazards including toxic chemical releases, permit compliance, and hazardous waste handling.





The data reveal no evidence to suggest that those zip codes housing large proportions of African Americans are disproportionately affected by ecological hazards, at least as represented by the measures used in this analysis. In fact, African American neighborhoods are likely to house slightly less ecological hazards. Evidence does exist to suggest that lower income zip codes are disproportionately affected by TRI releases, but not by EPA Regulated Sites. Therefore, while the data demonstrate an element of environmental classism, they do not demonstrate environmental racism.

Although these findings are surprising, they can be explained using historical and geographic patterns of industrialization, labor market segregation, and residential racialization. The temporal relations of industrialization and residential segregation created a geographically specific African American population in an area of the city with a history of less industry and fewer ecological hazards. One outcome of these processes is a “reverse pattern” of environmental racism. Whereas deindustrialization and white flight can lead to environmental racism, similar processes eliminated or suppressed patterns of environmental racism in Buffalo. The historical specificity of place may help to explain why previous analyses of market dynamics by Been (1994) and Been and Gupta (1997) do not reach conclusive results.

Despite the failure of the data to support the environmental racism thesis, racism continues to offer a valid explanation of (1) the current status of Buffalo’s African American population and (2) the lack of patterns of environmental racism. As a

population that was economically marginalized by racist labor markets, African Americans constituted that group most likely to be drawn into a region characterized by low cost housing. As chance would have it, this was an area geographically distinct from historically industrialized sections of the city. Consequently, race remains the variable most salient to explanations of current patterns of disproportionate exposure. Although the bias against lower income zip codes is stronger than the bias against zip codes with a higher proportion of African American residents, income does not offer the ability to explain the trends as clearly as they are explained by race.

Taken together, these two studies indicate the following: (1) race is a far more important variable than is often believed and (2) political and economic institutions play critical roles in fostering institutionalized racism.

### **The Promise and Peril of Policy Initiatives**

Targeted enforcement, safe alternatives and precautionary principles are all steps in the right direction, yet by themselves they are relatively conservative strategies that fail to directly challenge the social institutions that allow processes that foster environmental injustices to persist. The EJM must reach beyond the existing "tool kit" of potential solutions and create new frameworks that foster greater levels of community involvement and the development of regional coalitions of communities. This approach is more likely to foster (1) broad based support for the rights of citizens, workers, and communities, (2) increasing the effectiveness of regulatory efforts and (3) articulated community and individual experiences in a politicized/critical framework of social change that attempts to "dismantle the mechanisms by which capital and the state displace the social and ecological costs of production...(Faber, 1998:13). The first step in this process is to regain the sociological imagination by moving away from strategies that focus on change at the individual level and toward strategies that focus on social arrangements that facilitate capital accumulation at the expense of human and environmental health.

A number of legislative initiatives could have the effect of reducing overall pollution including: (1) increasing public participation, (2) minimizing risks by targeting

compliance, enforcement, and technical assistance, (3) encouraging investment by expediting brownfield review processes and expanding brownfield redevelopment efforts, and (4) promoting cleaner development by encouraging economic development projects that incorporate state-of-the-art pollution control technology. In fact, the Massachusetts legislature is currently debating a "Safe Substitutes" ("An Act for a Healthy Massachusetts: Safer Alternatives to Toxic Chemicals" (H-783 & S558)) bill that would reduce the use and release of those chemicals for which safer alternatives have been developed. In addition, the bill includes an initiative for the Toxics Use Reduction Institute at UMASS Lowell to work with local industries to identify the ten most dangerous toxic chemicals to be targeted first for the greatest benefits to public health. This bill has passed the house and will now move on to the senate. Massachusetts governor Deval Patrick has indicated that he will sign the bill into law should it pass in the senate.

More holistic strategies for achieving social and environmental justice that involve moving from locally reactive actions to more regionally proactive approaches to community planning and economic development are needed. Doing so requires crossing profound racial and ethnic boundaries, and bridging the divides between the white middle-class of suburbia and poorer people of color and working class whites in the inner cities. Such boundaries can be crossed, depending on how the toxics crisis is framed. Ultimately, this depends on the movement's ability to draw connections between ecological hazards, capital accumulation, and social inequality. These kinds of strategies will help to eliminate the conditions in which institutionalized racism manifests itself in our local environments. The failure of many communities to safeguard the quality of their environments points to the need for a critical re-examination of the role of the state in facilitating the polluter-industrial complex.

Future research should more closely examine local environmental histories in the context of housing and labor markets. It is likely that the seeds of today's environmental injustices were planted long ago in the form of segregated labor markets, racially biased housing policies, and the tendency for industrial capital to externalize waste into the public commons. Because many of these same processes

continue today (by either de jure or de facto forces), it is in the interest of sociologists to develop more theoretically sophisticated understandings of the connections between structural forces and local experiences.

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