

# **Assessment of Environmental Justice Needs in Northern Lake County Communities**

**Prepared by the Hoosier Environmental Council<sup>1</sup>**



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## **Introduction:**

Communities of color and low-income populations in Lake County face disproportionate environmental burdens and related health risks from the extreme concentration of polluting industries in the area. As a result, they breathe some of the most polluted air in the country, live near highly polluted waterways, and suffer from elevated asthma and cancer rates. In addition to historic, discriminatory land use practices, this environmental injustice continues from the inability of citizens to effectively engage in zoning, land use and environmental decision-making. This is because area industries are able to hire environmental experts to represent their interests while impacted citizens are unable to afford such services. Consequently, citizens' concerns are not fairly represented in decision-making that impacts their health and quality of life.

To demonstrate that having access to environmental technical services facilitates citizens' informed engagement in environmental matters, we trained a group of concerned citizens to conduct air/water testing using solid-phase microextraction (SPME) in citizen-identified "hot spots," analyzed and provided the sampling results to the group, and helped them formulate an action plan. In addition, we helped a Gary community group understand the history and nature of a local pollution threat, the regulatory issues involved, and to develop possible action strategies. To better understand the need for these services on a regional scale, we also conducted a detailed assessment of technical, scientific, policy, legal and other resources currently available to assist Lake County residents effectively participate in environmental matters, and surveyed more than 300 residents as to their views on what resources are needed.

The following is a comprehensive report of our work and findings which reveal an extraordinary lack of services and resources available in Lake County to facilitate citizens' meaningful and active engagement in decision-making that affects the very air they breathe, water they drink, and quality of life in communities where they live.

## **I. Background: Environmental Injustice in Gary, Hammond and East Chicago**

The U.S. Environmental Protection Agency (EPA) defines “environmental justice” as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”<sup>2</sup> Environmental justice is achieved, according to EPA, “when everyone enjoys the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment in which to live, learn and work.”<sup>3</sup> For residents of Gary, Hammond and East Chicago (“the Region”), this vision of environmental justice remains out of reach.

Home to approximately 187,000 people, the Region is located at the northern edge of Lake County, on the shores of Lake Michigan. As indicated in the chart below, African Americans and Latinos make up a significantly larger proportion of the populations of these communities than the state or nation as a whole.<sup>4</sup> The Region’s residents are also among the poorest in the state. While Indiana’s poverty rate (4.7%) is slightly below the national average, poverty rates in Gary, Hammond and East Chicago are dramatically higher at 37.4%, 22.1% and 36.5% respectively.<sup>5</sup>

### **Comparative Racial Data, American Community Survey Data 2012**

	<b>Gary</b>	<b>Hammond</b>	<b>East Chicago</b>	<b>Indiana</b>	<b>National</b>
White <sup>6</sup>	10.9%	41.5%	9.0%	81.5%	63.0%
African American	83.7%	20.0%	42.6%	9.0%	13.1%
Latino	4.3%	35.3%	48.0%	6.0%	16.9%

With more than 28% of the population of Gary, Hammond and East Chicago under the age of 18, this area is also substantially younger than Indiana as a whole.<sup>7</sup> Moreover, the area is characterized by relatively low levels of educational attainment with less than 13% of residents over 25 being college graduates and more than 18% of those over 25 having not completed high school. These figures rank among the worst in Indiana.<sup>8</sup>

What the census data does not reveal is the nature and magnitude of the numerous environmental problems that plague residents of these communities. The area is home to three of the nation's largest integrated steel mills, one of the world's largest oil refineries, several coal-fired power plants, and countless industrial facilities including smelters, toxics recyclers, chemical

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<sup>2</sup> U.S. EPA, *Environmental Justice*, available at <http://www.epa.gov/environmentaljustice>.

<sup>3</sup> *Id.*

<sup>4</sup> U.S. Census Bureau, American Community Survey 2012, available at [http://factfinder2.census.gov/faces/nav/jsf/pages/community\\_facts.xhtml](http://factfinder2.census.gov/faces/nav/jsf/pages/community_facts.xhtml)

<sup>5</sup> *Id.*

<sup>6</sup> Referring to the Census category of “non-Hispanic White.”

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

companies and manufacturing facilities. Also, there are 52 CERCLA/Superfund sites, 423 hazardous waste sites, more than 460 underground storage tanks (USTs), three wastewater treatment works, and 15 combined sewer overflows (CSOs).<sup>9</sup> Gary has by far the highest proportion of land devoted to industrial activity of any city in the state.<sup>10</sup>

Even as millions of dollars are dedicated to restoring the Grand Calumet River that flows through the area, new discharges continue to place the watershed high in the ranks of the nation's most polluted waters.<sup>11</sup> In 2010 alone, industries reported discharging more than 2 million pounds of developmental, reproductive and cancer-causing toxicants into the Little Calumet-Galien watershed, which includes the Grand Calumet River and a portion of Lake Michigan.<sup>12</sup> To make matters worse, Lake County's CSOs discharge 11 billion gallons per year of raw sewage and wastewater into the Grand Calumet.<sup>13</sup> And after years of seepage and successive spills, leaking USTs have created a sizable pool of underground oil - at least 16.8 million gallons - that floats on top of groundwater beneath the area.<sup>14</sup>

Air quality in Lake County is among the worst in the nation as well. A 2009 study found that air quality outside of schools in East Chicago and Gary exposed children to higher levels of airborne toxins, including a variety of metals, combustion byproducts and volatile organic compounds (VOCs), than anywhere else in the U.S.<sup>15</sup> The EPA estimates that residents in the northern part of Lake County are breathing air that is so polluted that it that exposes residents to the eighth-highest risk of cancer in the nation.<sup>16</sup> According to Indiana's State Cancer Registry, Lake County's cancer rate is significantly higher than that of the State as a whole, and dramatically higher than the U.S. cancer rate.<sup>17</sup>

This extreme level of air pollution is particularly disturbing in view of evidence that children are particularly vulnerable to the damaging effects of air pollution because their lungs are growing and their innate defenses against inhaled pollutants may be impaired.<sup>18</sup> This is clearly the case

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<sup>9</sup> U.S. EPA, *Grand Calumet River Area of Concern*, available at <http://www.epa.gov/glnpo/aoc/grandcal/index.html>; see also archived version at

<http://web.archive.org/web/20110621214347/http://www.epa.gov/glnpo/aoc/grandcal.html>.

<sup>10</sup> City of Gary, *Comprehensive Plan, State of the City Report - Draft* (Aug. 2008)(stating that 37% of Gary's land area is devoted to industrial uses).

<sup>11</sup> Rob Kerth and Shelley Vinyard, *Wasting Our Waterways 2012: Toxic Industrial Pollution and the Unfulfilled Promise of the Clean Water Act*, page 14, Environment America Research & Policy Center (Spring 2012).

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

<sup>14</sup> *Id.*

<sup>15</sup> USA Today, *Toxic Air and America's Schools*, (Mar. 2009) available at <http://content.usatoday.com/news/nation/environment/smokestack/index>

<sup>16</sup> U.S. EPA, *2005 National-Scale Air Toxics Assessment*, available at <http://www.epa.gov/ttn/atw/nata2005>.

<sup>17</sup> Indiana State Cancer Registry, *Indiana Cancer Incidence Rates by County, 2008-2012* (indicating Lake County's age-adjusted cancer rate for all cancers at 5494.8/100,000 people versus 466.6/100,000 people for the State of Indiana); Centers for Disease Control and Prevention, *United States Cancer Statistics 2007* (stating U.S. cancer rate for all cancers to be 437.3/100,000 people).

<sup>18</sup> Kulkarni, Grigg, *Effect of Air Pollution on Children*, Pediatrics and Child Health, Vol. 18, 5 (May 2008) (noting that the study focused on the effects of outdoor pollutants from combustion of fossil fuels but combustion of

for children in Lake County, where the overall hospitalization rate for asthma is the highest in the state and even higher among children under age 5.<sup>19</sup> Studies have found that children with pollution-related health concerns typically have behavioral problems as well, making exposure to air pollution doubly harmful.<sup>20</sup> The consequences of environmental risks thus extend beyond public health impacts to affect school performance, development of marketable skills, and ultimately the potential for participation in future economic activity.

In sum, the communities of Gary, Hammond and East Chicago have long suffered a hugely disproportionate share of Indiana's pollution burden from landfills, incinerators, sewage treatment plants, chemical industries, oil refineries, steel mills and a host of other polluting facilities. As a matter of fundamental fairness, human decency and social equity—and for the sake of Lake County's future economic vitality—it is time to solve this environmental injustice.

## **II. Causes of Environmental Injustice: Lack of Political and Economic Power**

To be successful, any strategy implemented to address this chronic injustice must address its root causes, of which there are many. Zoning and land use law has played a significant role in creating and perpetuating the unjust conditions that exist in Gary, Hammond and East Chicago. Specifically, the separated land use requirements of traditional zoning law do not provide relief because many existing industrial facilities were built prior to the enactment of zoning law. These “pre-existing uses” were then “grandfathered in,” removing the law's protections for surrounding residents.<sup>21</sup> Moreover, for decades after the enactment of zoning law, people of color and those who did not own land were excluded from participating in land use decision-making and processes and, therefore, were unable to oppose the siting of even more industrial facilities in their neighborhoods. Compounding the problem, discriminatory land use practices including racially restrictive covenants were legally sanctioned through the 1950's to prevent African Americans from leaving heavily polluted communities and moving to “nicer,” white neighborhoods.<sup>22</sup>

Like zoning and land use law, environmental legislation has also failed to protect these low-income and minority communities. The alphabet soup of environmental legislation including NEPA, the CAA, the CWA, RCRA, CERCLA, FIFRA, TSCA, SMCRA, SARA and other laws have created extremely complex administrative processes that exclude people who do not have education and training in environmental law or the financial resources to hire lawyers and technical experts that do. As such, more affluent communities are able to effectively use environmental laws to defeat proposed “locally unwanted land uses” (LULUs) causing industries

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biomass fuels in or near homes is one of the most important global environmental threats to child health).

<sup>19</sup> ISDH, *Burden of Asthma in Indiana* (2011) available at [http://www.in.gov/isdh/files/BR\\_Asthma\\_5-11-11gw.pdf](http://www.in.gov/isdh/files/BR_Asthma_5-11-11gw.pdf)

<sup>20</sup> See Kulkarni, *Effect of Air Pollution on Children*, FN 13.

<sup>21</sup> Luke W. Cole, *Empowerment as the Key to Environmental Protection: The Need for Environmental Poverty Law*, 19 Ecology Law Quarterly 619 (1992).

<sup>22</sup> *Id.*

to seek inexpensive land in low income neighborhoods where poor people lack political and economic power to resist such intrusions.<sup>23</sup>

There are also significant inequalities inherent in environmental laws because of “environmental grandfather clauses” that treat older facilities differently from newer facilities. Specifically, they exempt existing polluting facilities from more stringent environmental standards that are applicable to new facilities.<sup>24</sup> With the protection of grandfather clauses, these older facilities emit significantly more pollution than the newer, more modern facilities that are subject to more stringent regulation. Indeed, a study by the U.S. Public Interest Research Group found that grandfathered power plants emit 4 to 10 times more pollution than their newer counterparts. The group’s report indicated that elimination of the grandfather clauses applicable to the dirtiest plants would eliminate 69% of the NO<sub>x</sub> and 77% of the SO<sub>2</sub> released into the air each year by electric utilities.<sup>25</sup>

In addition to the inequities imposed on low-income and minority communities by environmental grandfather clauses, there has been a substantial disparity between the government’s diligence in enforcement and clean-up in poor, minority communities versus those efforts in affluent, non-minority communities.<sup>26</sup> Indeed, studies have shown that the penalties government officials impose on violators are higher when the violations occur in largely non-minority communities than they are for similar violations in minority neighborhoods. A *National Law Journal* report found that under RCRA, penalties were 500% higher in white communities than in minority communities, and that penalties under all the major federal environmental laws combined were 46% higher in white communities than in minority communities.<sup>27</sup> There is also evidence that cleanups are slower in minority communities: abandoned waste sites take 20% longer to be added to the Superfund cleanup program in minority areas than in white areas. Finally, there is evidence that in minority areas, the EPA allows less permanent forms of treatment, such as containment, rather than actual cleanup of contamination.<sup>28</sup>

### **III. Citizens’ Views on the Region’s Environmental Problems and Resource Needs**

To better understand resident concerns, opinions, and needs regarding this long-standing environmental injustice, in spring 2014, the Hoosier Environmental Council (HEC) prepared and

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<sup>23</sup> *Id.*

<sup>24</sup> See generally, Heidi Gorovitz Robertson, *If Your Grandfather Could Pollute, So Can You: Environmental Grandfather Clauses and Their Role in Environmental Inequity*, 45 CATH. U. L. REV. 131 (1995)(noting examples such as RCRA’s interim status provisions and the new source performance standards of the CAA that exempt older polluting facilities from complying with more stringent standards).

<sup>25</sup> *Lethal Loophole*, U.S. Public Interest Research Group (June 1998).

<sup>26</sup> Gerrard & Foster, *The Law of Environmental Justice: Theories and Procedures to Address Disproportionate Risks*, 2<sup>nd</sup> Ed. (2007).

<sup>27</sup> *Id.* (citing to Lavelle & Coyle, *Unequal Protection: The Racial Divide in Environmental Law*, Nat’l L. J., (Sept. 1992).

<sup>28</sup> *Id.*

circulated a needs assessment survey—both in print and online—in the targeted communities of Gary, Hammond and East Chicago. (A copy of the survey document and spreadsheet of collected data is attached in Appendix 1). The vast majority of surveys were distributed and collected by the Indiana NAACP Environmental Climate Justice Program through its local chapters, and the Calumet Project, a Gary-based non-profit that has long worked on environmental justice issues facing the Region. In total, 337 Lake County residents completed the survey, thereby providing their views.

## **A. Demographics**

Although the survey was open to all Lake County residents, the majority of respondents (79%) were from Gary-Hammond-East Chicago, with the largest share coming from Gary (37%). The racial composition of the survey population approximately matched the Region's: among those specifying a race, 70% gave their race as black or African-American, and 16% as white.<sup>29</sup> The respondents were somewhat more female (58%) and older (median age 55–64) than the Region's population as a whole.

A majority of respondents (58%) owned their own home, and most (58%) had lived in their current city for more than 25 years. The median household size was 3; 55% of respondents lived in a household with three or more members. The median respondent had attended but not finished college, and had a personal income of between \$25,000 and \$50,000 per year.

## **B. Chief among residents' numerous environmental concerns are abandoned properties, sewer overflows and industrial air pollution.**

On average, respondents identified the existence of at least three environmental hazards in their community. The top hazards were abandoned properties (64%), industrial air pollution (38%), and sewer overflows (31%). Other common issues included garbage dumps (25%), noise pollution (21%), industrial water pollution (18%), residential air pollution (17%), brownfields (15%), industrial waste (14%), groundwater contamination (13%), and lead exposure (13%).

## **C. More than 2/3 of respondents took action to address environmental problems in their communities, but only 1 in 5 felt their concerns were resolved.**

To address the environmental problems in their communities, 60% of respondents took direct action, and 59% sought help elsewhere, with a total of 70% doing one or the other. For outside help, respondents turned most frequently to local government (36%) and nonprofit organizations (19%). However, only 16% of those taking action this way reported that their concerns were addressed by those outside sources. Among those taking more direct action, the most common acts were signing a petition (37%), attending a public hearing (34%), and organizing or

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<sup>29</sup> Due to an oversight in preparing the surveys, many of the surveys did not collect Hispanic identity information. The subsample of surveys that did collect this information indicates that approximately 10% of respondents were Hispanic.

participating in a community effort (16%). But once again, this was generally ineffective: only 20% of respondents to this section reported that their actions were successful in addressing the problem.

#### **D. “I don’t know who to contact or what to do.”**

Among respondents who did not take any action, the most common reasons for not doing so were “I don’t know who to contact” (32%) and “I don’t know what to do” (21%). A number of common responses pointed to cynicism about the political and regulatory process: “regulators won’t do anything” (12%), “I’m not politically connected” (12%), “industry is too powerful” (11%), “nobody will help me” (8%).

#### **E. Most respondents are unsure of the government’s overall performance in enforcing environmental laws and regulations—but those with an opinion rate it very poorly.**

Asked to rate government performance in enforcing relevant laws, a plurality answered “don’t know” in almost all cases. A plurality of those expressing an affirmative opinion rated government performance as “poor” for all categories of environmental regulations, except zoning ordinances (where “fair” squeaked out a win by a fraction of a percent).

Asked specifically to rate the availability of services in Lake County for ensuring citizens’ voices are heard on issues from brownfield development to highway construction, the plurality position was again “don’t know” for all categories. This pattern suggests a general lack of information about government processes and, more specifically, citizen participation opportunities, and is evidence of little to no engagement with involved government officials. Confirming this conclusion, only a small minority (never more than 25%) rated the services as being “readily” or even “somewhat” available. Most respondents reported that such services were either “scarce” or “nonexistent.”

#### **F. Mistrust, poverty, and lack of understanding are key obstacles to being heard.**

Asked to identify three “main obstacles to ensuring Lake County citizens’ voices are heard in land use, zoning and environmental matters,” the leading responses were lack of understanding/education (40%), lack of trust in the system (32%), and lack of financial resources (32%). Reflecting a common historical refrain in the Region, many respondents also opined that the issues were “not a top priority for most people” (28%). Many also pointed to limited access to information (24%), poverty (25%), and racism (23%).

Notably, the common perception that environmental issues are “not a top priority” for others in the Region matches a key finding from a 2000 study of Lake County nonprofits conducted by the Urban Institute<sup>30</sup> that:

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<sup>30</sup> Twombly & DeVita, *Examining the Nonprofit Sector in Lake County, Indiana: A Spatial Analysis*, Centers on

Despite the strong degree of philanthropic behavior in the community, most residents feel that their neighbors ought do more to overcome local problems. [...] Thus, perceptions of citizen apathy, coupled with general dissatisfaction with the quality of life in community, suggest that local problem solving initiatives will need to combat local cynicism in order to succeed.”

As applied to environmental justice, this “local cynicism” could be addressed by improving the availability and visibility of community-based environmental initiatives in the Region.

**G. Most respondents report health problems such as respiratory illness or headaches, and believe that these are at least partially linked to local environmental issues.**

The most common health complaints among respondents’ households were headaches (42%), respiratory illness (37%), and eye/nose/throat irritation (33%). One in 25 reported developmental delays, and one in eight reported cancer. Most respondents (55%) believed their health problems to be at least partially related to pollution. Responses like this one were common: “I moved to Lake County around a year ago. Health issues that I hadn’t experienced before are part of me now.” One foster parent observed that more than half of the children she had fostered had respiratory problems. And another respondent asked, “How could so many people with these same problems not be affected by the environment?”

**H. The greatest felt needs are for education, followed by access to information, and access to technical, legal and health experts and community organizers.**

When respondents were asked to identify the top three services that “if made readily available for free/low-cost, would most help Lake County citizens effectively participate in land use, zoning and environmental decision-making,” the most popular responses were “education on human health effects from exposure to specific pollutants” (60%), and “education on environmental, land use and zoning requirements” (38%). These were followed by a “searchable database with information about industry discharges and violations” (28%), “access to environmental lawyers” (28%), and “access to environmental experts” (27%). Respondents also had a strong interest in access to community organizers (27%) and access to public health experts (26%).

**J. Overall, the Region's residents have a deep and urgent need for assistance in organizing, accessing information, and getting effective results.**

As noted above, the EPA defines “environmental justice” as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”

The needs assessment presented here shows (1) that the Region’s citizens are not fairly treated or meaningfully involved in the environmental matters that affect them, and (2) that they recognize this and have a clear understanding of the tools they would need in order to address this problem. The above findings show that the Region’s residents have no shortage of desire or motivation to address their problems—and no shortage of experience with the difficulty of doing so. Respondents clearly understand the kinds of tools that they need; what they have been lacking is an organization that will put these tools in their hands. Thus, among the foremost tasks facing an environmental justice clinic in the Region, in addition to providing legal and technical expertise, will be to make readily available the kinds of environmental, public health and regulatory information that residents need in order to fully understand and effectively address the environmental challenges that their communities face.

#### **IV. Available Nonprofit and Public-Sector Resources in the Region**

In addition to gaining clarity on impacted citizens' views, HEC sought to identify all of the resources—environmental non-profits, government agencies, legal aid organizations—that are currently available to help the Region’s citizens address pollution threats. We also looked for similar, community-based environmental justice initiatives in other heavily industrialized U.S. cities and whether they have been successful.

##### **A. Process**

An initial list of relevant organizations was compiled by querying various nonprofit databases, including Great Nonprofits, for environmental organizations in cities in and near northern Lake County, Indiana. Additional organizations were added by searching through links and “partner organizations” pages on the websites of the organizations from the initial list. The list was then manually filtered for relevance and duplicate entries. (See Appendix 2 for all compiled data.)

The worksheet entry for each organization, including contact information, description/mission, organization type and EJ-relevant activities, was filled out with information from 1) the organization website, 2) additional official sources such as 990 forms, 3) unofficial sources such as news reports if appropriate, and 4) direct inquiries by telephone if appropriate. Information from these sources was also used to identify and filter out defunct and irrelevant organizations.

Because no comprehensive list of analogous initiatives is known to exist, we searched for similar initiatives in other major metropolitan areas through a simple web search, by variations on the search strings “environmental justice” [city name], ‘environmental justice coalition’, and ‘environmental justice clinic’. The organizations’ website and other public information were then reviewed to see if there was in fact a relevant parallel to the environmental justice project we envision for the Region.

## **B. Findings**

### **1. Environmental organizations**

The search process identified 57 environmentally-focused nonprofit organizations in or near the Region. However, approximately 30 of these are limited to natural areas conservation, education, or similar activities, and thus do not participate directly in environmental justice work. Some of these organizations, like the Shirley Heinze Land Trust and The Nature Conservancy, do however own nature preserves in the Region and thus are not entirely detached from these issues. A few other stewardship-focused organizations, like the Association for the Wolf Lake Initiative and the Miller branch of the Izaak Walton League, have a narrow geographic scope that is partially or entirely within the Region, and thus may similarly become incidentally involved in environmental justice issues—but this is not their primary focus.

The remaining organizations are mostly either much broader or much narrower in geographical or topical scope (like Indiana Beyond Coal, which focuses on coal plant retirements and clean energy, or South Shore Clean Cities, which focuses primarily on fostering alternative transportation fuel), or are not actually active in the Region. As examples of the latter, far southeast Chicago is home to two pioneering environmental justice organizations, People for Community Recovery (PCR) and the Southeast Environmental Task Force (SETF). Telephone conversations with both of these organizations revealed, however, that they are active only in Illinois (though they may occasionally be involved in controversies that straddle the state line, such as SETF's involvement in the ongoing petcoke controversy).

Environmental advocacy organizations that have some level of activity across the Region are limited to the Save the Dunes Council (SDC) and the Hoosier Chapter of the Sierra Club. However, environmental justice is not a *principal* focus for either of these organizations, and neither of them has any staffers dedicated to the Gary-Hammond-East Chicago region. In fact, our research did not turn up any evidence of a single full-time employee anywhere, for whom addressing the Region's environmental issues is a principal responsibility. The nearest example is the SDC's dedicated staffer for the government grant funded Urban Waters Partnership, but again that service area extends well beyond the Region.

Regrettably, the organizations with the greatest focus on the Region's unique environmental problems have seen the greatest degree of atrophy in recent years. Notably among these, the Grand Calumet Task Force, which was at the heart of many environmental efforts in the Region over the 1990s and early 2000s, is now defunct. As a result, there is no active organization focused on the massive environmental justice issues that cluster at the Region's core.

### **2. Community empowerment / justice organizations**

Fourteen community empowerment organizations were identified in or near the Region, focusing on issues such as social justice and economic revitalization. However, apart from the Calumet Project, one of our partners on this project, none of these organizations have a significant focus on environmental justice issues. In many cases, what has prevented these organizations from

filling the environmental justice niche is not a lack of will, but a lack of resources. The Calumet Project, for example, has only two paid staffers stretched across four mission areas (with environmental justice being just one sub-part of one mission area). Nonetheless, as our experience with the Calumet Project shows, these organizations' interest in building livable communities and improving health in the Region can lead to valuable partnerships on specific environmental justice issues.

Relevant national and statewide organizations include Indiana Black Expo, the Indiana NAACP, and the Urban League. All of these organizations have been active on community health and economic development concerns, which broadly intersect with environmental justice. In addition, the Indiana NAACP has been active in calling for action against the deleterious effects of coal-fired power plants across Indiana and has partnered with HEC on this project.

Closely linked to the cause of community empowerment are the many faith-based organizations of the Region. As a previous Urban Institute study found, these organizations are especially numerous in Gary, but are particularly difficult to track.<sup>31</sup> That study found more than 100 faith-based organizations in Gary alone,<sup>32</sup> a number that is unlikely to have dropped significantly. No church ministries in the Region are known to focus on environmental justice issues specifically. However, some ministries, such as the Stewart House urban farm in Gary operated by Christ United Methodist Church, have a clear environmental aspect. In addition, many community churches could be valuable local partners for initiatives focused on their community's specific concerns.

### **3. Legal aid organizations**

Eight relevant legal aid organizations were identified. Organizations providing environmentally-focused legal aid in the broader region include the Chicago Legal Clinic, the Conservation Law Center (based in Bloomington, Indiana), the Environmental Law and Policy Center (offices throughout the Midwest) and the Natural Resources Defense Council (offices nationally, including Chicago).

Of these, the Chicago Legal Clinic has an active environmental law program, serving approximately 20 organizations per year; in addition, the organization has provided some legal aid services in Northwest Indiana. In the past, the CLC has in fact been involved in a number of suits in the Region over issues including the BP Whiting permit, a confined disposal facility in East Chicago, and the transportation of dioxin in the region. However, according to a telephone conversation with the environmental program director, the CLC has not been engaged in any environmental litigation in Indiana for the past 5 years (when the CLC's Indiana-licensed environmental attorney left for private practice), and has no current plans to hire an attorney who could handle environmental litigation in Indiana.

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<sup>31</sup> *Id.* at 5, 15.

<sup>32</sup> *Id.*

The Conservation Law Center, which operates in partnership with IU-Maurer School of Law in Bloomington, has been involved in recent litigation regarding shoreline ownership along Lake Michigan, but principally focuses on conservation issues in central and southern Indiana, and has not taken on suits related to environmental justice issues. Similarly, the ELPC's and NRDC's involvement in northwest Indiana has generally been limited to litigation with national or Midwest regional policy implications which are not specifically focused on addressing environmental justice in the Gary/Hammond/East Chicago region.

There are a number of *non*-environmental legal aid providers serving the citizens of the Region, including the Hammond Legal Aid Clinic and Indiana Legal Services. However, these providers are exclusively dedicated to either criminal or minor civil matters (such as will preparation). None offer any type of environmental program, and only one (Northwest Indiana Volunteer Lawyers) even offers services of sufficiently general scope that they could, in principle, include environmental litigation.

#### **4. Academic institutions**

The Region is home to a number of academic institutions, including Indiana University Northwest in Gary, Purdue University Calumet in Hammond, Calumet College of St. Joseph in Whiting/Hammond, and multiple campuses of Ivy Tech. In addition, the vast academic resources of Chicago, as well as Indiana academic powerhouses like Notre Dame and Valparaiso University, are only a short drive away. Collectively, these institutions offer the potential for valuable partnerships to provide scientific and technical support for an environmental justice initiative in the Region. Dr. Peller at IUN, who partnered with the HEC in this pilot project, is a salient example of the many highly-skilled and locally-knowledgeable experts on environmental subjects who can be found in the Region's academic institutions. Thus, as with the Region's rich network of community empowerment organizations, these institutions provide a key piece of the puzzle—but an organization with a specific focus on environmental justice is still needed before a coalition can be built that brings all the pieces of this puzzle together.

#### **5. Governmental initiatives**

Numerous federal, state and local bodies are engaged with environmental justice issues in the area. Fifteen particularly relevant agencies were identified, from the Army Corps of Engineers to the Northwest Indiana Urban Waters Partnership. Perhaps most notable among the governmental initiatives aimed at the Region are the Level I and II community collaborations organized in Gary under the EPA CARE program, in 2007 and 2010, “to reduce toxic threats in high-risk Gary homes and neighborhoods and build local capacity for environmental action.”<sup>33</sup> Both of these programs have, however, run their course, and further grants under EPA CARE are currently suspended due to federal budget cuts.

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<sup>33</sup> EPA, “Region 5 Enforcement and Compliance: Environmental Justice,” available at <http://www.epa.gov/region5/enforcement/ej.html>.

The EPA is in the process of implementing “Plan EJ 2014,” a nationwide strategy for improving the agency’s responsiveness to environmental justice concerns.<sup>34</sup> Although some aspects of this strategy will have clear benefits for the Region, the EPA has, to date—even under the CARE program—done little to target the Region’s specific EJ problems. Nevertheless, the EPA does offer several competitive grant programs focusing on EJ-related issues. The agency’s small grants program has the greatest geographic coverage, and several grants are made in each EPA region each year; however, no EPA small grant in the past five years has gone to programs serving northern Lake County. A significant hopeful note, however, is sounded by an \$800,000 EPA revolving loan fund grant to the Northwest Indiana Regional Development Authority in 2013, for use on brownfields programs in Gary-Hammond-East Chicago region.<sup>35</sup> In addition, the EPA provided \$600,000 for brownfield-related job training in Gary for 2010–2013,<sup>36</sup> although it is not clear how much of that training has led to actual jobs. It is possible, however, that this recent infusion of federal funding will help jump-start improvements in the Region’s environmental justice landscape.

## **6. Comparable initiatives elsewhere**

Citywide and region-wide environmental justice coalitions and/or legal aid programs have been formed in numerous cities across America, with varying degrees of success. Although none were perfectly analogous to the environmental justice services that HEC proposes should be established to serve the Region’s citizens, seven were identified as particularly relevant for purposes of providing a useful model.

Among the most directly relevant is the Interdisciplinary Environmental Clinic operated by Washington University Law School in St. Louis. This resembles the environmental justice project we envision for the Region both in providing a crucial combination of technical and legal expertise, and in being located in a relatively small and disadvantaged heavy industrial urban area. Indeed, the IEC has won a number of key victories for disadvantaged communities in the St. Louis area.<sup>37</sup>

Another particularly strong analog for the proposed project is Air Alliance Houston. Formed from the merger of two closely related air quality groups in Houston in 2008, AAH works on multiple fronts—advocacy, litigation, grassroots organizing, and education—to address the air quality problems in the Houston-Galveston area. In that area, much like the northern Lake County Region, chemical and petrochemical plants often abut directly on residential neighborhoods, causing significant environmental problems. AAH partners with local grassroots organizations to both spread awareness of problems in the community and to work to combat

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<sup>34</sup> EPA, “Plan EJ 2014 Progress Report,” Feb. 2014, available at <http://www.epa.gov/environmentaljustice/resources/policy/plan-ej-2014/plan-ej-progress-report-2014.pdf>.

<sup>35</sup> EPA, “Grant Family Detailed Report”, available at [http://iaspub.epa.gov/enviro/grants.call\\_report?grant\\_family=00E01246](http://iaspub.epa.gov/enviro/grants.call_report?grant_family=00E01246).

<sup>36</sup> EPA, “Grant Family Detailed Report,” available at [http://iaspub.epa.gov/enviro/grants.call\\_report?grant\\_family=00E97401](http://iaspub.epa.gov/enviro/grants.call_report?grant_family=00E97401).

<sup>37</sup> “Interdisciplinary Environmental Clinic News,” available at <http://law.wustl.edu/intenv/pages.aspx?id=431>.

those issues in the legislative, judicial and policy arenas. AAH also partners with national organizations. Most recently, AAH was one of three Texas/Louisiana organizations behind a lawsuit that drove significant reforms in EPA regulations governing monitoring of air quality around refineries—an issue of particular salience in the Houston area, where refineries are even more dense than steel mills are in the Region.<sup>38</sup>

### **E. Overall, a marked lack of environmental justice resources in the Region**

The complex and difficult nature of environmental justice problems in general—and the Region’s in particular—requires an organization that can give its full attention to the problem, and this need is currently unmet. Although there are active environmental organizations that serve the Region along with surrounding areas, no organization currently gives its full attention to the Region’s environmental justice needs. The Region has a robust civil society, with many organizations dedicated to community empowerment, health, and justice, as well as countless churches and faith-based organizations; these organizations may be valuable partners with an environmental justice clinic, as the Calumet Project and Indiana NAACP have already been with this initial exploratory phase. In addition, the existing, successful programs in Houston and St. Louis provide valuable examples for how an HEC environmental justice clinic could effectively serve the Region’s needs.

### **V. Empowering Gary citizens to address a local pollution concern—the “J-Pit”**

An additional goal of this pilot project is to demonstrate how citizens can be effective advocates in addressing a local pollution concern when they have meaningful access to the technical, scientific and legal resources they need to fully understand the nature and cause of the problem, potential legal remedies, and the identity of responsible government agencies. After several community meetings during which residents shared their concerns with us about various contaminated sites and pollution sources, we opted to focus on an active dump site, known as the “J-Pit.”

#### **A. Overview: The Twisted Tale of a Hole in the Ground**

The J-Pit provides a case in point for the Region’s complex environmental justice needs, and the effect of the Region’s entwined legacies of contamination, corruption, and grassroots activism. The J-Pit also shows how the needs for information and expert assistance are felt at the ground level.

The J-Pit is a hole in the ground in western Gary, 35 feet deep and four city blocks on a side. A former sand mine, it abuts residential neighborhoods and parks on some sides, and industrial

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<sup>38</sup> Matthew Treseauge, “EPA tightens decades-old refinery pollution rules,” *Houston Chronicle*, May 15, 2014, available at <http://www.houstonchronicle.com/news/science-environment/article/EPA-tightens-decades-old-refinery-pollution-rules-5482153.php>

sites and toxic waste dumps on others. The J-Pit has been enmeshed in controversy and double-dealing since its first sand-mining permit issued in 1966. Today, it sits abandoned, its base filled with water. To control the flow of leachate from the defunct Gary Sanitary Landfill across the street, the water level in the pit is kept low by constant pumping. This pumped water then drains into the Little Calumet River, a key recreational waterway of northwest Indiana.

Plans call for the pit itself to be partially filled and transformed into a recreational area, while surrounding areas are to be cleaned up and converted to recreational or light-industrial uses. These plans were backed up by an EPA brownfields assessment grant that ran from 2000 to 2004. But no cleanup work has been done anywhere in the site in the decade since—not even on two parcels that are heavily contaminated with lead and arsenic and are very close to residential areas. Additionally, aerial photographs of the pit show a pattern of fill radically at odds with the city’s published plans. Local residents have also raised serious questions about the nature of the fill currently being dumped at the site under a contract with Beemsterboer Slag Corporation.



**Figure 1. Aerial photograph of J-Pit as of 2013, showing the 400-foot-wide fill zone at south end of pit (Sidwell Corporation, via Lake County Surveyor’s GIS).**

Although some monitoring of surface water has been conducted in recent years, there has been no ongoing monitoring of groundwater, despite previous EPA recommendations and available funding to ensure such monitoring is done. Residents have thus had scant opportunity to understand what effects the past and present activities at the J-Pit site may be having on their environment and health, though they certainly understand what it has done to their quality of life.

## B. The J-Pit in context

The J-Pit sits in Gary's Westside neighborhood, in the area sometimes called "northern Black Oak," close to the neighborhoods of Black Oak in Gary and Hessville in Hammond. The Westside neighborhood has a racial composition that mirrors the Gary-Hammond-East Chicago region as a whole: 63% black and 32% white, with 10% of Hispanic ethnicity.<sup>39</sup> Residential areas crowd the site on the south and southwest, with some houses standing just one block from the pit's edge, while others look out on heavily contaminated outlying areas of the site. Residents' concerns are thus not limited to the pit's outflow into the Little Calumet, but also include potential contamination of their air, soil, and groundwater.

The J-Pit lies between the Grand Calumet and Little Calumet rivers, in an area historically dominated by a dune-and-swale landscape with a high water table and numerous small wetlands. Natural drainage patterns would send the pit's water into the Grand Calumet to the north, but dewatering operations related to the defunct Gary Sanitary Landfill now send its outflow into the Little Calumet to the south instead. The J-Pit is scarcely a mile from the Ivanhoe South Nature Preserve, and only slightly further from the Tolleston Strand Plain family of preserves along the Grand Calumet.<sup>40</sup> At a similarly short distance to the south lie key riparian habitats along the Little Calumet—where the J-Pit's outflow ends up. Barely a mile downstream of the point where the pit's outflow joins the river, city parks bustle with children and anglers.<sup>41</sup>

Even in the context of the Region, western Gary has long stood out as a pointed example of environmental injustice. As one scholar of the region's environmental history noted, "the skewed social distribution of toxic waste disposal sites [in western Gary] represented the most marked example of an environmental regime that discriminated along the lines of race and class."<sup>42</sup> For much of the 20<sup>th</sup> century, western Gary was known for environmental lawlessness. In the words of former mayor Richard Hatcher, "there was no serious concern in west Gary and no enforcement. The feeling was that you could do almost anything out there."<sup>43</sup> Numerous dumps operated illegally in the area; the former Gary Sanitary Landfill that adjoins the J-Pit took in shocking quantities of toxic waste. To make matters worse, because the Calumet Aquifer is unbound by rock or clay, contaminated groundwater can spread at up to 350 feet per year.<sup>44</sup>

These injustices have not gone unopposed. The J-Pit itself stands as a monument of sorts to local residents' determination: were it not for determined grassroots opposition, the pit would long since have become a landfill or a hazardous waste dump. Still, repeated efforts by Westside and Black Oak residents to fight back against environmental injustice have been hamstrung by lack

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<sup>39</sup> City of Gary, *Comprehensive Plan*, at 156 (2008).

<sup>40</sup> The Nature Conservancy, *Tolleston Strand Plain*, available at <http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/indiana/placesweprotect/tolleston-strand-plain.xml>.

<sup>41</sup> Specifically, Carlson Oxbow Park in Hammond and Homestead Park in Highland.

<sup>42</sup> Andrew Hurley, *Environmental Inequalities*, page 172 (1995, University of North Carolina Press).

<sup>43</sup> *Id.* at 170.

<sup>44</sup> *Id.* at 172.

of organization and information.<sup>45</sup> For example, the lack of information about contaminants meant that early protests against the Gary Sanitary Landfill focused only on odor and vermin, and not the more deadly but invisible threats from the landfill's toxic waste.<sup>46</sup>

Thus, the J-Pit is exemplary of the issues identified in the HEC's survey and needs assessment: multiple sources of contamination with potential impacts on health, combined with insufficient information, insufficient access to people with relevant expertise, and a general sense of powerlessness in the face of corruption and apathy.

### C. The J-Pit site

The total J-Pit site covers approximately 215 acres: 114 acres in the J-Pit proper and the remainder in the surrounding parcels targeted for redevelopment. For purposes of redevelopment planning, the EPA and City of Gary have divided the overall site into five parts: four zones bordering the pit, and the pit itself. As illustrated in Figure 1, below, **Zone 1** is a 16-acre parcel located on either side of Colfax St., northeast of the pit.<sup>47</sup> **Zone 2** is a 23-acre wooded strip south of the eastern part of the pit and west of Colfax, consisting of the former Paul's Auto Yard site and adjacent vacant land.<sup>48</sup> **Zone 3** is a 27-acre parcel directly east of Zone 2 across Colfax, directly south of the former Gary landfill. Much of Zone 3 was also part of the Paul's Auto Yard operations, and became heavily contaminated with lead.<sup>49</sup> **Zone 4** is a 36-acre parcel south of the western part of the pit; it includes an 18-acre dune and swale remnant.<sup>50</sup> **Zone 5** is the 114-acre pit itself, 35 feet deep with sloped sides.<sup>51</sup> The pit and most of the rest of the site is owned by the Gary Redevelopment Commission, but some parcels remain in private hands, including an active church in Zone 1.<sup>52</sup>

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<sup>45</sup> *Id.* at 170–71.

<sup>46</sup> *Id.*

<sup>47</sup> EPA, *Baseline Ecological Assessment*, 2002, page 4 (JPIT0004).

<sup>48</sup> Baker Environmental, Inc., *Phase II Environmental Site Assessment: J-Pit Redevelopment Area, Gary, Indiana*, Feb. 2004, page 1-2 (JPIT1235).

<sup>49</sup> *Id.*

<sup>50</sup> *Id.* at 1-9 (JPIT1242).

<sup>51</sup> EPA Brownfields Assessment Demonstration Pilot Grant, 2000, page 15 (JPIT1379).

<sup>52</sup> , Lake County Surveyor GIS, Parcel Number 45-07-12-303-001.000-004, available via <http://lakein.mygisonline.com/map.php?site=surveyor>.

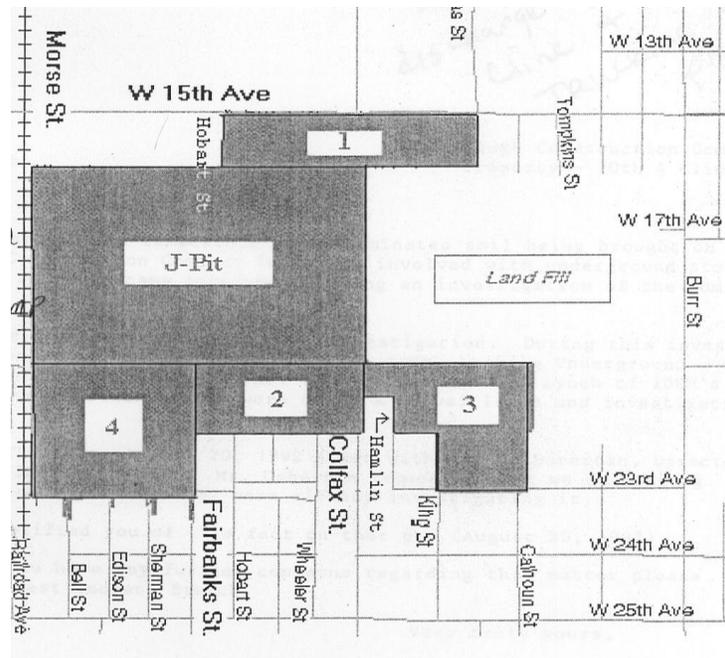


Figure 2: Map of J-Pit site.

The site is almost entirely unsecured. As of 2014, even the pit itself has no barrier against unauthorized entry; a casual pedestrian can easily walk down to the floor of the pit from the 21<sup>st</sup> Avenue right of way. The site is popular with local ATV riders, whose trails lace through Zones 2, 4, and 5. Illegal dumping is also common, particularly along the abandoned streets in Zone 2.

#### D. Early history of the J-Pit: 1958–1999

The J-Pit area was popular for sand mining, because it featured the relatively high dunes of the High Tolleston Shoreline, laid down approximately 6,000 years ago.<sup>53</sup> Aerial photographs show sand mining in what is now the J-Pit by 1958, but at a small scale.<sup>54</sup>

In the 1960s, the site was purchased by a business called the Cal Area Sportsman’s Club. The “Club” obtained a sand mining permit from the city in 1966, based on promises to construct a recreational facility and apartment complex on the site once the mining was complete.<sup>55</sup> However, the condition that would have legally bound the Club to follow through on its promises was mysteriously dropped.<sup>56</sup> When the pit was exhausted in 1972, the Club claimed poverty and instead of the promised recreational development, applied for a permit for a sanitary landfill at

<sup>53</sup> Kenneth J. Schoon, *Calumet Beginnings*, 2003, pages 35–37.

<sup>54</sup> Baker Environmental, Inc., *Phase II Environmental Site Assessment: J-Pit Redevelopment Area, Gary, Indiana*, Feb. 2004, page 1-3 (JPIT1236).

<sup>55</sup> Joel Weisman, “2 Officials Stand by Decision for Cal-Area Sportsman Club,” *Gary Post-Tribune*, Apr. 1, 1966, page C-1; Hurley at 167.

<sup>56</sup> Weisman, *supra*.

the site.<sup>57</sup> It later emerged that the Club had been a front for Red Top Trucking, a major sand mining company, which extracted between 3 and 5 million cubic yards of sand from the pit.<sup>58</sup>

The landfill permit was approved, but Red Top was not able to start operations before the permit expired. Waste Management subsequently purchased the site, and attempted to revive Red Top's permit in order to evade a statutory requirement for a half-mile setback around new landfills. The Indiana Court of Appeals put an end to that effort in 1992,<sup>59</sup> and the J-Pit continued to stand vacant. In the mid-1990s, Lake County targeted the site for a county landfill, but after a bitter political struggle, the landfill was instead sited in the southern part of the county.<sup>60</sup> A subsequent effort by Waste Management to establish a toxic waste dump at the site was also defeated, thanks in part to a multiracial and multineighborhood effort that pushed back against both the Gary Sanitary Landfill and the J-Pit proposals.<sup>61</sup> In 1999, after Waste Management finally despaired of establishing a dump on the site, the City acquired the property for a redevelopment project.

#### **E. EPA Brownfield Grant: 2000–2004**

In 2000, the City received an EPA “Brownfields Assessment Demonstration Pilot Grant,” covering Phase I and Phase II environmental assessment of the site, but not covering any actual cleanup or remediation.<sup>62</sup> The project concluded in February 2004 with a 641-page report. The report's recommendations included remediation/mitigation of lead and arsenic at the Paul's Auto Yard site (Zones 2 and 3), ongoing groundwater monitoring and flow modeling, and additional sediment and background sampling to confirm the study's findings.<sup>63</sup>

In 2003, the City filed an extensive brownfields grant application with the EPA, including a request for J-Pit cleanup funding.<sup>64</sup> The J-Pit cleanup grant was not approved,<sup>65</sup> and a decade later, no action appears to have been taken on any of the recommendations from the assessment.

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<sup>57</sup> Hurley at 167.

<sup>58</sup> “Says Sand Mining Permit Excessive,” *Gary Post-Tribune*, May 2, 1973, page A-10; *Prosser v. Waste Management, Inc.*, 612 N.E.2d 1116, 1116 (Ind. Ct. App. 1993).

<sup>59</sup> *Prosser v. Waste Management*, 612 N.E.2d at 1119.

<sup>60</sup> David Rusk, *Inside Game/Outside Game: Winning Strategies for Saving Urban America*, pages 280–81 (Brookings Institution Press, 2001).

<sup>61</sup> Sara Marsh, “Group To Tackle Landfill Issues,” *The Times of Northwest Indiana*, May 28, 1996, available at [http://www.nwitimes.com/uncategorized/group-to-tackle-landfill-issues/article\\_8d98918b-22e0-55f1-bf4f-067640ac1a4a.html](http://www.nwitimes.com/uncategorized/group-to-tackle-landfill-issues/article_8d98918b-22e0-55f1-bf4f-067640ac1a4a.html)

<sup>62</sup> EPA, *Brownfields Assessment Demonstration Pilot: Gary, IN: Quick Reference Fact Sheet*, May 2000, page 2 (JPIT0171).

<sup>63</sup> Baker Environmental, Inc., *Phase II Environmental Site Assessment: J-Pit Redevelopment Area, Gary, Indiana*, Feb. 2004, pp. 5-19–5-20 (JPIT1307–08).

<sup>64</sup> City of Gary, *Fact Sheet: Application for Grant Funding through the USEPA Small Business Liability Relief and Brownfields Revitalization Act*, Mar. 12, 2003, copy in HEC files.

<sup>65</sup> EPA, *Brownfields 2003 Assessment Grant Fact Sheet: Gary, IN*, available at [http://cfpub.epa.gov/bf\\_factsheets/gfs/index.cfm?xpg\\_id=5248&display\\_type=HTML](http://cfpub.epa.gov/bf_factsheets/gfs/index.cfm?xpg_id=5248&display_type=HTML).

## F. Recent concerns: 2006–present



**Figure 3: J-Pit fill zone, summer 2013 (Photo credit: John Rhyne).**

With an eye to the envisioned redevelopment project, in 2006, the city entered into a contract with Beemsterboer Slag Corporation to partially fill the J-Pit with “clean fill.”<sup>66</sup> The 10-year contract was awarded under controversial circumstances, and the request appeared to have been written to exclude any potential bidders other than Beemsterboer.<sup>67</sup> The contract ostensibly envisioned the same plan that had previously been shared with community residents as part of the EPA grant: a narrow band of fill providing a walking trail around the perimeter of the pit, while the remainder is redeveloped as a recreational pond and wetland. However, recent aerial photographs show a fill zone approximately 40 times wider than the plans indicated.

The contract specified that the materials dumped must comply with a provision of the Indiana Administrative Code that exempts from regulation “disposal of only uncontaminated rocks, bricks, concrete, road demolition waste materials, or dirt.”<sup>68</sup> But the contract’s revenue-sharing structure created an inherent conflict of interest for the City: enforcing the restriction on fill would mean less money for Gary’s chronically cash-strapped government. Local residents have frequently reported improper materials being dumped in the pit, raising concerns about contamination of the river and local air and groundwater. One local resident followed the trucks

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<sup>66</sup> City of Gary, *Agreement for Providing Planning and Management Services for J-Pit Filling*, Nov. 2, 2006 (copy in HEC files).

<sup>67</sup> Andy Grimm, “Gary’s J-Pit Set to Become City Park,” *The Times of Northwest Indiana*, Dec. 19, 2005, page A-1.

<sup>68</sup> 329 Ind. Admin. Code § 10-3-1(1).

and confirmed that they were loading waste from a steel mill rather than the required clean fill.<sup>69</sup> Steel mill waste previously dumped in the area has contained up to 5% lead.<sup>70</sup> A 2012 letter indicates that the city had not given IDEM sufficient information on its procedures for monitoring the material dumped at the site; no more recent information is yet available.<sup>71</sup>

Water sampling at the J-Pit has been conducted annually since 2010, under contract with Beemsterboer. The initial arrangement called for sampling of groundwater (at a depth of 20 feet) as well as surface water, but the 2010 test report stated that “clay was encountered the entire depth of the boring .... Groundwater was not detected.” From the location information given in the report, it appears that the boring must have been made somewhere on the clay berm that separates the J-Pit from the outflow zone of the Gary Sanitary Landfill. Subsequent test reports likewise do not include any groundwater samples. Thus, there appears to be no ongoing monitoring of possible groundwater contamination.

A dye test conducted in 2012 by IDEM indicated that surface water from the J-Pit flows through assorted culverts and ponds to reach the Little Calumet River near Cline Avenue. The river is home to abundant fish and waterfowl, including bald eagles<sup>72</sup> and a large blue heron rookery (just downstream of the J-Pit outflow point).<sup>73</sup> In 2012, IDEM questioned whether the City actually had the necessary permits for fill activity that directly impacts waters of the state.<sup>74</sup> It is not clear whether IDEM’s concerns were addressed.

Based on the EPA brownfields assessment, the City sued Paul’s Auto Yard for the massive lead contamination of Zones 2 and 3. But when the proceeding wound to its conclusion in 2011, Paul’s was found liable for only 0.24% of cleanup costs, leaving the City on the hook for more than 99 cents of every dollar.<sup>75</sup> As of 2010, there was no remediation plan for the site;<sup>76</sup> as of 2014, the site still shows no sign of remediation work.

The City did enter into a Voluntary Remediation Agreement (VRA) with IDEM for the J-Pit itself (Zone 5) in 2002, and for Paul’s Auto Yard (Zones 2 and 3) in 2008.<sup>77</sup> However, it withdrew from the J-Pit VRA in 2007, stating that “the City of Gary does not have the necessary funds to keep the Site in the [Voluntary Remediation Program] nor to proceed with the sampling, analysis and reporting required to obtain final closure on the parts of the Site that do not require

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<sup>69</sup> Lauri Harvey Keagle, “State investigating Gary’s J-Pit restoration project,” *The Times of Northwest Indiana*, May 4, 2012, available at [http://www.nwitimes.com/news/local/lake/gary/state-investigating-gary-s-j-pit-restoration-project/article\\_de4f614a-2c52-55e5-b7e2-ae0fab338343.html](http://www.nwitimes.com/news/local/lake/gary/state-investigating-gary-s-j-pit-restoration-project/article_de4f614a-2c52-55e5-b7e2-ae0fab338343.html).

<sup>70</sup> *City of Gary v. Shafer*, 683 F. Supp. 2d 836, 850 (N.D. Ind. 2010).

<sup>71</sup> J. Robert Simmons to Lauren Riga, Dec. 7, 2012 (JPIT3724).

<sup>72</sup> ABC 13 Eyewitness News, *Bald Eagles Nesting Along Little Calumet River*, Sept. 29, 2012, available at <http://abc13.com/archive/8829744/>.

<sup>73</sup> Michael Goodson, Letter, “Don’t allow Little Calumet project to harm heron rookery,” *Post-Tribune*, May 11, 2006.

<sup>74</sup> Simmons to Riga, *supra*.

<sup>75</sup> *City of Gary v. Shafer*, 2:07-CV-56-PRC, 2011 WL 3439239, ¶ 28 (N.D. Ind. Aug. 5, 2011).

<sup>76</sup> *Gary v. Shafer*, 683 F. Supp. 2d at 858.

<sup>77</sup> IDEM, “VRP Project Site List,” Jan. 2012, available at <http://www.in.gov/idem/4472.htm>.

remediation.”<sup>78</sup> The City likewise withdrew from the Paul’s VRA in 2010, when it became clear that litigation would not yield the necessary funds for cleanup.<sup>79</sup> Thus, there do not currently appear to be any remediation plans in place for any part of the site.

### **G. What the Hoosier Environmental Council has done**

The HEC has helped to bring transparency to the regulatory processes around the J-Pit. Much of the information above comes from an HEC FOIA filing with the EPA. Additional records requests have been filed with the state government (IDEM) and City of Gary. The HEC has also partnered with local residents to monitor surface water in the area of the J-Pit. The findings, which indicate a definite need for further investigation, are detailed in Section VI below.

### **H. What the Hoosier Environmental Council can do**

An environmental justice clinic serving the Region would be able to put an end to the J-Pit’s 50-year legacy of duplicitous disregard for the health of residents and local waters—ultimately improving the health, quality of life and long-term economic prospects of this highly polluted part of Gary. Specifically, such a clinic would, among other things, be able to:

- Give local residents information about relevant regulations and environmental concerns;
- Provide the legal expertise necessary to compel the City and Beemsterboer to comply with regulations;
- Work with neighbors to compel cleanup of lead and arsenic in Zones 2 and 3
- Provide the legal and technical expertise necessary to ensure that the City of Gary is *actually* conducting the testing and monitoring that it is required to conduct;
- Partner with neighborhood residents to monitor the site on a more nearly real-time basis, so that reports of dumping can be followed up on while the evidence is still in plain view.

## **VI. Community-Assisted Surface Water Sampling near the J-Pit**

Under Dr. Peller’s guidance, a local resident collected five water samples from five different sites in the Black Oak and Westside neighborhoods of Gary, near the J-Pit and other potential sources of contamination, on June 25th and 26th of this year. Each sample was kept refrigerated, and then filtered using 0.2 µm filter paper within 24 hours. The measured values for the tested parameters at each location are summarized in the table below. Values in red are notably and unusually high.

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<sup>78</sup> Dorreen Carey (City of Gary) to Ruth Williams (IDEM), Apr. 19, 2007, available via IDEM Virtual Filing Cabinet.

<sup>79</sup> Michael O. Nelson (Hunsucker Goodstein & Nelson PC) to Richard Harris (IDEM), May 18, 2010, available at <http://108.59.49.89/fnjavaview.aspx?DocId=56060792>.

<b>Location</b>	Chloride, ppm	Nitrate, ppm	Sulfate, ppm	pH	Total Organic Carbon, ppm	Total Carbon, ppm
SW corner of closed Gary Landfill	31.3	ND	22.6	<b>11.86</b>	5.1	10.6
Little Calumet River, Cline Ave	<b>246.8</b>	<b>345.4</b>	34.1	7.40	12.1	40.5
Little Calumet River, Colfax St.	49.8	<b>163.8</b>	38.1	7.53	13.2	42.0
Ditch along service Rd., BP Travel	20.1	2.0	10.9	7.54	<b>19.8</b>	48.3
2301 Sherman	14.4	1.6	10.4	<b>9.42</b>	<b>20.1</b>	34.5

Perhaps most disturbing are the pH results. The pH of natural water samples is expected to be within the range of 7–8.5. The pH value noted in the above chart of 11.86 is extremely basic, indicative of slaked lime or limewater, and is highly corrosive and comparable to the levels of oven cleaner (very few fish species can tolerate pH levels above 9). This high pH sample came from stormwater runoff on the southwestern corner of the Gary Sanitary Landfill, which is immediately across the street from the J-Pit. The elevated pH indicates that contaminated water from the landfill is not being contained on the site, and raises the risk that runoff may be entering surface and ground water in the neighborhood as well as the J-Pit, and ultimately reaching the Little Calumet River.

The sample from 2301 Sherman was collected in a residential area south of Zone 4 of the J-Pit site. The elevated pH here suggests that runoff from the landfill or some other source may be contaminating surface water throughout the neighborhood. Indeed, an early concern about the J-Pit fill plan was that it might disrupt the leachate and runoff containment system for the landfill. The City’s 2006 contract with Beemsterboer called for modifications to the pumping system to accommodate the fill and prevent water from the landfill from reaching the Little Calumet. However, it is not clear from available records whether this has actually been done.



**Figure 4: Open, unsecured gate to J-Pit lift station, in the Gary Landfill outflow area (June 2014). The lift station is responsible for keeping toxic leachate out of the Little Calumet. The Gary Landfill post-closure plan stated that “Records have not been located that describe the discharge system from the ‘J’ Pit Lift Station.”<sup>80</sup>**

The J-Pit outflow reaches the Little Calumet River between the two Little Calumet citizen sampling locations: the Colfax Street location is upstream of the outflow point, and the Cline Avenue location is immediately downstream. The sample chloride ion reading of 246.8 ppm at Cline Avenue—a fivefold increase over the upstream location—is significantly higher than the typical chloride ion concentration in Lake Michigan of approximately 12 ppm. Moreover, this elevated reading from a sample taken immediately downstream of the J-pit outfall, indicates that the site may be an additional source of this ion, which is known to have adverse impacts on freshwater fish.

The total organic carbon concentrations for two of the samples are somewhat high. These values can vary widely and the dissolved carbon may be of natural origin. However, the TOC and TC

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<sup>80</sup> Weaver Boos & Gordon, Inc., *Gary Sanitary Landfill Post-Closure Plan*, May 1999, page 7.

are useful values for detecting organic contaminants that can pose a threat to public health and a signal that further, more targeted testing is needed.

More concerning, however, is the alarmingly high level of nitrate ( $\text{NO}_3^-$ ) detected in the two Little Calumet samples. The maximum contaminant level (MCL) set by EPA for nitrate is 10 ppm for the protection of public health.<sup>81</sup> Concentrations in the Little Calumet upstream of the J-pit were high (163.8 ppm), but concentrations downstream of the J-pit were alarmingly high, where tests indicated 345.4 ppm of nitrate. This is thirty-four times the maximum contaminant level set for public health.

High concentrations of nitrate in drinking water can cause a life-threatening condition called methemoglobinemia which is particularly dangerous for children less than 6 months old and pregnant women. Methemoglobinemia is caused when nitrates (from contaminated water) reduce the blood's ability to carry oxygen. Because of the blue tint in the infant's skin from lack of oxygen in the blood and tissue, the illness is commonly known as “blue baby syndrome.” Of relevance here, common potential sources of nitrate contamination include refuse dumps and chemical storage or disposal sites.

Taken together, these preliminary findings provide abundant reason for concern. The elevated pH in neighborhood surface water strongly suggests that the toxic runoff from the Gary Sanitary Landfill is not being properly contained—which may be due to the disruptions in drainage patterns caused by the J-Pit fill project, or may be symptomatic of some other unknown problem. The abrupt spike in nitrate and chloride levels downstream of the J-Pit outflow likewise indicates a source of severe contamination in the area. The spike could be due to contaminated fill in the J-Pit itself, or to disruptions in the landfill's leachate control system caused by the fill project. In any event, the contamination poses a significant threat to both human and animal life in the surrounding area, and indicates a clear need for further independent inquiry so that the exact causes of this contamination can be identified and addressed.

## **VII. Community-Assisted Air Quality Assessments**

At the core of any program to effectively address environmental injustice will be the capability to provide community members with the tools they need to understand the problem, i.e. to identify likely sources of pollution and understand the threats these sources pose to their health and environment. This is critical given the current regime where community complaints about emissions from an industrial source are typically met with a denial by the source and agencies that exposure is occurring. Indeed, industry and government traditionally control monitoring and play the “data game” to downplay community concerns. As the unfortunate J-Pit story illustrates, the game is played by monitoring at the wrong locations, at the wrong times, for the wrong chemicals, with the wrong equipment. The predictable result is a finding of “no harmful

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<sup>81</sup> EPA, *Basic Information about Nitrate in Drinking Water*, available at <http://water.epa.gov/drink/contaminants/basicinformation/nitrate.cfm>.

contaminants” that misleads the exposed population. Consequently, an additional focus of HEC’s pilot project was to give impacted residents control of data collection and analysis.

### **A. SPME technology**

Northern Lake County is home to many industrial air emissions, in addition to vehicular emissions. The emitted compounds from the burning of fossil fuels and other industrial activities are mostly carbon-based but not monitored by regulatory agencies. Furthermore, some of these compounds fall into the category of SVOCs (semi-volatile organic compounds, which are not measured as VOCs), and exist in both gas and condensed phases at room temperatures. Many SVOCs undergo atmospheric chemical transformations to oxidized forms. Presently, limited data measurements are required for the numerous emitters of carbon compounds. However, the public health and environmental health consequences of these enormous chemical emissions cannot be understood without this information.

The technique of solid phase microextraction (SPME) is effective and valuable for detection of specific carbon-based (organic) air contaminants: VOCs, SVOCs and even larger carbon compounds. This analytical tool cleanly extracts contaminants from the air, and many studies have reported its wide applicability.<sup>82</sup> The SPME devices can be fitted with different extraction fibers, depending on the chemical structure of the contaminants. Also, the simplicity of the SPME fibers allows for the implementation of this technology by citizens after a short training session. In our work with citizens, polydimethylsiloxane (PDMS) extraction fibers were selected for the collection of hydrocarbons and similar compounds expected from industrial and vehicular emissions.

### **B. Community-led data collection and analysis—Spring 2014**

After several planning meetings with our community partners, and conducting two community workshops with more than 100 attendees, a core group of community volunteers were trained in the use and function of SPME fibers. Each volunteer proposed a specified location at which to conduct air testing and met individually with Dr. Julie Peller in her office for final directions on the SPME use, including directions for completing a “Citizen Air Monitoring Observation Report” and distribution of the SPME devices. (See Appendix 3)

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<sup>82</sup> See E.M. Sheehan, et al., *Time-Weighted Average SPME Analysis for in Planta Determination of cVOCs*, 46 *Environmental Science & Technology* 3319–3325 (2012); Y. Chen and J. Pawliszyn, *Time-weighted average passive sampling with a solid-phase microextraction device*, 75 *Analytical Chemistry* 2004–2010 (2003); S. Nakamura and S. Daishima, *Simultaneous determination of 22 volatile organic compounds, methyl-tert-butyl ether, 1,4-dioxane, 2-methylisoborneol and geosmin in water by headspace solid phase microextraction-gas chromatography-mass spectrometry*, 548 *Analytica Chimica Acta* 79–85 (2005).

All of the air testing devices were returned within a few days of the 24-hour air exposures. In the laboratory, each SPME fiber was set in the heated injection port of a GC-MS instrument. In these analyses, the compounds collected on the fiber are released in the high temperature injection port (250°C) and flow into a chromatography column, assisted by a helium gas flow. The column is systematically heated (beginning at 40°C and ramping up to 250°C over 45 minutes), and the extracted compounds are separated. At the end of the column, the separated compounds are detected by the mass spectrometer, and a mass spectrum is then generated for each one. Compound identifications are based on these mass spectra through extensive library searches, and in some cases, also based on known samples. Only high percentage library matches are considered valid for compound identification. No quantitative assessments were attempted in the reported data, only the determination of the presence of compounds.

For comparison purposes, at the same time that the air was tested in the North Lake County neighborhoods, SPME air monitors were also employed in locations away from the major air pollution sources. These comparison monitors were positioned in two Merrillville locations, and one was set in Valparaiso. Overall, 4 SPME fiber monitors, representing three sites, were used in the comparison areas, and 10 SPME fibers were employed in 8 locations in North Lake County, including locations next to two elementary schools and a middle school in Gary. (See Appendix 3 for a summary of findings at all locations and copies of all completed Citizen Air Monitoring Observation Reports.)

The following graph, in Figure 5, below, is a portion of the GC-MS chromatogram generated from the Washington Park, East Chicago fiber analysis, performed June 1, 2014. All of the peaks on the graph represent compounds from the air that were extracted by the SPME fiber. Approximately 25 different compounds are represented by this portion of the analysis, which represents about a quarter of the graph. Many of the compounds have been identified with high certainty, and the identification of several others is speculative.

### C. Preliminary findings

From this analysis and the others from community air testing, the following generalizations can be made.

- 1) The **number** of contaminants collected on the SPME fibers from the locations in North Lake County was consistently much higher than the number of contaminants collected on the fibers at the three sites in Valparaiso and Merrillville.
- 2) A large number of semivolatile organic compounds (SVOCs), namely hydrocarbons associated with fossil fuel combustion and industrial activity, were detected in the North Lake County locations but not at the Valparaiso and Merrillville locations.
- 3) A large number of secondary organic aerosols (SOA), which typically form in the atmosphere from the primary organics (those described in #2, above), were detected in the North Lake County locations but not in Valparaiso or Merrillville.

4) Several of the air monitors picked up measurable amounts of additional chemical contaminants: bisphenol A (BPA), phenanthrene (a PAH, polycyclic aromatic compound), phthalate compounds, benzophenone, homosalate, and a few chlorinated and/or brominated compounds. These compounds were not detected in the comparison sites, and are not expected in healthy atmospheric conditions.

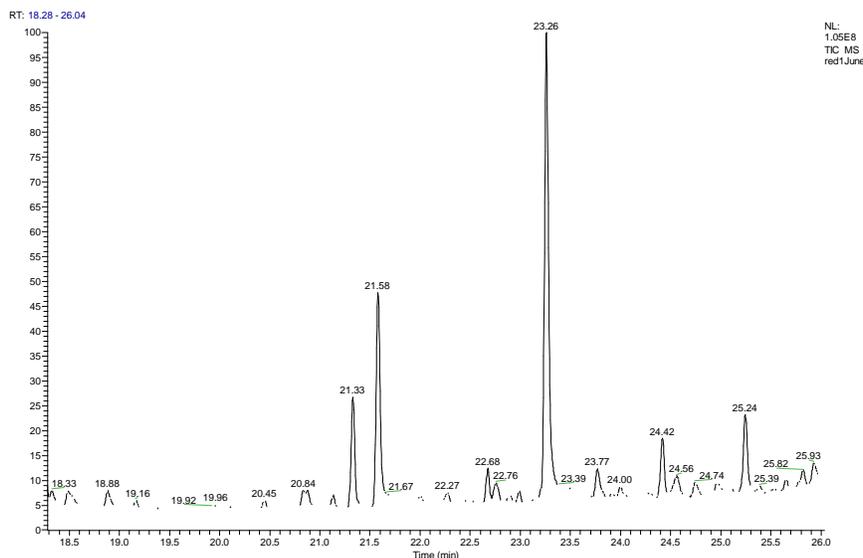


Figure 5: A portion of the generated chromatogram (from 18.3-26.0 minutes) from the fiber exposed in East Chicago (Washington Park), June 1, 2014. The largest peak is identified as N-methyl-N-octyl-1-octanamine, a compound used for the extraction of metals, including zinc with a 95% matching certainty.

## VIII. Conclusion

The research presented above compels the conclusion that the environmental justice challenges facing the “Region” of Gary, Hammond, and East Chicago today can be effectively addressed by a dedicated environmental justice clinic. The problems are so complex, and the unmet needs so acute, that they can only be addressed by an organization that can give them its full attention.

As noted in the Introduction, the EPA defines “environmental justice” as “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.” The survey of residents, combined with the review of available nonprofit and governmental resources, shows that:

- the Region’s citizens are not “fairly treated” or “meaningfully involved” in the environmental matters that affect them now, but
- the Region’s citizens do have a clear understanding of the tools (information and expert assistance) that they would need in order to address this problem, and

- the Region’s communities have a robust civil society and activist tradition that will enable citizens to use these tools effectively—*if* there is an organization that can make those tools readily available.

Specifically, the needs assessment survey identified key unmet needs related to environmental justice in terms of (1) information about environmental threats and regulatory restrictions, and (2) expert assistance, particularly in the form of environmental lawyers, technical experts, and community organizers. These needs are clearly recognized by a large number of the Region’s residents, and arise from the experience shared by a huge number of respondents of being unable to get an effective response to their environmental grievances—but the means to address these needs are currently out of local residents’ reach, due to the Region’s chronic poverty and the legacy of racial and socioeconomic isolation in many of its communities.

The review of available government and nonprofit resources showed that no organization is currently devoting its resources to the Region’s intractable environmental justice problems. The J-Pit provides a compelling example of these problems, showing both the complex and intertwined nature of the Region’s problems and how the proposed environmental justice clinic could fit into the Region’s existing landscape by partnering with local grassroots activists for environmental monitoring and legal action.

The initial community-assisted environmental monitoring that has been conducted likewise emphasizes the scope of the unmonitored contamination taking place in many of the Region’s communities—and the ready availability of community partners for an organization that can provide the necessary technical tools and expertise.