Thirty Years from Love Canal

Love Canal may be in the rear-view mirror for many in Western New York, but pollution persists as an important issue due to the region's industrial legacy. It's a legacy that affects a wide assortment of communities—city, suburb and countryside—and new research shows that one's likelihood of living near environmental hazards is independent of income and race. Responsibilities for preventing and managing pollution today are far-reaching, and policies that engage all sectors and encourage innovation are the most likely to succeed.

Overgrown streets and sidewalks at the corner of Wheatfield and 101st on the eastern side of Love Canal

Historical Snapshot: Love Canal

Photo credit: UB Archives

Boarded-up homes at Love Canal in 1982

Since the summer of 1978, when a public health nightmare propelled it into the national spotlight, the Love Canal section of Niagara Falls has been synonymous with man-made catastrophe. Named after a developer whose dreams for the site were never realized, the canal was little more than the stub of an aborted channel when it became a landfill in the 1920s. The city and U.S. Army dumped there, but its primary user and eventual owner was Hooker Chemical.

In 1953, Hooker filled and covered the landfill and sold the site to the city's Board of Education for one dollar, attaching a warning about buried chemicals and disclaiming future liability. By 1955, the Board, ignoring the warning, had opened the 99th Street School atop the former landfill, with homes sprouting nearby.

Though residents complained of strange odors and substances for years, their concerns were dealt with superficially or ignored by authorities. Significant action finally came in 1978, compelled by pressure from increasingly organized residents—led by Lois Gibbs—and mounting evidence of public health problems. By the end of that year, the 99th Street School was shuttered and 239 families living closest to the canal were relocated. In 1980, hundreds of additional families were removed, their homes purchased by the federal government.

A street-level view of Love Canal in 2008

Widely considered a seminal event for citizen activism, Love Canal also spurred federal and state Superfund legislation to clean and contain the nation's most hazardous inactive sites. Containment activities continue at Love Canal and portions of the evacuated area have been resettled.

See "For More Information" for links to detailed histories.

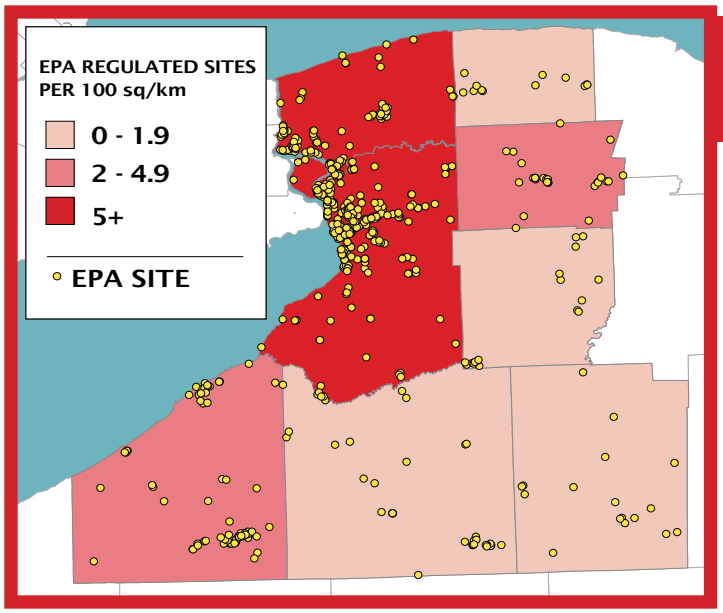
Could it happen again?

A generation after the tragedy at Love Canal, an event of similar proportions seems unlikely to repeat. Pollution is more tightly controlled today, heavy industry has largely receded from the region's economic landscape and more is known about the consequences of exposing humans and ecosystems to contaminants of all kinds. This is not to say it cannot recur.

Despite improvements to air and water quality in recent decades, the need for vigilance remains. Inherited pollution persists in soils and streambeds throughout Western New York and hazardous wastes are produced daily by household, business and government activities. The saga of Hickory Woods—the South Buffalo neighborhood built on polluted land in the late 1980s and early 1990s—demonstrates the high price of complacency.

In 2008, nearly 600 locations in Western New York are found in the U.S. Environmental Protection Agency's (EPA) Geospatial Data Access Project, an inventory of sites and facilities—both active and inactive—that the agency monitors or regulates. Not surprisingly, the heaviest concentrations of these sites are in areas with the greatest levels of human activity and long histories as industrial centers, such as Buffalo, Lackawanna, Niagara Falls and the Town of Tonawanda, giving Erie and Niagara Counties the highest site-densities in the region.

EPA sites in Western New York



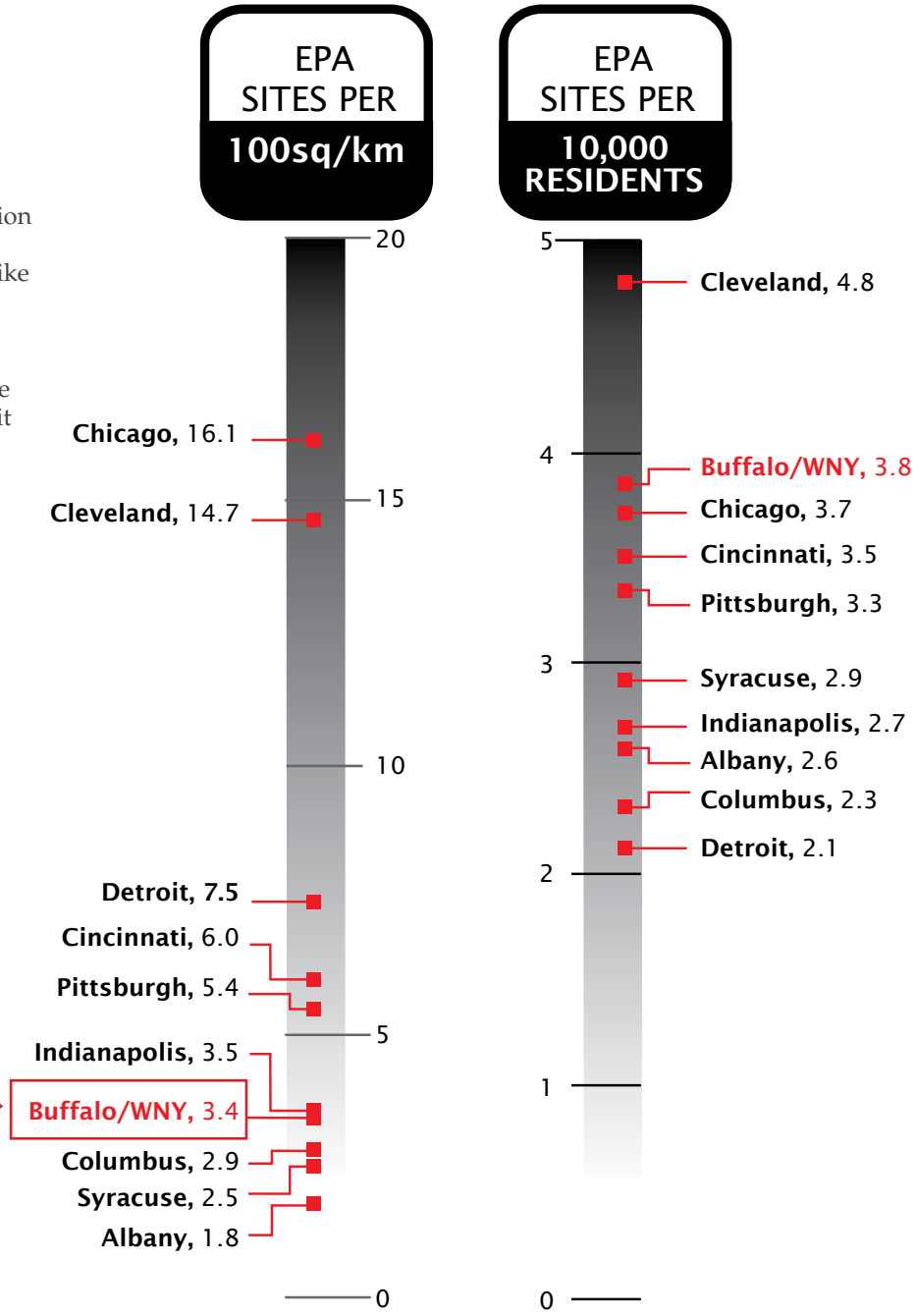
Source: U.S. Environmental Protection Agency's Geospatial Data Access Project. Sites include those on the Aerometric Information Retrieval System (all stationary air pollution facilities regulated by EPA); the Toxics Release Inventory (sites that store or release one or more of 650 harmful chemicals); the Comprehensive Environmental Response, Compensation and Liability Information System (federal Superfund sites); and Resource Conservation and Recovery Act system (locations of permit holders who store, create, transport or dispose of hazardous waste).

While Love Canal has focused considerable national and international attention on pollution in Western New York over the past 30 years, this region's environmental burden is not unlike formerly industrial regions throughout the northeast, Great Lakes and Ohio River Valley. With 3.4 EPA-monitored sites per 100 square kilometers, Western New York has a lower site density than the Chicago, Cleveland or Detroit regions, but higher than places such as Syracuse, Albany or Columbus. On a sites per capita basis, the region is relatively high (at 3.8 sites per 10,000 residents) compared to its peers. The Cleveland region, which achieved similar levels of notoriety when the Cuyahoga River caught fire in 1969, has both a higher site density and more sites per capita than Western New York.

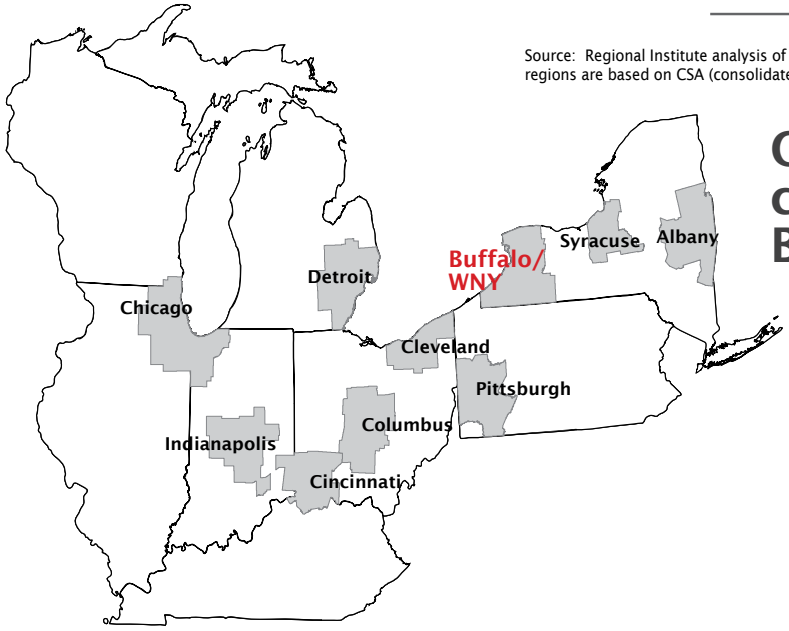
In Buffalo/WNY:

577 Number of sites the U.S. Environmental Protection Agency's (EPA) monitors or regulates

3.4 Average number of U.S. EPA sites per 100 sq/km



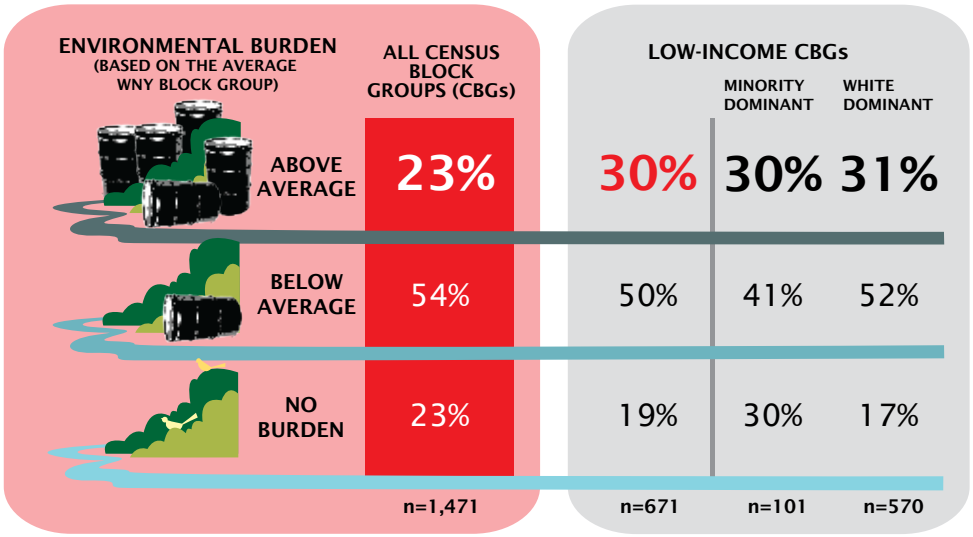
Source: Regional Institute analysis of EPA Geospatial Data Access Project information. Boundaries of WNY peer regions are based on CSA (consolidated statistical area) definitions.



On an EPA sites per capita basis, the Buffalo/WNY region is relatively high compared to its peers.

Who bears our environmental burden?

Given the uneven geographic distribution of environmentally hazardous sites within the region, some communities carry a higher burden than others. Recent analysis by Aaron Krolikowski, a UB undergraduate and former research assistant at the Regional Institute, reveals that 23% of the 1,471 census block groups in Western New York carry a burden (number of EPA sites) above the average for all block groups. At the same time, 23% of block groups have no EPA sites.



Source: Analysis of EPA Geospatial Data Access Project and Census 2000 block group data by Aaron Krolikowski, University at Buffalo. The baselines for 'above average,' 'below average,' and 'no burden' are based on the averaging of all WNY census block groups. Low income CBGs are defined as block groups where per-capita income is double or lower than federal poverty standards. Minority dominant is defined as block groups where at least 50% of the population is non-white or Hispanic.

In Western New York, environmental justice—a social movement to ensure that no single population group is disproportionately burdened by environmental hazards— is a critical issue given the concentration of polluting activities in urban centers with high concentrations of poverty. However, Krolikowski's investigation shows that environmental burdens in the region are more equally distributed among socioeconomic groups than one might expect.

Of the 671 predominately low-income census block groups in Western New York, 30% have an above average environmental burden—a higher proportion than the 23% calculated for all block groups. This difference, however, is not statistically significant[1], meaning the relationship between Western New Yorkers' economic status and their proximity to environmental hazards is weak. The same applies when low-income census block groups dominated by whites are compared to those dominated by racial and ethnic minorities. In both cases, the number of block groups with above average burdens matches or nearly matches the 30% figure for all low-income block groups.

The weak correlation between proximity to EPA sites and socioeconomic status hints at the regional scope of environmental justice. Polluted or polluting sites affect residents of cities, suburbs and rural areas. These include the obvious 'smokestack' locations and Love Canals, as well as less obvious sites such as dry cleaners, gas stations and farms. In cases where groundwater and soils are polluted and pose even minor threats to those who come in contact with the sites, the process of remediation and monitoring is long-term and expensive.

URBAN	SUBURBAN	RURAL
Ingersoll-Rand Plant, Jamestown, NY	**Colvin Eggert Plaza, Tonawanda, NY**	**J.I. Chase Property, Ridgeway, NY**
		
A brownfield bordering the Chadakoin River, the Ingersoll-Rand site housed a metal tools manufacturing facility for decades until closure in the 1980s. Wastes from the plant were discharged directly into the river until 1972 and investigations have yielded a long list of soil contaminants. Excavations since 2000 have removed soil from the site and efforts to mitigate river and groundwater contamination are ongoing.	The shopping plaza was home to a dry cleaning operation from 1988 to 2004. When the site underwent redevelopment in 2005, the dry cleaning building was demolished and studies revealed soil and groundwater contamination by PCE—a common and now highly regulated dry cleaning agent. More than 1,000 tons of contaminated soil have been removed from the site and groundwater and soil testing are ongoing to determine further remedial action.	A long-time location for the manufacture and storage of pesticides and other agricultural chemicals, the J.I. Chase site near Medina has been vacant since 1985. Studies during the 1990s found arsenic and other contaminants in soil and groundwater around the site. Demolition of the main building was preceded by the removal of 100,000 gallons of arsenic-tainted basement water and 3,000 tons of soil was later removed from the site. Groundwater monitoring at the site continues.

[1]Statistical significance was determined at a 95% confidence level.

What's my responsibility?

Besides its public health and environmental dimensions, the story of Love Canal has long focused on the crisis of spurned responsibilities—about companies failing to deal ethically with the disposal of their byproducts and failures by government at all levels to act consistently and strenuously in the public interest. Indeed, the civic activism spurred by Love Canal responded to this accountability chasm.

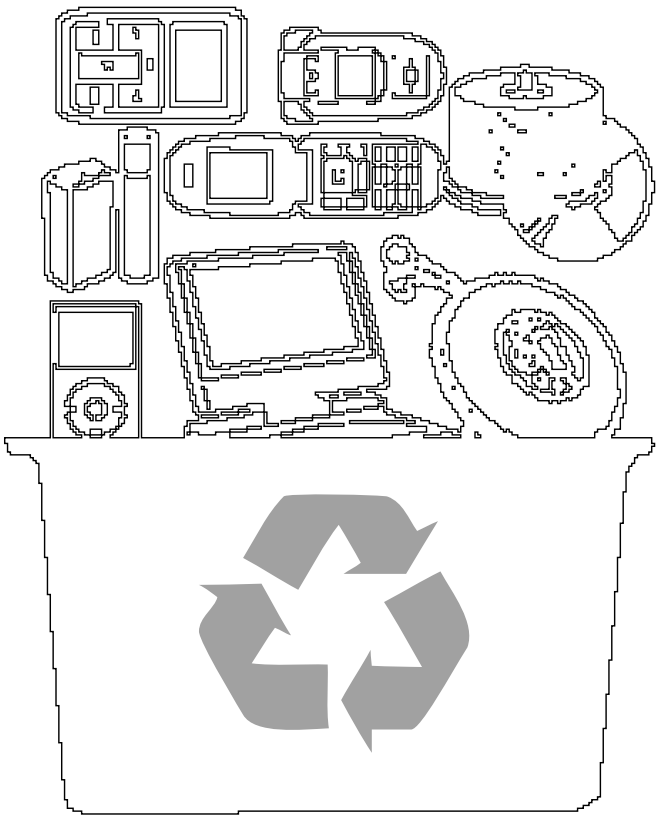
But responsibility for preventing and managing pollution goes beyond corporate executives and government officials. It extends to every sector and individual. This inclusiveness is well demonstrated by the fast-emerging issue of electronics pollution—the potential dangers posed by computers, TVs, cell phones and other household gadgets when their toxic components enter the waste stream.

For years, recycling electronics has generally been a voluntary, low-profile activity. Those with obsolete or broken electronics can go through private recyclers for safe disposal and most counties in New York have one or more events each year where residents can drop off electronics and other hazardous household items. And there are numerous outlets for donating still-useable electronics to charities, such as the Buffalo-based Computers for Children.

As we accumulate more electronics—often designed for rapid obsolescence—the volume of waste is expanding. This has spurred action by several states seeking to minimize harm down the line. In 2007 and so far in 2008, fourteen states have passed laws to ensure more rigorous recycling efforts, with many emphasizing producer responsibility. Maryland, New Jersey and West Virginia are requiring that manufacturers pay annual fees to fund state and local electronic recycling programs, while several other states, including Texas, North Carolina and Virginia, are requiring producers to devise their own recycling strategies. New York City passed a similar planning requirement in April 2008 and New York State now requires cell phone dealers to take back old phones.

This wave of state legislation now has industry groups calling for similar federal laws to avoid the crazy-quilt effect of state-by-state action. Even if federal engagement does occur, state and local governments must still play a role in coordinating recycling efforts with the private sector, non-profits must raise public awareness and continue much-needed second-hand electronics programs and, ultimately, the individual consumer must play their part through responsible recycling behavior.

Who prevents electronics pollution?



GOVERNMENT

Most New York counties have events for residents to drop off old electronics, and states and cities are passing laws to greatly expand electronics recycling. These include:

- **Requiring producers to develop recycling plans**
- **Charging producers for the cost of recycling their branded products**
- **Annual fees on producers to subsidize recycling programs**
- **Fees on all solid waste to subsidize electronics recycling**
- **Banning video display devices from municipal landfills**

BUSINESSES

Manufacturers are developing cleaner, more resource-efficient technologies to reduce costs and stay competitive.

Retailers are playing a bigger role in recycling, including Home Depot's new commitment to accept compact fluorescent bulbs for recycling.

Companies such as *greencitizen* in the Bay Area work to coordinate regional electronics recycling.

NON-PROFITS

Computers for Children and similar groups collect used but useable electronics and distribute them to individuals and organizations in need.

Foundations around the country are supporting public awareness campaigns and projects to increase recycling.

CONSUMERS

The success of recycling depends on how consumers choose to purchase and discard products, but governments, businesses and non-profits all influence those decisions.

POLICY IMPLICATIONS

Addressing any problem first requires recognition of the problem. When Hooker Chemical dumped its waste into Love Canal and public officials dissembled when confronted by concerned residents, the problems posed by the toxic stew were poorly understood or ignored.

Thirty years after Love Canal, with a clearer recognition of the problem at hand, determining effective and sustainable solutions for preventing and managing pollution is still a work in progress. Debates still flare over the ideal policy roles and tools of federal, state and local governments. While there is little doubt that strides have been made in cleaning the nation's and the region's air, land and water, consensus is harder to find regarding the best ways to maintain and improve upon these accomplishments. The troubles faced by the Superfund programs spurred by Love Canal—from debates over who should pay for it, which sites should be cleaned and how or how much they should be cleaned—reflect this unsettled area.

Becoming clearer, however, is the need for strategies that embrace a multi-faceted and flexible approach, featuring regulations that spur innovation and incentives that reward the attainment of public goals. Examples include:

- Electronics recycling laws requiring manufacturers to develop recycling plans, thus providing businesses with the flexibility of devising their own strategies while creating pressure to develop more resource-efficient and recyclable products
- Recent revisions to New York State's Brownfield Cleanup Law, responding effectively to shortcomings in previous policies by adjusting tax credit rules to encourage private redevelopment of greater numbers of brownfields
- Policies by a growing number of local governments in the U.S. seeking to reduce urban runoff by offering incentives to developers utilizing stormwater catchment techniques in designing or retrofitting buildings and parking lots
- Boosting public education campaigns and creating incentives to recycle, such as the RecycleBank program that pays residents with points useable at participating businesses
- Ensuring that all penalty payments accrued in the enforcement of existing or new regulations get recycled into pollution prevention and management programs, especially those spurring innovations that reduce the incidence of rule-breaking

Smart policies that harness private sector cooperation and creativity while engaging non-profits and the wider public in devising and supporting these policies may be the best way to avoid the ambivalence, denial and lack of transparency that helped produce Love Canal.

For More Information

Center for Health, Environment & Justice, with Love Canal historical information, online at http://www.chej.org/

Computers for Children, online at http://www.computersforchildren.com/

Environmental Protection Agency Geospatial Data Access Project, online at http://www.epa.gov/enviro/geo_data.html

EPA Environmental Justice material, online at http://www.epa.gov/oecaerth/environmentaljustice/index.html

EPA Love Canal material, online at http://www.epa.gov/history/topics/lovecanal/index.htm

greencitizen, online at http://www.greencitizen.com/

National Electronics Recycling Infrastructure Clearinghouse, online at http://www.ecyclingresource.org/

NYS Department of Environmental Conservation material on Environmental Justice, online at http://www.dec.ny.gov/public/333.html

NYS Department of Environmental Conservation's Site Remediation Database, online at http://www.dec.ny.gov/cfmx/extapps/derfoil/index.cfm?pageid=3

RecycleBank, online at http://www.recyclebank.com/

University at Buffalo Archives, Love Canal Collections, online at http://ublib.buffalo.edu/libraries/specialcollections/lovecanal/index.html

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Regional Institute Policy Briefs provide key data and analysis to frame issues, inform decisions and guide policy action.

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