

A Health-Track Case Study of Pennsylvania: Eastwick and the Lower Darby Creek Area

In communities across the country, residents have raised questions about the potential impact of environmental factors on the health of their families. In many cases, those questions are unanswered for months, and even years, because local, state and federal public health officials do not have basic information about disease rates in communities or environmental exposures. Information gathering and analyzing take place after the fact, prolonging the uncertainty and anxiety that can plague a community confronted with these questions.

Examining the problems faced by individual communities illustrates the importance of collecting information on health impacts and environmental factors. One goal of a nationwide health tracking network is to try to ensure that basic information on health impacts and environmental factors is being collected on a regular basis community by community. Armed with this information, public health officials, the medical community and communities would be in a better position to deal with the health problems. The difficulty in answering questions about the relationship between health and environment will remain, but communities can be assured that public health vigilance is being maintained.

What follows is the story of one Pennsylvania community's questions.

Eastwick and Lower Darby Creek Communities

In a 24-hour period in mid-September 1999, Hurricane Floyd dropped seven inches of rainfall on southeastern Pennsylvania. For the southwestern Philadelphia community of Eastwick, the rising waters of Cobbs Creek and Darby Creek brought not only floodwaters into their homes, but also a blue-green ooze that laid on top of the water and left a residue once the water subsided. The community had no doubt about the source of the ooze, for just west of the neighborhood is a two-mile long collection of landfills, industrial sites and dumps that have been called the largest and most complex toxic site in Pennsylvania.

Eastwick lies north of the Philadelphia International Airport and its western edge, which is also the city's border with Delaware County and is bounded by Cobbs Creek and Darby Creek. The land in the Eastwick neighborhood is quite flat, with much of it in the flood plain of the two creeks.



According to 1990 census data, the population of Eastwick is 60% African-American and 37% white, with Hispanic and Asian making up the remaining 3%. The median household income is \$33,845 per year. The per capita income for Eastwick is \$15,113.

In 1973, as part of the city's Urban Renewal development, new houses were built by Korman Corporation on the eastern edge of the 16.5 acre Clearview Landfill. The residential development continued expanding around the landfill during the 1970s. The Forrest Creek Community of nearly 600 homes was built between 1973 and 1977. Between 1979 and 1980, the Hedgerow Community was built with nearly 300 houses along the southern border of the dump. Over the years, these homes were sold to people who did not know the hilly park-like setting behind their homes was, in fact, a landfill, according to testimony from local citizens during public hearings. The fences or signs that once warned residents and their children to keep out have long since disappeared.

The Medical Crisis

Many residents of Eastwick believe that the blue-green ooze brought by Hurricane Floyd has added to the toll of sickness and death they already attribute to the dump site and to the other toxic properties along the Lower Darby Creek.

Dr. Christopher Hillman, a physician working in the Eastwick community, describes Eastwick as a public health disaster of crisis proportions. After Hurricane Floyd, he prepared a public health survey document, distributed it among the community residents and received 170 completed surveys.¹ Dr. Hillman's study showed that more than 50% of the responding households had illnesses in hormone-sensitive organs – breast, prostate, ovaries and uterus.

According to a study by the state Health Data Center, the cancer mortality rates in Colwyn, Sharon Hill, Darby Borough, and Darby Township, all of which are located near the Clearview Landfill, are 22 percent higher than the national and state rates. And the Center reports that there is also a high rate of respiratory illness and other ailments among children in the area. More than 40 families said their children have had unusual illnesses since the flood. In the documentary *Toxic Waters*², a woman speaking at a community meeting summed up the health condition of the community when she stated that “Eastwick today is sick. We are dying. We are the walking dead.”

¹ Dr. Hillman acknowledges that his study had a limited sample. Some criticize his analysis and assert that if health problems exist in the Eastwick community, they are the result of “lifestyle” decisions that the residents have made.

² *Toxic Waters* is a 58 minute documentary on Eastwick produced by Michael Thomas Productions. See www.michaelthomasprod.com.

Site Contains at Least Seven Sources of Pollution

The Final Hazard Ranking System (HRS) Documentation Record³ prepared for the U.S. Environmental Protection Agency (EPA) identifies seven separate pollution sources on the Lower Darby Creek Area:

- The Clearview Landfill, a 65 acre site that was used for municipal wastes and unpermitted industrial wastes between the late 1950s and the early 1970s.
- The Industrial Drive properties, a short street that is slightly west and parallel to Darby Creek, which has been home to a municipal dump, salvage yards, vehicle repair shops and variety of other businesses.
- The oily sludge disposal area of the Darby Creek Tank Farm, a crude oil tank storage facility that was built in the early 1950s.
- The Darby Creek Tank Farm, with its basin that was used for a catalyst disposal area and is filled with catalysts contaminated with acid.
- The Delaware County Sewage Treatment Plant that operated on this site from the late-1950s to the early 1970s.
- The Delaware County Incinerator landfill that operated from the mid-1960s until it was closed in 1978.
- The Folcroft Landfill, which, like the Clearview Landfill, was used for municipal wastes, industrial waste, hospital waste, incinerator ash and sewage sludge between the late 1950s and the early 1970s.

Several additional sources of potential contamination were identified in the HRS Documentation Record but were not evaluated by EPA or its contractors for the HRS report. These additional sources were the Norwood Landfill, the Boeing Defense and Space Group Property, the Delaware County Sewage Treatment Plant and the hydrofluoric-acid-contaminated trash disposal area on the Darby Creek Tank Farm. A fifth additional source was identified by Delaware County and Sunoco, who both assert that the source of much of the pollution was the result of Delaware River dredge spoil that was dumped in the marshland by the U.S. Army Corps of Engineers in the 1950s.

³ *Hazardous Ranking System (HRS) Documentation Record for the Lower Darby Creek Area*, April 24, 2000. Prepared by Tetra Tech EM Inc., 1800 John F. Kennedy Boulevard, 6th Floor, Philadelphia PA, 19103. EPA Contract No. 68-S5-3002. Technical Directive Document 03-9908-0002. This 139 page report is the most complete description of the site and the toxics that are present there. The HRS serves as a screening device to evaluate the relative potential of uncontrolled hazardous substances to pose a threat to human health or the environment.

What EPA Found

The pollutants identified on the Lower Darby Creek Area include volatile organic compounds, pesticides, PCBs, heavy metals and other compounds. Of the twenty compounds that the EPA considers the most serious threats to human health⁴, sixteen of them are found in elevated levels on the Lower Darby Creek Area site.⁵

According to the HRS Report, the following substances have been detected in soil and liquid samples taken from the sites of the Lower Darby Creek Area in levels high enough to justify listing the chemicals or compounds as a toxic problem:

Organics

Acenaphthene	Butyl benzyl phthalate	Indeno(1,2,3-cd)pyrene
Anthracene	Carbazole	Lindane
Benzo(a)anthracene	Chlorobenzene	2-Methyl naphthalene
Benzo(a)pyrene	Chrysene	Napthalene
Benzo(b)fluoranthene	Dibenzo(a,h) anthracene	Phenanthrene
Benzo(g,h,i)perylene	Dibenzofuran	Pyrene
Benzo(k)fluoranthene	Fluoranthene	

Pesticides and PCBs

Aroclor-1248	Chlordane (alpha)	4,4 – DDE
Aroclor-1254	Chlordane (gamma)	4,4 – DDT
Aroclor-1260	4,4 – DDD	Endrin aldehyde

Metals and Other Compounds

Aluminum	Cobalt	Nickel
Antimony	Copper	Selenium
Arsenic	Dioxin (pg/g)	Silver
Barium	Iron	Vamadium
Cadmium	Lead	Zinc
Calcium	Magnesium	
Chromium	Mercury	

⁴ Top 20 Hazardous Substances: ATSDR/EPA Priority List for 1999, <http://www.atsdr.cdc.gov/excx3.html>

⁵ One of the best sources of information about the health implications of these chemicals is [ToxFAQs](#), a web-based listing of toxic substances maintained by the Agency for Toxic Substances and Disease Registry (“ATSDR”).

The Community Response

The local community has been expressing concern and opposition to the environmental problems in their neighborhood for many years.

In 1984, citizens unsuccessfully pushed for Superfund status for the Clearview Landfill. At that time, the EPA ruled out listing the area for Superfund status because there was no evidence that people were being harmed. The only outcome of this effort was a health advisory against eating any fish caught in Darby Creek issued by the state in 1985.

However, on August 18, 1999, after continued community pressure and a change in the Superfund act, EPA announced that it expected to formally propose the Lower Darby Creek area for the National Priorities List (NPL), the first step in the Superfund process. On May 11, 2000, EPA published a notice in the *Federal Register* (Vol. 65, No. 92, pp. 30489-30495) to that effect. A site may be included on the NPL if it scores 28.5 on the Hazard Ranking System, and the Lower Darby Creek Area scored 50. The 60 day public comment period began on May 11, 2000, and ended July 10, 2000.

On May 22, 2000, Bradley M. Campbell, then the EPA's Regional Administrator, attended a hearing on the placement of the Lower Darby Creek area on the NPL. Campbell told Eastwick residents that there was no evidence that humans were being directly exposed to toxins from the site. The only threat to human health was from eating fish from the creek and the tidal basin. However, the community has been reluctant to accept this finding – both because of the illnesses its residents live with and because there is no system of monitoring the incidence of disease and the health of communities.

At the close of the public comment period, seven letters had been received concerning the proposed listing. The Pennsylvania Department of Environmental Protection, the City of Philadelphia, Delaware County, Sunoco, the Darby Creek Joint Authority and the Boeing Corporation all objected to the proposed listing of the Lower Darby Creek Area. Only the Saturn Place Committee, a citizen's group, supported the EPA's proposed action.

New EPA Testing Brings Further Action

On July 13, 2000, U.S. Rep. Robert Brady held a congressional hearing in the community on the problem. Several hundred people attended the hearing and many spoke about the health problems they, their families and friends were experiencing.

These community concerns caused the EPA to agree to perform a new round of soil, water and air testing. Samples of each were taken at 15 locations on properties near the Clearview Landfill. These results were shared with residents in a letter delivered during the week of December 18, 2000. The EPA met with the community on December 20, 2000 to discuss the results of the new tests. The new soil testing results showed elevated levels of several of the potentially harmful chemicals previously found at the site.

The Agency for Toxic Substances and Disease Registry (“ATSDR”), part of the federal Centers for Disease Control and Prevention, recently began a series of meetings with local residents as the first step in a community health survey. Since 1986, ATSDR has been required by law to conduct a public health assessment at each of the sites on the EPA National Priorities List. The aim of these evaluations is to find out if people are being exposed to hazardous substances and, if so, whether that exposure is harmful and should be stopped or reduced. If appropriate, ATSDR also conducts public health assessments when petitioned by concerned individuals. Public health assessments are carried out by environmental and health scientists from ATSDR and from the states with which ATSDR has cooperative agreements.

The Decision to List the Lower Darby Creek Area Site

On June 14, 2001, the EPA added the Lower Darby Creek Area site to the Superfund National Priorities List. The decision, however, only included the Clearview Landfill and the Folcroft Landfill and Annex sites in the final listing. The other four properties that were part of the proposed listing were not included in the final order.

According to the EPA, the next step in the Superfund process after this final listing is to conduct a comprehensive environmental investigation called a Remedial Investigation. The Remedial Investigation will include sampling of soil, groundwater and creek water and sediment to determine the nature and extent of contamination. The ATSDR public health assessment will also continue. The impacts of these hazardous waste facilities on the people of Eastwick and the surrounding communities will be the subject of study and debate for years to come.

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