

# CHAPTER 6:

## Environmental Health

The physical environment directly influences health and quality of life. Clean water and air, safely prepared and wholesome food, and preventing exposure to harmful substances that could affect health are essential to good community health. Setting standards, monitoring, and timely amelioration of conditions that exceed recommended guidelines ensure the health of residents and the environment of Genesee County.

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### AIR QUALITY

- ◆ Two air quality stations in Genesee County are monitored 24 hours a day by the Michigan Department of Environmental Quality.
- ◆ The stations are monitored for the following Criteria Pollutants, set by the Federal government: Carbon Monoxide, Nitrogen Dioxide, Sulfur Dioxide, Volatile Organic Compounds which create Ozone when coupled with high temperatures, Particulate Matter, and Lead.
- ◆ Genesee County meets all of the National Ambient Air Quality Standards.

### Asthma

<b>Fig. 6.1 Asthma in Genesee County , 2005-2007</b>		
	<b>Ever Told They Have Asthma</b>	<b>Still Have Asthma</b>
<b>Genesee County</b>	13.5%	9.2%
<b>Michigan</b>	14.1%	9.3%

Source: Michigan Behavioral Risk Factor Survey, 2005-2007, Michigan Department of Community Health

## **Indoor Clean Air**

### **Smoke-Free Facilities**

- ◆ As of October 2008, there were **324** restaurants in Genesee County that were designated as smoke-free.
- ◆ Pursuant to the *Genesee County Regulation to Prohibit Smoking in Enclosed Places*, effective February 2004, with few exceptions smoking is prohibited in all enclosed places, worksites, and business vehicles within Genesee County.

### **Radon**

- ◆ Inhalation of radon gas, which can be found in any home, is the second leading cause of lung cancer.
- ◆ As of 2008, less than 10% of homes in Genesee County have been tested radon levels. Ideally, every home should be tested, because radon levels vary from house to house, even between those on the same street.
- ◆ From September 1993 through August 2008, 2,289 radon tests from Genesee County homes were analyzed. The average result was 2.8 pCi/l. 19.4% exceeded the action guideline of 4 pCi/l.
- ◆ These figures are not necessarily representative of all Genesee County. However, because nearly one-fifth of the homes that were tested exceeded the action guideline, it illustrates the importance of radon testing for all Genesee County homes.

Source: State of Michigan Department of Environmental Quality

## **BODY ART**

- ◆ In order to assure that body art (e.g., body piercing, tattooing) techniques are safe and standardized, Genesee County has a *Regulation to Require License to Operate a Body Art Establishment and to Establish Minimum Standards for Body Art Establishments*. As of June 2009, there are 29 body art establishments in Genesee County which are licensed and monitored by the Genesee County Health Department.

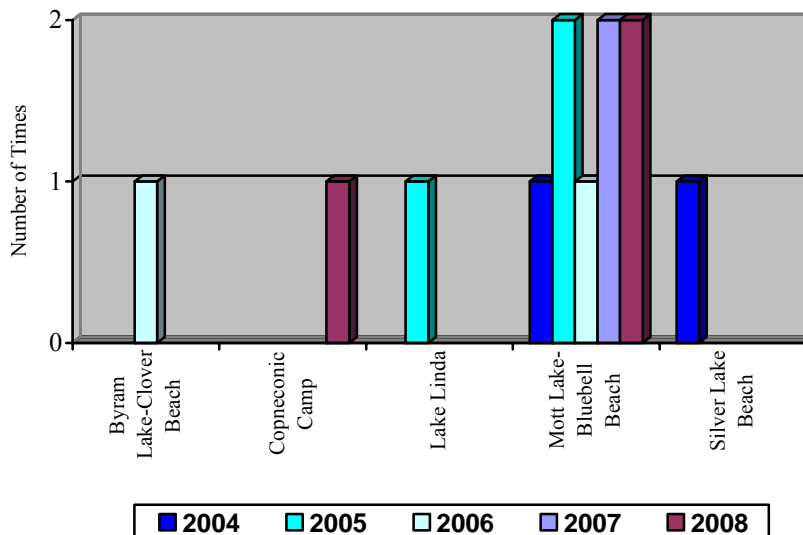
## **RABIES**

- ◆ There were 7 cases of rabies in animals reported in Genesee County between 2004 and 2008 and no human cases reported.

## WATER QUALITY

- ◆ The Genesee County Health Department (GCHD) conducts weekly sanitary surveys and water quality monitoring is done at 17 different bathing beach locations throughout the summer season.
- ◆ Partial and/or Total Body Contact Advisories are issued by the GCHD when surface water sampling reveals *E.coli* bacterial levels that exceed the State of Michigan guidelines. For public bathing beach areas, the State guideline is 300 *E. coli* per 100 ml. The number of times that bathing beach areas exceeded these State guidelines for bacterial concentrations is shown below in Figure 6.2.

**Fig. 6.2 Number of Times Public Bathing Beach Areas Exceeded State Bacterial Concentration Guideline of 300 cfu/mL, Genesee County, 2006-2008**



Note: Public bathing beach locations not shown in the figure above met the State guidelines for every week during that particular year's bathing beach season, which normally runs from the beginning of May through the last week of September.  
 Source: Genesee County Health Department

**Waterborne Disease**

- ◆ There were a small number of isolate cases and no outbreaks of waterborne disease in Genesee County in 2007 or 2008.

<b>Fig. 6.3 Number of Cases of Waterborne Disease in Genesee County, 2007 and 2008</b>		
<b>Disease</b>	<b>Number of Cases (Rate per 100,000 population)</b>	
	<b>2007</b>	<b>2008</b>
<b>Cryptosporidiosis</b>	5 (1.1)	1*
<b>Giardiasis</b>	15 (3.4)	15 (3.4)
<b>Legionella</b>	5 (1.1)	10 (2.3)

\* A rate is not calculated when there are fewer than 5 cases. Source: Michigan Disease Surveillance System

**Private Water Sources**

- ◆ In order to ensure that private water sources (wells) are safe for human consumption and use, the Genesee County Health Department reviews all applications for new wells that are proposed in Genesee County and issues permits to install and use the wells when standards are met.

<b>Fig. 6.4 Number of Well Permits Issued, Genesee County, 2007 and 2008</b>		
	<b>2007</b>	<b>2008</b>
<b>Genesee County</b>	760	614

Source: Genesee County Health Department

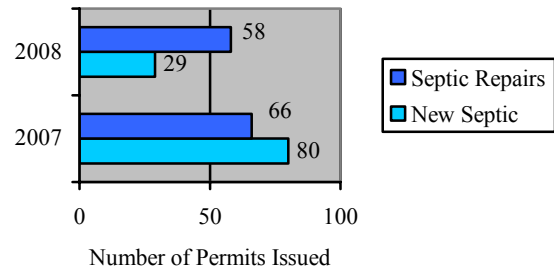
**Access to Fluoridated Water**

- ◆ Genesee County’s ground water supply contains naturally occurring fluoride, and fluoride is added to Lake Huron water sources, resulting in 100% of the Genesee County population receiving fluoridated water.

## Septic System Permits

- ◆ To ensure the safe disposal of sewage waste, a permit must be obtained for the installation or repair of private septic systems in Genesee County.

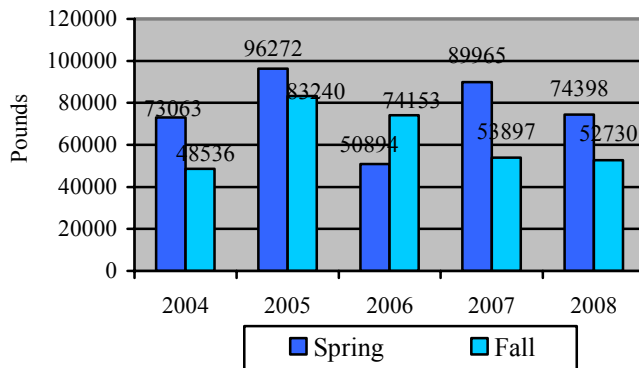
**Fig. 6.5 Septic Permits Issued, Genesee County, 2007 and 2008**



Source: Genesee County Health Department

## HAZARDOUS WASTE

**Fig. 6.6 Pounds of Hazardous Waste Collected, Genesee County, 2004 - 2006**



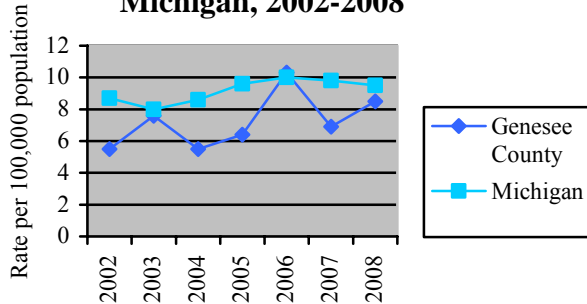
Source: Genesee County Health Department

- ◆ Two Household Hazardous Waste Collection Days are held in Genesee County each year, one in the spring and one in the fall.
- ◆ Collections are held at two to three sites within Genesee County each Household Hazardous Waste Collection Day. One collection site is typically in the City of Flint and the other site or sites are in various Out-County locations.
- ◆ Examples of hazardous waste collected at these events include cleaning products, motor oil, pesticides, mercury filled thermometers, and more.

## FOOD SAFETY

### Foodborne Disease

**Fig. 6.7 Rates of Hepatitis A per 100,000, Genesee County and Michigan, 2002-2008**



Source: Michigan Disease Surveillance System

- ◆ Hepatitis A is considered a foodborne disease. For the period 2002-2008, rates in Genesee County were similar to or lower than State rates.
- ◆ Rates of other foodborne disease are shown below in Figure 6.8.

**Fig. 6.8 Rates and Number of Cases of Foodborne Disease in Genesee County, 2007 and 2008**

Disease	Number of Cases (Rate per 100,000 population)	
	2007	2008
<b>Campylobacter</b>	19 (4.4)	18 (4.1)
<b><i>E. coli</i> 0157:H7</b>	1*	3*
<b>Hepatitis A</b>	6 (1.4)	8 (1.8)
<b>Salmonellosis</b>	30 (6.9)	37 (8.5)
<b>Shigellosis</b>	1*	1*

\*A rate is not calculated when there are fewer than 5 cases. Source: Michigan Disease Surveillance System

## Food Service Sanitation

- ◆ There are approximately **1,480** licensed food service establishments in Genesee County.

<b>Fig. 6.9 Number of Food Service Sanitation Inspections Completed by Type of Establishment, Genesee County, 2008</b>	
<b>Type of Establishment</b>	<b>Number of Inspections Completed</b>
<b>Restaurants, Cafeterias, Bars, Concessions, Catering Kitchens, and Other Licensed Food Service Establishments</b>	2,660
<b>Temporary Food Service Concessions such as Carnivals, Festivals, Fund Raisers, etc.</b>	346
<b>Licensed Vending Machine Locations</b>	148

Source: Genesee County Health Department

### **Food Sanitation Facts for 2008\***

- ◆ There were 2,161 violations of the Michigan Food Law cited by inspectors. Of these violations, 15% were critical.
- ◆ Customers made 212 general complaints, each of which was investigated.
- ◆ Customers made 63 complaints of foodborne illness, each of which was investigated. 4 of the 63 complaints made involved two or more people with similar symptoms and a common food source, which is the Centers for Disease Control and Prevention and Michigan Department of Community Health definition of an outbreak of infectious disease.
- ◆ 14 establishments experienced enforcement action for failure to correct critical violations.
- ◆ 252 food service employees completed a basic sanitation course offered monthly at the Genesee County Health Department (Fiscal Year 2007-2008).
- ◆ 61 food service managers completed an intensive sanitation training course offered quarterly at the Genesee County Health Department (Fiscal Year 2007-2008).
- ◆ Plans for 62 new and remodeled establishments were reviewed and approved by the Genesee County Health Department.
- ◆ Establishments with excellent sanitation receive awards and recognition annually. Others receive license fee credits for consistently high levels of sanitation or completing training courses at the Genesee County Health Department.

\*Calendar year 2008 unless otherwise noted. Source: Genesee County Health Department

## LEAD EXPOSURE

- ◆ In 2008, 22.8% of houses in Genesee County and 40.9% in the city of Flint were estimated to have been built before 1950. Houses built before 1950 pose the greatest hazard of lead exposure to children because they are much more likely to contain lead-based paint than newer houses. Children may ingest lead through paint chips or inhale lead as dust.

Source: Pre-1950 Housing calculated from U.S. Bureau 2000 Census

- ◆ As of June 2009, the State of Michigan designated high-risk zip codes for childhood lead poisoning in Genesee County are 48418, 48436, 48458, 48502, 48503, 48504, 48505, 48506, 48507, and 48529.

### Childhood Lead Exposure in Genesee County, 2008

Number of children under the age of 6 living in Genesee County	35,729
Number of children under the age of 6 in Genesee County who had their lead level tested	6,532 (18.3%)
Number of children under age 6 found to have elevated blood lead levels ( $\geq 10$ mcg/dL)	58 (< 1%)
Number of children 1 or 2 years of age found to have elevated blood levels ( $\geq 10$ mcg/dL)	20

Source: Michigan Department of Community Health

**Fig. 6.10 Number of Children Under 6 Years With Confirmed\* Elevated Blood Lead Levels by Blood Lead Level, Genesee County, 2008**

