

# CHAPTER 6:

## Environmental Health

The physical environment directly influences health and quality of life. Clean water and air, safely prepared 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.

Source: Mobilizing for Action through Planning and Partnerships (MAPP), Community Health Indicators, National Association of City and County Health Officials and the Centers for Disease Control and Prevention.

### AIR QUALITY

- ◆ Two stations in Genesee County are monitored 24 hours a day by the Michigan Department of Environmental Quality. They 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 , 2000-2002</b>		
	<b>Ever Told They Have Asthma</b>	<b>Still Have Asthma</b>
<b>Genesee County</b>	15.2%	11.0%
<b>Michigan</b>	12.1%	8.5%

Source: Michigan Behavioral Risk Factor Survey, 1998-2002, 2004, Michigan Department of Community Health

## Indoor Clean Air

### Smoke-Free Facilities

- ◆ As of October 2004, there were **156** 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 some exceptions, smoking is prohibited in all enclosed places, worksites, and business vehicles within Genesee County.

### Radon

- ◆ As of 2003, **less than 20% of homes** in Genesee County have actually tested radon levels. Ideally, every home should be tested, as radon levels vary throughout the County.
- ◆ From September 1993 through December 2002, 978 radon tests from Genesee County homes were done and analyzed. The **average result was 3.0 pCi/l and 20.2% exceeded the action guideline** of 4 pCi/l. These figures are not necessarily representative of all Genesee County. However, because 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 October 2004, there are **22 body art establishments** in Genesee County which are licensed and monitored by the Genesee County Health Department.

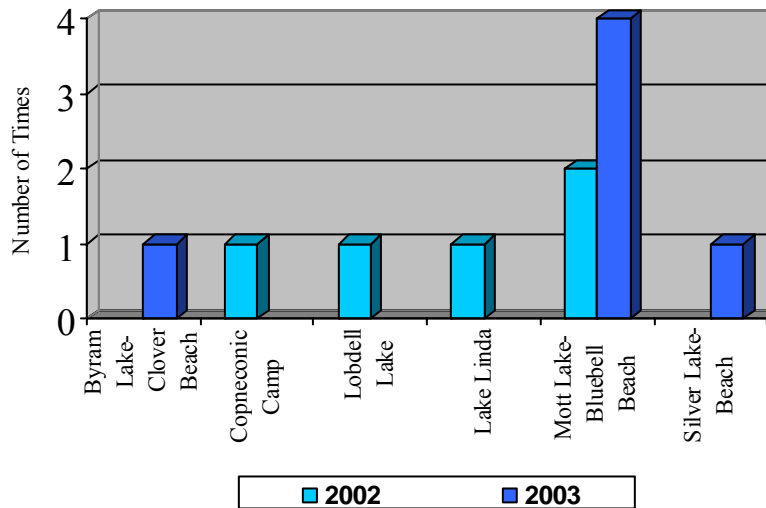
## RABIES

- ◆ There were no animal or human rabies cases reported in Genesee County for 2002 or 2003.

## WATER QUALITY

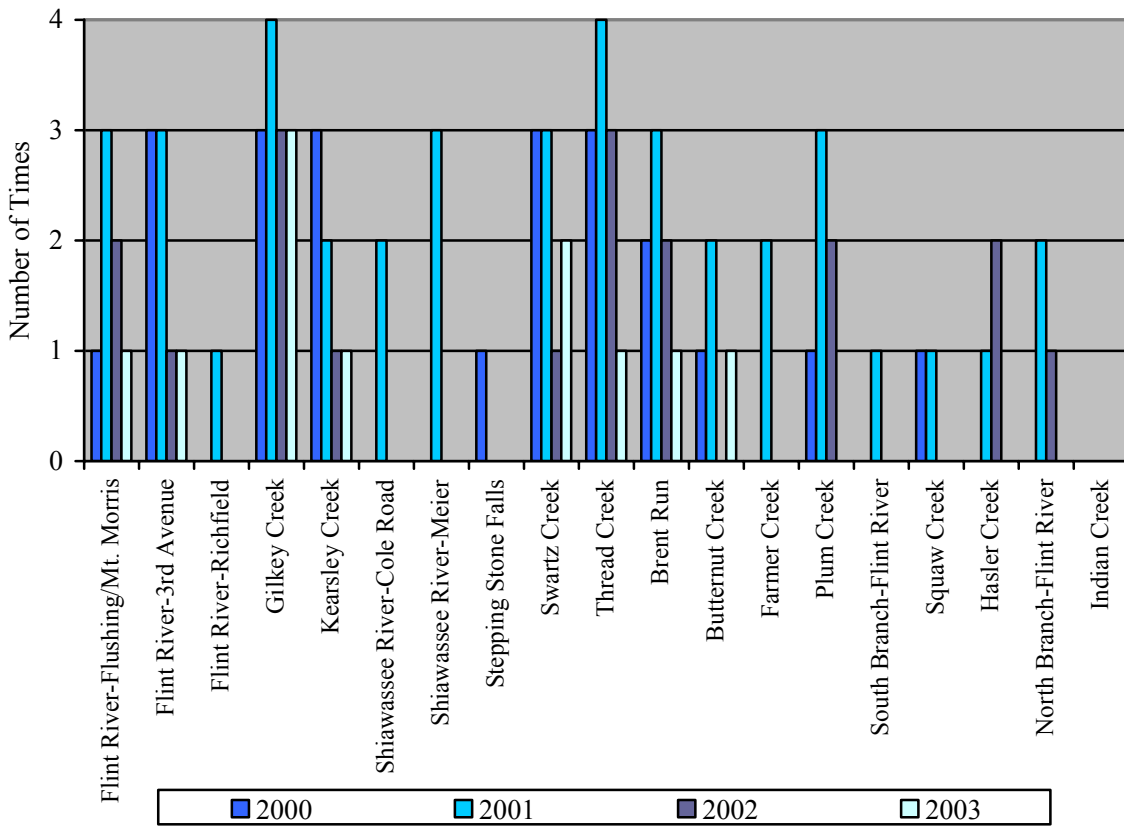
- ◆ 100% of rivers, lakes, and estuaries that support recreational uses (fishing and swimming) are monitored by the Genesee County Health Department (GCHD).
- ◆ Partial and/or Total Body Contact Advisories are issued by the GCHD when surface water sampling reveals E.coli bacterial levels that exceed the State of Michigan guidelines. For public bathing beach areas, the State guideline is 300 E. coli per 100 ml. For river watershed areas, this State guideline is 1000 E. coli per 100 ml. The number of times that bathing beach areas and river watershed areas exceeded these State guidelines for bacterial concentrations is shown below in Figures 6.2 and 6.3.

**Fig. 6.2 Number of Times Public Bathing Beach Areas Exceeded State Bacterial Concentration Guideline of 300 cfu/mL, Genesee County, 2002 and 2003**



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

**Fig. 6.3 Number of Times River Watershed E. Coli Samples Exceeded State Bacterial Concentration Guideline of 1000 cfu/mL, 2000-2003**



Note: Because of budget constraints, river monitoring gradually decreased from 2000 to 2003. Therefore, all locations shown above were not necessarily monitored regularly, or at all, for each of the years shown.

Source: Genesee County Health Department

**Waterborne Disease**

- ◆ There were no reported cases of waterborne disease in Genesee County in 2002 or 2003.

**Private Water Sources**

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

<b>Fig. 6.4 Number of Well Permits Issued, Genesee County, 2002 and 2003</b>		
	<b>2002</b>	<b>2003</b>
<b>Genesee County</b>	1,498	1,608

Source: Genesee County Health Department

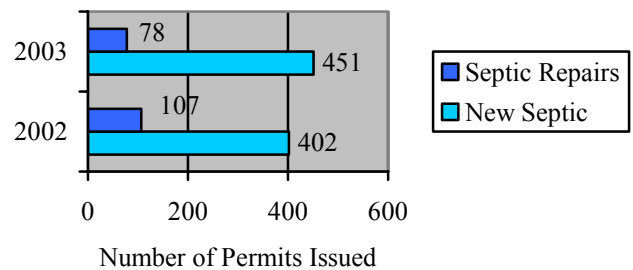
**Access to Fluoridated Water**

- ◆ 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 existing private septic systems in Genesee County.

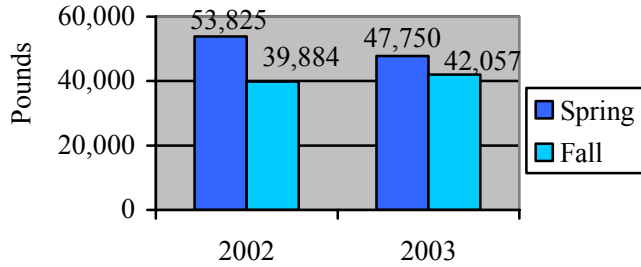
**Fig. 6.5 Septic Permits Issued, Genesee County, 2002 and 2003**



Source: Genesee County Health Department

## HAZARDOUS WASTE

**Fig. 6.6 Pounds of Hazardous Waste Collected, Genesee County, 2002 and 2003**



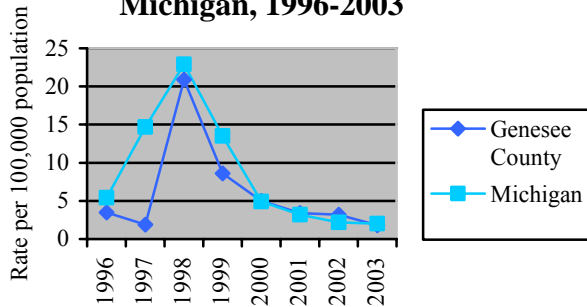
Source: Genesee County Health Department

- ◆ Two Hazardous Waste Collection Days are held in Genesee County each year. Examples of hazardous waste collected at these events include cleaning products, motor oil, pesticides, mercury filled thermometers, and more.
- ◆ In 2002, a total of **93,709 pounds** of hazardous waste was collected at these events. In 2003, **89,807 pounds** was collected.

## FOOD SAFETY

### Foodborne Disease

**Fig. 6.7 Rates of Hepatitis A per 100,000, Genesee County and Michigan, 1996-2003**



Source: Michigan Disease Surveillance System

- ◆ Hepatitis A is considered a foodborne disease. For the period 1996-2003, rates in Genesee County were consistently lower than State rates. The spike in 1998 is attributed to a statewide outbreak of Hepatitis A in strawberries.
- ◆ 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, 2002 and 2003**

Disease	Number of Cases (Rate per 100,000 population)	
	2002	2003
<b>E.Coli 0157:H7</b>	5 (1.1)	2*
<b>Giardiasis</b>	26 (6)	18 (4.1)
<b>Campylobacter</b>	22 (5)	24 (5.5)
<b>Salmonellosis</b>	24 (5.5)	33 (7.6)
<b>Shigellosis</b>	4*	7 (1.6)
<b>Cryptosporidiosis</b>	1*	4*

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

**Food Service Sanitation**

- ◆ There are approximately **1,340** fixed food service establishments in Genesee County.

<b>Fig. 6.9 Number of Food Service Sanitation Inspections Completed by Type of Establishment, Genesee County, 2003</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>	2,574
<b>Temporary Food Service Concessions such as Carnivals, Festivals, Fund Raisers, etc.</b>	412
<b>Licensed Vending Machine Locations</b>	204

Source: Genesee County Health Department

**Food Sanitation Facts for 2003\***

- ◆ The average routine inspection identified 6.3 violations of the Michigan Food Law. There was an average of 1.2 critical violations per inspection.
- ◆ Customers made 252 general complaints, each of which was investigated.
- ◆ Customers made 73 complaints of foodborne illness, each of which was investigated. 14 of the 73 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.
- ◆ 9 establishments experienced enforcement action for failure to correct critical violations.
- ◆ 260 food service employees completed a basic sanitation course offered monthly at the Genesee County Health Department (Fiscal Year 2002-2003).
- ◆ 60 food service managers completed an intensive sanitation training course offered quarterly at the Genesee County Health Department (Fiscal Year 2002-2003).
- ◆ Plans for 91 new and remodeled establishments were reviewed and approved by the Genesee County Health Department.
- ◆ Establishments with excellent sanitation receive awards and recognition on an annual basis. Others receive license fee credits for consistently high levels of sanitation or completing training courses at the Genesee County Health Department.

\*Calendar year 2003 unless otherwise noted. Source: Genesee County Health Department

## LEAD EXPOSURE

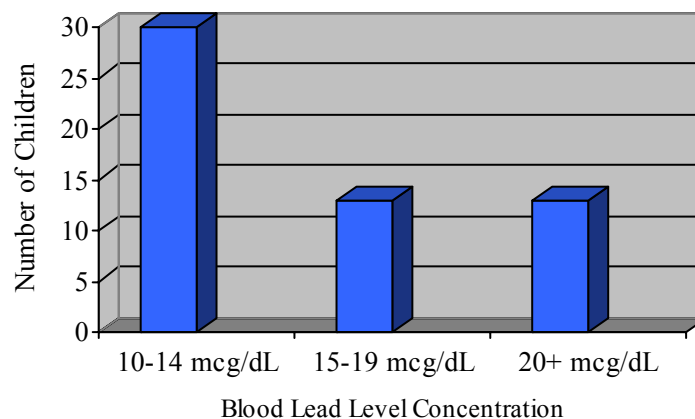
- ◆ In 2003, 23% of houses in Genesee County, and 27% of houses in Michigan, were estimated to have been built before 1950. Houses built before 1950 pose the greatest hazard of lead exposure to children because they are much more likely to contain lead-based paint than newer houses. Children may ingest lead through paint chips or inhale lead as dust.
- ◆ As of September 2004, 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, 2003

Number of children under the age of 6 living in Genesee County	38,236
Number of children under the age of 6 in Genesee County who had their lead level tested	4,115 (11%)
Number of children found to have elevated blood lead levels ( $\geq 10$ mcg/dL)	56 (1.4%)
Number of children found to have elevated blood lead levels who are 1 or 2 years of age	28

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, 2003**



\*Blood lead level was confirmed by venous blood draw, not just reading from capillary blood testing. Source: Michigan Department of Community Health