



## 2009 Environmental Survey

City of Battle Creek



Information and planning that make the difference

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**The City of Battle Creek 2009 Environmental Survey was completed by 400 residents of the Greater Battle Creek area. Highlights of the survey included:**

Exactly half of the 400 respondents were male and half were female. All of the respondents were age 18 or older, with the majority age 45 or older, and over half lived in the City of Battle Creek. The highest levels of education indicated by respondents were a high school diploma/GED, or some college. Over half of the respondents lived in a household of only one or two people and did not have children under the age of 18. Almost all of the respondents had access to the Internet at home, work, or both places.

The majority of the survey respondents reduce, reuse, or recycle with the most common items recycled being plastics, newspaper, metal and cans, and glass. Respondents who recycled had both curbside pick-up for the items or they dropped them off at a recycling facility. The respondents who did not currently recycle would be more likely to recycle if they had curbside pick-up.

The respondents were also asked about the disposal of household chemicals. Most of the respondents did not dispose of any household chemicals at a household hazardous waste collection event or did not use household chemicals. Of the respondents who did use household chemicals, the most common were: oil based paints, paint thinners, and cleaning materials. When respondents were asked if they felt the amount of garbage per household should be limited to save landfill space, over half of the 400 respondents felt the amount of garbage should be limited.

The majority of the respondents lived in a house, of which only half used fertilizers on their lawn and an even smaller percentage applied weed killer and grub control to their lawn. The respondents were also willing to make changes to their yard to improve it. The respondents who had used fertilizer on their lawn also referred to label information and lawn care company recommendations to find out how much fertilizer to use. The respondents were not aware that the middle, or second, number on a fertilizer bag label indicated phosphorus and were also not aware that there was an ordinance in the City of Battle Creek to prohibit the use of fertilizers containing phosphorus.

Over half of the respondents were not aware that there was a compost center in Marshall, where all Calhoun County residents can compost their yard waste. Instead, the respondents chose to compost yard waste in their back yard or place it in bags for curbside pick-up. Two-thirds of the survey respondents were aware that local water bodies can be affected by excess water from yards, containing yard waste and other chemicals.

There were also questions on this survey related to compact fluorescent lightbulbs and the disposal of them. The majority of respondents had used compact fluorescent lightbulbs in their home and were satisfied with their overall experience. Of respondents who had used compact fluorescent lightbulbs, most were not aware of the correct way to dispose of them.

Nearly all of the respondents recognized we are in a period of climate change or global warming and had made changes such as driving less, using compact florescent lightbulbs and insulating their homes to help stop climate change or global warming and to save energy. The majority of respondents believed that climate change or global warming is a serious matter brought on by both people and natural causes and is also a reason for the rise in sea level, melting polar ice caps, and severe shifts in the weather. Respondents also felt the best way to reduce our dependence on foreign oil was to support alternative energy projects and energy saving efforts.



## Executive Summary

There was close to an even split of respondents who had water from a public water system and respondents who had water from a private well. Of respondents who had water from a public water system, almost all of the water came from the City of Battle Creek water system and over half of those respondents had read the city's Annual Water Quality Report. Very few respondents had unused or abandoned wells on their property. However, the respondents who did were aware the private wells should be tested every year. When discussing the drinking water the respondents had in their homes, about half of the respondents drank filtered or bottled water because of the improved taste and health concerns.

Respondents would definitely be receptive if they were to receive information regarding recycling, energy saving methods, and water quality protection methods, given that almost all of the respondents said they would read a bill stuffer in relation to it. Just over one-third of the respondents had a septic system and were aware that routine cleanings of septic tanks are necessary every two or three years to protect water resources.

Overall, respondents were very willing to assist in the conservation and protection of water quality. The respondents were aware that the major source of drinking water comes from groundwater, and not from local lakes, rivers, and streams, and would be willing to pay additional money each month to protect those lakes and streams. The majority of the respondents would also support ordinances and stricter building requirements to protect the quality of water and to help conserve energy.

The survey looked into how aware respondents were of water quality and recycling. Over half of the respondents recalled seeing the Clean Water logo in the past, with the most common places being on road signs, public events, and near waterways. The most common places for respondents to have seen water quality and recycling advertising was in newspapers, on television, and in magazines. After seeing or hearing advertisements, more than half of the respondents had not taken any actions to protect water quality or to recycle.



The City of Battle Creek, in conjunction with the Calhoun County Solid Waste Department and the Climate Change Coalition, has requested that Perspectives Consulting Group, Inc. assist them in completing an Environmental Survey. The goal of this effort is to understand the awareness and perceptions of the environmental issues concerning the Greater Battle Creek area.

In order to gain an understanding of community members in the greater Battle Creek area, a telephone survey was conducted with residents of: the cities of Battle Creek and Springfield; Pennfield, Bedford, Newton, Leroy, and Emmett Townships. The survey was conducted in February and March of 2009.

The objectives for the 2009 Environmental Survey included:

- 1) Measure the awareness and perceptions of surface water and ground water issues among community members.
- 2) Measure the awareness and perceptions of energy and climate change concerns among community members.
- 3) Measure the awareness and perceptions of solid waste issues among community members.
- 4) Determine other environmental concerns of community members.
- 5) Identify individual behaviors and habits of community members related to environmentally friendly practices.
- 6) Identify how the community learns about environmental issues and where they would look for information.
- 7) Set a benchmark for the community's attitudes and perceptions about the environmental issues facing the greater Battle Creek area.
- 8) Obtain general demographic information, such as age, gender, household income, etc., which allows for critical analysis of the data.

There are two main sections to this report, **Survey Results** and **Conclusions**. The **Survey Results** section presents the results to all of the survey questions, generally grouped into categories. The **Conclusions** section outlines some of the implications of the research, based on the survey findings.





The 2009 Environmental Survey consisted of 51 questions. Topics included: recycling, lawn care, compact fluorescent lightbulbs, climate change and global warming, water and sewer service, water protection and respondents awareness of water quality and recycling. In addition, basic demographic information was gathered. The questions included various types of formats including: yes/no, open-ended response, and pre-defined choices. The survey was developed based on input from the City of Battle Creek, the Calhoun County Solid Waste Department, and the Climate Change Coalition. Perspectives Consulting Group, Inc. assembled and ordered the survey questions. The survey instrument is included for reference in the **Appendices**.

## Survey Execution

A total of 400 completed surveys were obtained from residents living in the greater Battle Creek area. The sampling method used for this survey was random-digit dialing of telephone numbers with area telephone prefixes. Surveys were completed in the following prefixes: 660, 788, 938, 962, 963, 964, 965, 966, 968, 969, and 979.

Households were randomly selected and contacted until 400 surveys were completed. A total of 9,900 calls were made to obtain the 400 completions from all prefixes. Surveys were only completed with adults age 18 or over who lived in the City of Battle Creek, the City of Springfield, Bedford Township, Emmett Township, Newton Township, Leroy Township, or Pennfield Township.

The survey interviewing took place in February and March 2009, between the hours of 6:00 p.m. and 9:00 p.m. on weekdays. A pretest of 30 surveys was completed, with no significant difficulties or problems noted. These pretest surveys are included in the final results. The survey took approximately seven minutes to complete.

Based on the number of households in the greater Battle Creek area, and the number of survey completions, a confidence level and confidence interval can be calculated. In statistical terms, the confidence level is the likelihood that if the survey were replicated, the results would be the same. The confidence level for this survey was 95 percent, meaning that 95 times out of 100, this survey would produce substantially the same results as achieved this time.

The confidence interval is the range that any answer could vary from the actual value. This is the “+/- xxx percent” margin of error value that pollsters reference. In this case, the City of Battle Creek 2009 Environmental Survey has a confidence interval of +/- 5 percent. Therefore, the answer to any question on the survey is within plus, or minus 5 percent of the actual value. When comparing two responses to the same question, any difference of less than 10 percent needs to be examined carefully, since statistically the difference could be considered negligible.





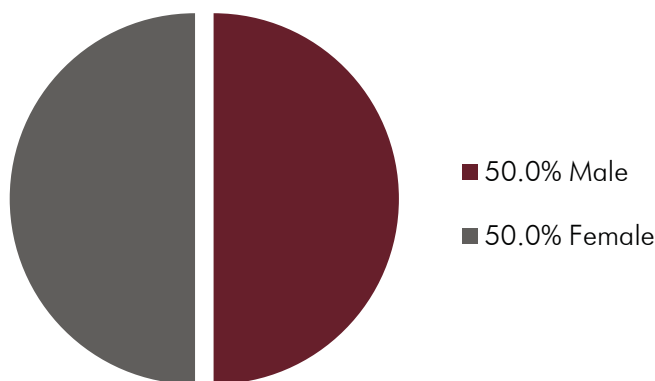
Respondent Profile

**Overview.** Exactly half of the 400 respondents were male and half were female. The majority of the respondents were age 45 or older, and lived in the City of Battle Creek. The highest levels of education indicated by respondents were a high school diploma, GED, or some college. Over half of the respondents lived in a household of only one or two people and did not have children under the age of 18. Almost all of the respondents had access to the Internet at home, work, or both places.

Chart 1

Gender of Respondents

Of the 400 respondents who completed the survey, half (50.0%) were male and half (50.0%) were female. This is consistent with the male and female ratio, according to census information, which is close to 50/50.



Source: 2009 Environmental Survey, question 51

Chart 2

Age of Respondents

The respondents were then asked which age category they were a part of. All of the respondents were age 18 or older. Over one-quarter of the respondents (27.8%) were 65 years of age or older, while 20.8% were between the ages of 45 and 54. Another 15.0% of the respondents fell in the age 35 to 44 category, and 14.5% were between the ages of 55 and 64. Seven respondents (1.8%) chose not to disclose their age.

Age Category	% Respondents
18 to 24 years	8.8%
25 to 34 years	11.5%
35 to 44 years	15.0%
45 to 54 years	20.8%
55 to 64 years	14.5%
65 years or older	27.8%
Refused/NA	1.8%

Source: 2009 Environmental Survey, question 46



## Respondent Profile

**Chart 3**  
Area Respondents Lived In

	% Respondents
City of Battle Creek	58.3%
Emmett Township	12.3%
Bedford Township	9.5%
Pennfield Township	9.0%
City of Springfield	5.5%
Leroy Township	3.0%
Newton Township	2.5%

Source: 2009 Environmental Survey, question 47

When asked what area the respondents lived in, the majority (58.3%) lived in the City of Battle Creek. Twelve percent (12.3%) of the respondents indicated they lived in Emmett Township, followed by 9.5% who indicated they lived in Bedford Township, and 9.0% who lived in Pennfield Township.

**Chart 4**  
Education of Respondents

	% Respondents
High school diploma/GED	24.8%
Some college	23.5%
Bachelor's Degree	18.8%
Associate's Degree	15.3%
Graduate Degree	9.8%
Some high school	5.5%
Military	0.3%
Refused/NA	2.3%

Source: 2009 Environmental Survey, question 45

All 400 respondents were then asked to indicate the highest level of education they had completed. One-quarter of the respondents (24.8%) had a high school diploma or GED, while 23.5% of the respondents had completed some college. Closely following were the respondents who had received a bachelor's degree (18.8%) or an associate's degree (15.3%). Nine respondents (2.3%) chose not to indicate their education level.



**Chart 5**  
Size of Household

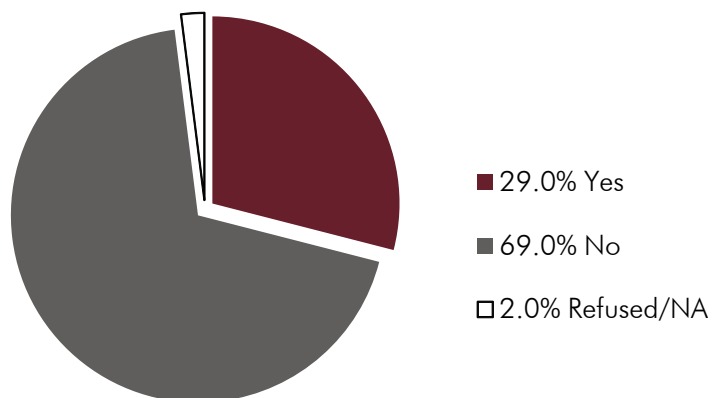
Over one-third of the respondents (34.8%) had two people living in their home, while 24.0% were single households. Just over twenty percent of the respondents (20.3%) had three people in their household and 12.5% had four people living in their household. Seven respondents (1.8%) did not indicate the size of their household.

	% Respondents
One	24.0%
Two	34.8%
Three	20.3%
Four	12.5%
Five	3.8%
Six	0.8%
Seven or more	2.3%
Refused/NA	1.8%

Source: 2009 Environmental Survey, question 49

**Chart 6**  
Number of Children in Household

The respondents were then asked if they had children under the age of 18 living in their household. Of the 400 respondents, 69.0% did not have children under the age of 18 living in their household, compared to 29.0% of the respondents who did have children under the age of 18 living with them. Eight respondents (2.0%) chose not to answer this question.

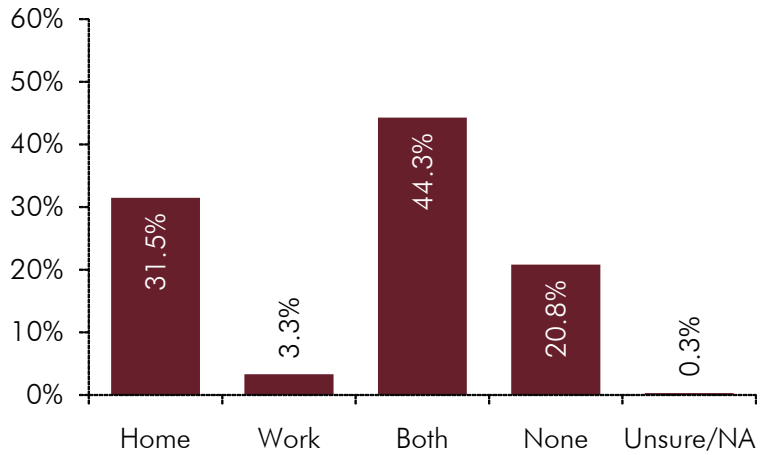


Source: 2009 Environmental Survey, question 50



## Respondent Profile

**Chart 7**  
Access to Internet



When the respondents were asked if they had access to the Internet at home or work, 44.3% had Internet access at both home and work. Thirty-two percent of the respondents (31.5%) only had access to the Internet at home, while 20.8% did not have access to the Internet at all. Only 3.3% of the respondents had access to the Internet at work, but not at home, and one respondent (0.3%) was unsure.

Source: 2009 Environmental Survey, question 48

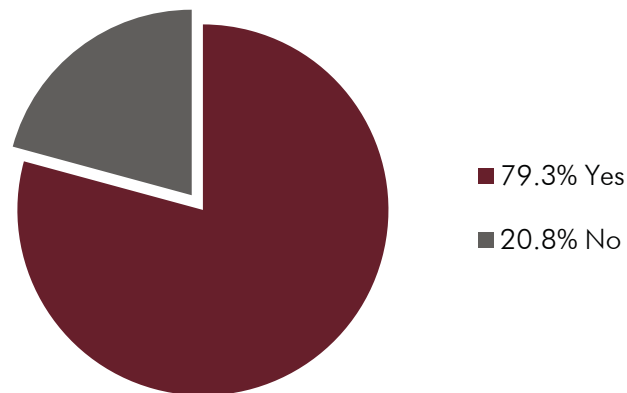


**Overview.** The majority of the survey respondents reduce, reuse, or recycle; with the most common items being plastics, newspaper, metal and cans, and glass. The respondents who recycled had both curbside pick-up for the items or they dropped them off at a facility. The respondents who did not currently recycle would be more likely to, if they had curbside pick-up. The respondents were also asked about the disposal of household chemicals. Most of the respondents did not dispose of any household chemicals at a household hazardous waste collection event or did not use household chemicals. Of the respondents who did use household chemicals, the most common were: oil based paints, paint thinners, and cleaning materials. When the respondents were asked if they felt the amount of garbage per household should be limited to save landfill space, over half of the 400 respondents felt the amount of garbage should be limited.

**Chart 8**

### Reduce, Reuse, and Recycle

The survey respondents were asked if they reduce, reuse, or recycle. Of the 400 respondents, 79.3% did reduce, reuse, or recycle, compared to 20.8% who do not.



Source: 2009 Environmental Survey, question 1

There were no demographic categories with a significantly higher percentage of the respondents who reduce, reuse or recycle.

Demographic categories with a significantly lower percentage of the respondents who reduce, reuse, or recycle included: age 18 to 24 (65.7%) and no access to the Internet at home or work (66.3%).

The 83 respondents who did not reduce, reuse, or recycle were asked to indicate why. Half of the respondents (49.4%) were unsure why they do not reduce, reuse, or recycle. Other responses included:

**4 Respondents**

*Just don't*

*Not available*

**3 Respondents**

*Live in apartment*

*No time*



## Reduce, Reuse, and Recycle

### **2 Respondents**

Costs  
Don't care to  
Lazy  
Never thought about it

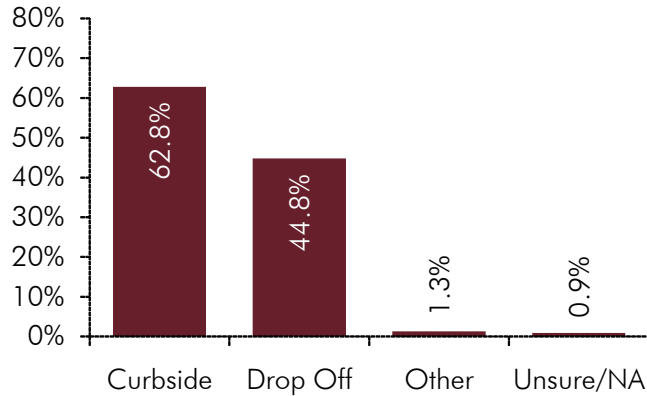
### **1 Respondent**

Charge extra  
Costs too much  
Don't have anything to recycle  
Don't have room  
Don't have to recycle  
Don't know where to take it  
Don't see the need for it  
Don't want to pay  
Just haven't been needed  
Live in mobile home  
Never got around to it  
No bins here  
No interest, takes time  
No license at the moment  
Not enough recyclables  
Not many options  
Not many places around here  
Not sure, but want to  
Nowhere to put in small house  
Time consuming



**Chart 9**  
**Recycling Removal**

The 317 respondents who reduce, reuse, or recycle were asked which of the following describes how they recycle: recycling curbside or drop-off recycling. Over half of the respondents (62.8%) had curbside pick-up for recycling, while 44.8% of the respondents dropped off their recycling at a facility. Three respondents (0.9%) were unsure what they did with their recycling. The chart totals more than 100% as the respondents could name multiple recycling methods.



Source: 2009 Environmental Survey, question 2

\*The chart totals more than 100% as the respondents could give more than one response.

Four respondents disposed of their recycling in the following ways:

**2 Respondents**

*Cans*

**1 Respondent**

*Gets picked up*

*Oil from car*

Demographic categories with a significantly higher percentage of the respondents who used curbside recycling included: lived in the City of Battle Creek (81.7%).

Demographic categories with a significantly lower percentage of the respondents who used curbside recycling included: age 25 to 34 (48.6%), lived in Bedford Township (35.7%), lived in Emmett Township (25.0%), and lived in Pennfield Township (28.6%).



## Reduce, Reuse, and Recycle

**Chart 10**  
**Recycled Items**

	<b>% Respondents</b>
Plastics	68.5%
Newspaper	59.6%
Metal/Cans	43.8%
Glass	40.7%
Cardboard	30.3%
Paper	10.7%
Plastic bags	4.7%
Styrofoam	2.8%
Yard waste	2.8%
Electronics	2.2%
Other	6.9%
Unsure/NA	4.1%

The 317 respondents who reduce, reuse, or recycle were also asked to list the items they recycle besides those they receive a deposit for. The respondents were not prompted for this question. The most common items the respondents recycled included: plastics (68.5%), newspaper (59.6%), metal and cans (43.8%), and glass (40.7%). Thirteen respondents (4.1%) were unsure what items they recycled. The chart totals more than 100% as the respondents could name multiple items they recycled.

Source: 2009 Environmental Survey, question 3

\*Chart totals more than 100% as the respondents could give more than one response.

Twenty-two respondents named other items they recycled. Eight respondents indicated they did not recycle any items. Other items included:

**4 Respondents**

Batteries

**3 Respondents**

Magazines

**2 Respondents**

Clothing

**1 Respondent**

Aluminum

Oil

Telephone books

Tin



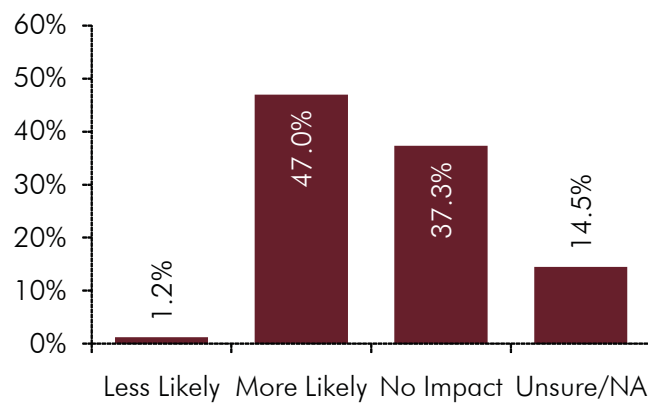
## Reduce, Reuse, and Recycle

Demographic categories with a significantly higher percentage of the respondents who recycled plastics included: graduate degree (81.8%), age 45 to 54 (84.3%), and one person living in household (80.0%).

Demographic categories with a significantly lower percentage of the respondents who recycled plastics included: age 25 to 34 (54.1%), age 35 to 44 (57.1%), and lived in Bedford Township (42.9%).

**Chart 11**  
Impact of Curbside Recycling

The 83 respondents who did not reduce, reuse, or recycle were asked the question, "If curbside recycling was available to all county residents, would you be less likely, more likely, or would have no impact on your decision to recycle?" Close to half of the respondents (47.0%) would be more likely to recycle if they had curbside pick-up, while 37.3% indicated curbside pick-up would have no impact on their decision to recycle. One respondent (1.2%) would be less likely to recycle and 14.5% were unsure how curbside recycling would impact their decision.



Source: 2009 Environmental Survey, question 4

Demographic categories with a significantly higher percentage of the respondents who would be more likely to recycle if curbside recycling was available included: high school diploma/GED (57.1%), one person living in household (57.7%), and female (59.5%).

Demographic categories with a significantly lower percentage of respondents who would be more likely to recycle if curbside recycling was available included: no access to the Internet at home or work (35.7%) and male (34.1%).



## Reduce, Reuse, and Recycle

**Chart 12**

### Household Hazardous Waste Collection Event

	% Respondents
None	43.8%
Don't use	19.0%
Oil based paints	12.3%
Cleaning materials	8.0%
Paint thinners	8.0%
Pesticides	4.5%
Coolants	4.3%
Old pharmaceuticals	2.3%
Herbicides	1.8%
Unsure/NA	14.8%

All 400 respondents were then asked which household chemicals they disposed of at a household hazardous waste collection event. Close to half of the respondents (43.8%) did not dispose of any household chemicals at a household hazardous waste collection event and 19.0% of the respondents said they did not use household chemicals. The most common chemicals used by the respondents included: oil based paints (12.3%), cleaning materials (8.0%), and paint thinners (8.0%). Fifty-nine respondents (14.8%) were unsure of this question. The chart totals more than 100% as the respondents could name multiple household chemicals they disposed of at a household hazardous waste collection event.

Source: 2009 Environmental Survey, question 5

\*Chart totals more than 100% as the respondents could give more than one response.

There were no demographic categories with a significantly higher percentage of the respondents who did not dispose of any household chemicals.

Demographic categories with a significantly lower percentage of the respondents who did not dispose of any household chemicals included: graduate degree (25.6%) and lived in Pennfield Township (30.6%).



## Reduce, Reuse, and Recycle

The 175 respondents who did not dispose of household chemicals at a household hazardous waste collection event were asked to indicate why. Eighty-one respondents (46.3%) chose not to answer this question and 11 respondents were unsure. Other responses included:

### **12 Respondents**

*Just don't*

### **11 Respondents**

*Use it all up*

### **7 Respondents**

*Throw it away*

### **5 Respondents**

*Didn't know I should*

*Didn't know you could*

### **4 Respondents**

*Didn't know*

*Don't need to*

*Lazy*

### **3 Respondents**

*Don't know where to take them*

*Don't use; if do, use all of it*

### **2 Respondents**

*Don't have any*

*Don't use many*

*Haven't been to an event*

### **1 Respondent**

*Already recycle a lot*

*Blind, cannot drive*

*Don't care to*

*Don't feel like it*

*Don't feel the need to*

*Don't have leftovers*

*Don't really know*

*Don't use often*

*Just moved here*

*Keeps them/ isn't sure how to properly dispose of them*

*Maybe if curbside was an option*

*No license at the moment*

*None, don't use much*

*Only take batteries*

*Recycles used car oil*

*Service doesn't pick it up*

*Too much time, don't really use*

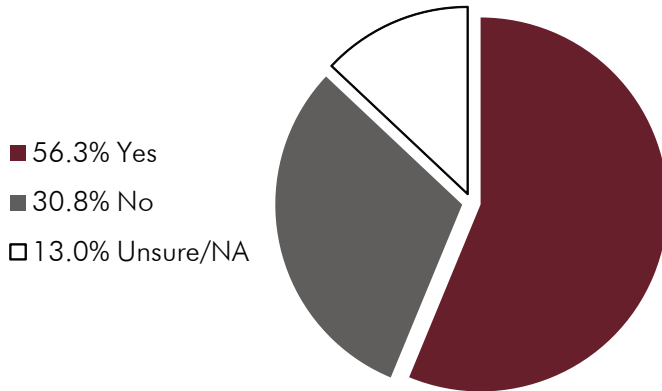
*Would if that was curbside too*

*Would like to*



## Reduce, Reuse, and Recycle

**Chart 13**  
Garbage Limitations per Household



When the respondents were asked if they felt the amount of garbage per household should be limited to save landfill space, over half of the 400 respondents (56.3%) felt the amount of garbage should be limited. Only 30.8% of the respondents felt the amount of garbage should not be limited, while 13.0% were unsure how they felt about limiting the amount of garbage per household.

Source: 2009 Environmental Survey, question 21

Demographic categories with a significantly higher percentage of the respondents who felt the amount of garbage per household should be limited to save landfill space included: bachelor's degree (73.8%), graduate degree (69.2%), and age 55 to 64 (67.2%).

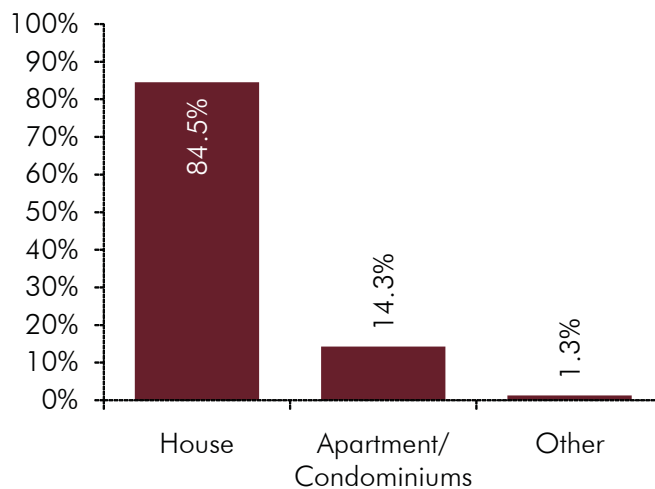
Demographic categories with a significantly lower percentage of the respondents who felt the amount of garbage per household should be limited to save landfill space included: high school diploma/GED (43.4%) and age 18 to 24 (40.0%).



**Overview.** The majority of respondents lived in a house, of which only half used fertilizers on their lawn and an even smaller percentage applied weed killer and grub control to their lawn. Respondents were also willing to make changes to their yard to improve it. The respondents who had used fertilizer on their lawn referred to label information and lawn care company recommendations to find out how much fertilizer to use. Over half of the respondents were not aware that there was a compost center in Marshall, where all Calhoun County residents can compost their yard waste. Instead, respondents chose to compost yard waste in their backyard or place it in bags for curbside pick-up. Most respondents were not aware that the middle, or second, number on a fertilizer bag label indicated phosphorus and were also not aware that there was an ordinance in the City of Battle Creek to prohibit the use of fertilizers containing phosphorus. Two-thirds of survey respondents were aware that local water bodies can be affected by excess water from yards, containing yard waste and other chemicals, running into it.

**Chart 14**  
Lived in House or Apartment

All 400 respondents were asked to indicate if they lived in a house or an apartment. The majority of the respondents (84.5%) lived in a house, compared to 14.3% of the respondents who lived in an apartment or condominium.



Source: 2009 Environmental Survey, question 22

There were five respondents (1.3%) who lived in other places, which included:

**4 Respondents**  
*Mobile home/trailer*

**1 Respondent**  
*Senior citizen home*

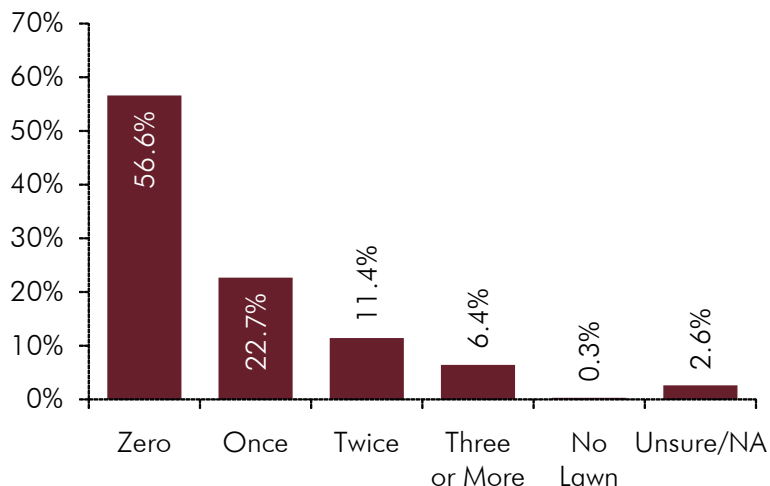
Demographic categories with a significantly higher percentage of the respondents who lived in a house included: bachelor's degree (94.7%) and age 55 to 64 (98.3%).

Demographic categories with a significantly lower percentage of the respondents who lived in a house included: age 18 to 24 (62.9%).



## Lawn Care

**Chart 15**  
Applied Fertilizer to Lawn



Source: 2009 Environmental Survey, question 23

The 343 respondents who lived in a house, mobile home/trailer, or senior citizen home were asked how often they applied fertilizers to their lawn. Over half of the respondents (56.6%) did not use fertilizers on their lawn, while 22.7% applied fertilizers one time a year. Eleven percent of the respondents (11.4%) applied fertilizers two times a year and only 6.4% applied them three or more times a year. Nine respondents (2.6%) were unsure how often they applied fertilizers and one respondent (0.3%) did not have a lawn.

Demographic categories with a significantly higher percentage of the respondents who did not apply fertilizers to their lawn included: some college (68.4%), lived in Bedford Township (70.6%), lived in Emmett Township (68.9%), no access to the Internet at home or work (70.0%), and one person living in household (69.3%).

Demographic categories with a significantly lower percentage of the respondents who did not apply fertilizers to their lawn included: graduate degree (41.7%).



Chart 16

Amount of Fertilizer Applied to Lawn

The 148 respondents who had used fertilizers on their lawn or were unsure, were asked what resources they had used in deciding how much fertilizer to apply to their lawn. The most common resources used by respondents included: label information (52.0%), lawn care company recommendations (25.7%), and friends, family, or neighbors (11.5%). Twelve respondents (8.1%) were unsure what resources they had used in deciding how much fertilizer to apply to their lawn. The chart totals more than 100% as the respondents could name multiple resources to decide how much fertilizer to apply to their lawn.

	% Respondents
Label information	52.0%
Lawn care company recommendations	25.7%
Friends/Family/Neighbors	11.5%
Consult with local home and garden centers	8.8%
Fertilize lawn until it's green	5.4%
Soil tests	2.7%
Other	4.7%
Unsure/NA	8.1%

Source: 2009 Environmental Survey, question 24

\*Chart totals more than 100% as the respondents could give more than one response.

There were seven respondents who listed other resources they used, which included:

**2 Respondents**

*Manure*

**1 Respondent**

- Don't use it that often*
- Lawn service does it*
- MSU Extension guideline*
- Online*
- Pay somebody to do it*

Demographic categories with a significantly higher percentage of the respondents who followed the label to decide how much fertilizer to apply to their lawn included: age 45 to 54 (76.5%), three people living in household (64.3%), and have children under the age of 18 (69.4%).

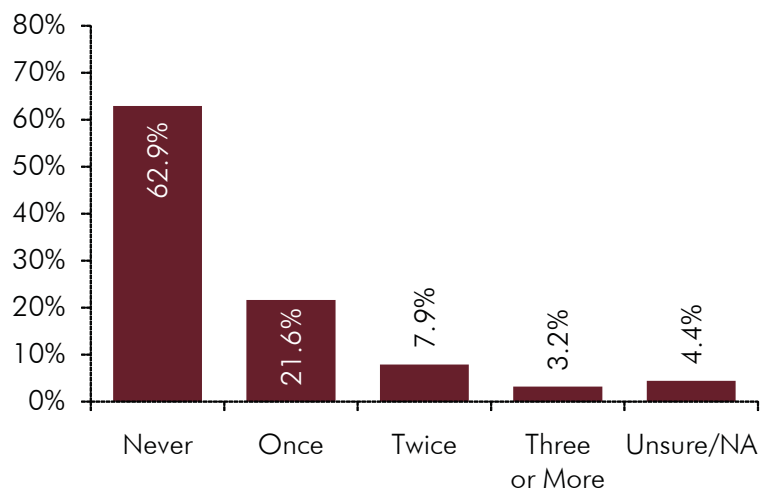
Demographic categories with a significantly lower percentage of the respondents who followed the label to decide how much fertilizer to apply their lawn included: age 65 or older (31.7%).



## Lawn Care

The next four questions were asked of the 342 respondents who lived in a house and also had a lawn.

**Chart 17**  
Applied Weed Killer or Grub Control to Lawn



The respondents were asked how often they applied weed killer or grub control to their lawn. Of the 342 respondents, 62.9% had never applied weed killer or grub control to their lawn, while 21.6% applied them once a year. Eight percent of respondents (7.9%) applied weed killer or grub control two times a year, while only 3.2% applied them three or more times a year. Fifteen respondents (4.4%) were unsure.

Source: 2009 Environmental Survey, question 25

Demographic categories with a significantly higher percentage of the respondents who did not apply weed killer or grub control to their lawn included: no access to the Internet at home or work (74.3%).

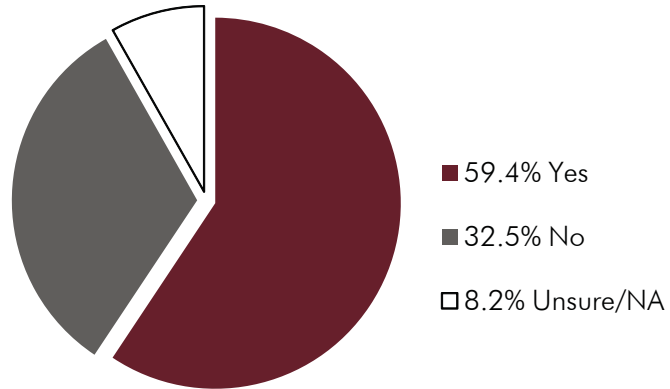
There were no demographic categories with a significantly lower percentage of the respondents who did not apply weed killer or grub control to their lawn.



Chart 18

Willing to Make Changes to Yard

The 342 respondents were asked if they would be willing to make changes to their yard to improve the environment, such as: plant trees, replace lawn with native plants, or use rain barrels. Over half of the respondents (59.4%) would be willing to make changes to their yard, while 32.5% would not be willing to make changes. Twenty-eight respondents (8.2%) were unsure if they would make changes to their yard to improve the environment.



Source: 2009 Environmental Survey, question 26

Demographic categories with a significantly higher percentage of the respondents who would be willing to make changes to their yard to improve the environment included: graduate degree (80.6%) and age 45 to 54 (70.0%).

There were no demographic categories with a significantly lower percentage of the respondents who would be willing to make changes to their yard to improve the environment.



**Chart 19**  
**Disposal of Waste Material**

	% Respondents
Compost in back yard (compost pile)	25.7%
Put compost in bags, leave on curb	25.7%
Burn materials on property	16.1%
Leave on grass	9.1%
Lawn care company removes	8.2%
Take to compost center/site	6.7%
Rake into street, leave on curb	5.3%
Take to landfill	1.8%
Other	6.7%
Unsure/NA	1.8%

The respondents were asked what they did with waste material, such as: leaves, garden trimmings, or tree trimmings from their property. The respondents were not prompted for this question. "compost in back yard" and "compost in bags for curbside pick-up" were each mentioned by 25.7% of the respondents. Sixteen percent of the respondents (16.1%) burned materials on their property, while 9.1% left the waste materials on their grass. Six respondents (1.8%) were unsure what they did with waste materials from their property. The chart totals more than 100% as the respondents could name multiple ways to decide how to dispose of waste materials.

Source: 2009 Environmental Survey, question 27

\*Chart totals more than 100% as the respondents could give more than one response.

There were twenty-three respondents who mentioned other forms of waste material disposal from their property, which included:

**14 Respondents**

*Make into mulch*

**2 Respondents**

*Use as fertilizer*

**1 Respondent**

*Chip up branches*

*Dump in swamp*

*Garden*

*Management cleans*

*Put on neighbors yard*

*Rake into woods*

*Take them to neighbor who turns it into mulch*

There were no demographic categories with a significantly higher percentage of the respondents who had a compost pile in their backyard to dispose of waste materials.

Demographic categories with a significantly lower percentage of the respondents who had a compost pile in their backyard to dispose of waste materials included: age 25 to 34 (13.9%) and lived in the City of Battle Creek (15.5%).



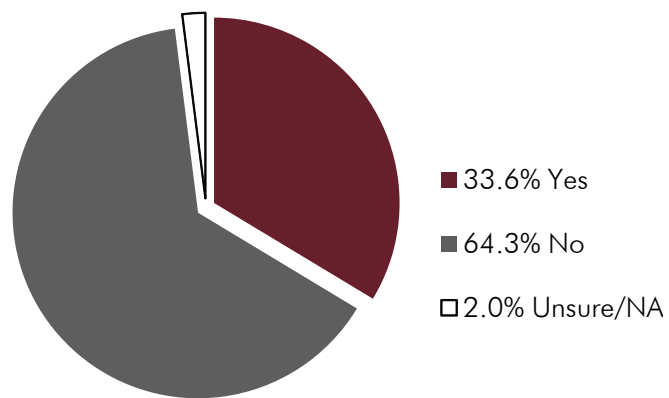
Demographic categories with a significantly higher percentage of the respondents who put compost into bags for curbside pick-up included: graduate degree (38.9%) and lived in the City of Battle Creek (40.7%).

Demographic categories with a significantly lower percentage of the respondents who put compost into bags for curbside pick-up included: no access to Internet at home or work (14.3%).

Chart 20

Compost Center in Marshall

When the 342 respondents were asked if they were aware that there is a compost center in Marshall, where all Calhoun County residents can compost their yard waste, 64.3% were not aware, while 33.6% were aware of the compost center. Seven respondents (2.0%) were unsure if they were aware that there was a compost center in Marshall.



Source: 2009 Environmental Survey, question 26

Demographic categories with a significantly higher percentage of the respondents who were not aware that there is a compost center in Marshall included: age 25 to 34 (75.0%), age 35 to 44 (76.5%), and four people in household (78.0%).

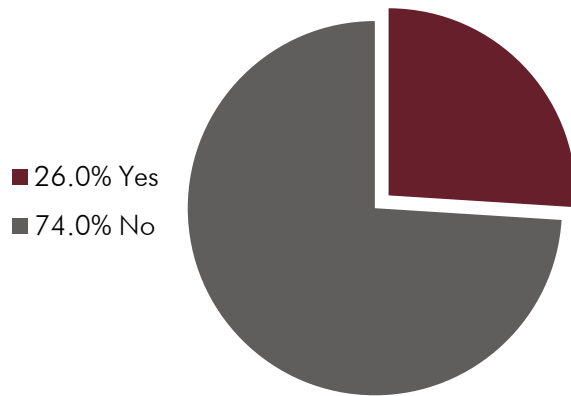
Demographic categories with a significantly lower percentage of the respondents who were not aware that there is a compost center in Marshall included: lived in Pennfield Township (50.0%).



## Lawn Care

The following questions were related to the use of fertilizers in the City of Battle Creek and were asked of all 400 survey respondents.

**Chart 21**  
**Label on Fertilizer Bags**



Fertilizer bags have a label showing three numbers. The survey respondents were asked if they knew the middle, or second, number on that label indicated phosphorus. Close to three-quarters of the respondents (74.0%) did not know the middle number on the label indicated phosphorus, while 26.0% did know.

Source: 2009 Environmental Survey, question 9

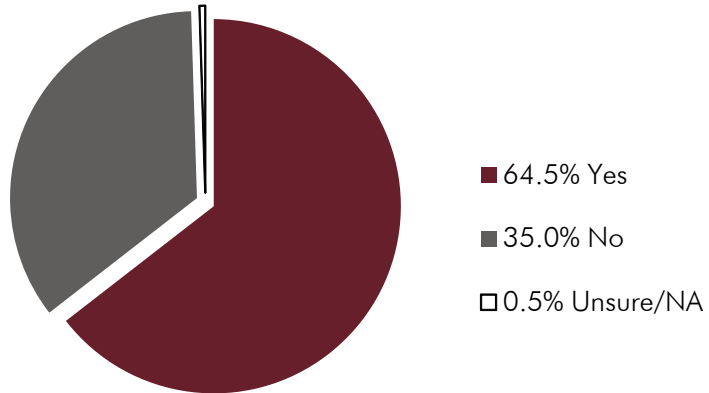
There were no demographic categories with a significantly higher or lower percentage of the respondents who didn't know the middle number on the label of fertilizer bags indicated phosphorus.



Chart 22

### Aware Yard Waste and Chemicals Affect Water

The respondents were also asked if they knew that weed killers, fertilizers, grub control products, leaves, grass clippings, and pet waste that gets into street drains, could affect the water quality of nearby bodies of water. Over half of the survey respondents (64.5%) were aware that bodies of water could be affected by yard waste and other chemicals, compared to 35.0% of the respondents who were not aware. Two respondents (0.5%) were unsure if weed killers, fertilizers, grub control products, leaves, grass clippings, and pet waste that gets into street drains, could affect the water quality of nearby bodies of water.



Source: 2009 Environmental Survey, question 10

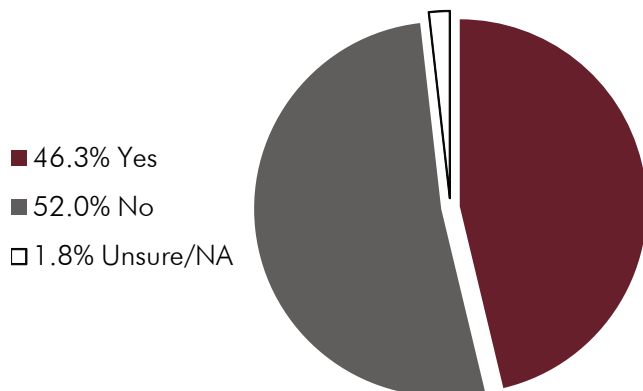
Demographic categories with a significantly higher percentage of the respondents who knew that weed killers, fertilizers, grub control products, leaves, grass clippings, and pet waste that gets into street drains, can affect the water quality in nearby bodies of water included: bachelor's degree (74.7%) and age 55 to 64 (75.9%).

Demographic categories with a significantly lower percentage of the respondents who knew that weed killers, fertilizers, grub control products, leaves, grass clippings, and pet waste that gets into street drains, can affect the water quality in nearby bodies of water included: no access to the Internet at home or work (48.2%).



## Lawn Care

**Chart 23**  
Prohibit Use of Fertilizers



The respondents were then asked if they were aware of an ordinance to prohibit the use of fertilizers containing phosphorus in the City of Battle Creek. Just over half of the respondents (52.0%) were not aware of the ordinance, while 46.3% were aware of the ordinance. Seven respondents (1.8%) were unsure if they were aware of the ordinance to prohibit the use of fertilizers containing phosphorus in the City of Battle Creek.

Source: 2009 Environmental Survey, question 11

Demographic categories with a significantly higher percentage of the respondents who weren't aware of an ordinance to prohibit the use of fertilizers containing phosphorus in the City of Battle Creek included: age 18 to 24 (68.6%) and four people living in household (62.0%).

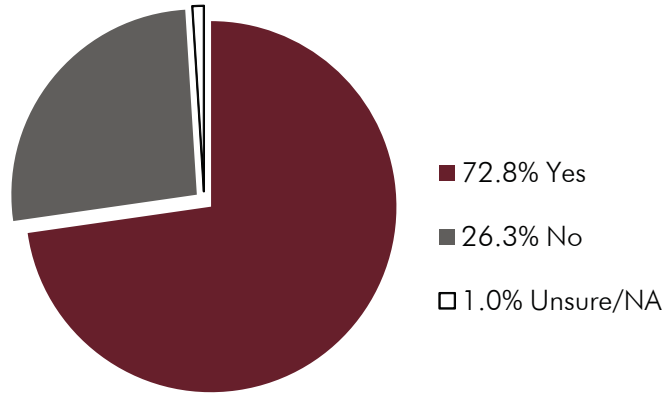
Demographic categories with a significantly lower percentage of the respondents who weren't aware of an ordinance to prohibit the use of fertilizers containing phosphorus in the City of Battle Creek included: graduate degree (35.9%) and age 55 to 64 (37.9%).



Chart 24

### Aware Excess Water Runs into Local Water Bodies

The 400 survey respondents were also asked if they were aware that when the water from rain, snowmelt, or sprinklers runs off their lawn, it goes into street drains and directly into local water bodies without being cleaned. Seventy-three percent of the respondents (72.8%) were aware that excess water runs into local water bodies, while 26.3% were not aware. Four respondents (1.0%) were unsure if they were aware that when the water from rain, snowmelt, or sprinklers runs off their lawn, it goes into street drains and directly into local water bodies without being cleaned.



Source: 2009 Environmental Survey, question 12

There were no demographic categories with a significantly higher percentage of the respondents who were aware that when the water from rain, snowmelt, or sprinklers runs off their lawn, it goes into street drains and directly into local water bodies without being cleaned.

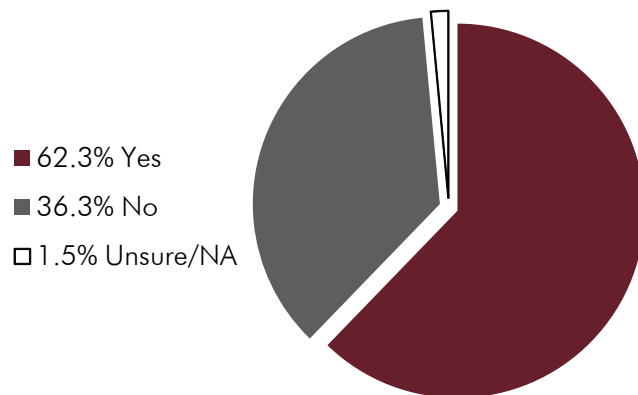
Demographic categories with a significantly lower percentage of the respondents who were aware that when the water from rain, snowmelt, or sprinklers runs off their lawn, it goes into street drains and directly into local water bodies without being cleaned included: no access to Internet at home or work (62.7%).



## Compact Fluorescent Lightbulbs

**Overview.** The following two questions on this survey were related to compact fluorescent lightbulbs and the disposal of them. The majority of the respondents have used compact fluorescent lightbulbs in their home and were satisfied with their overall experience. Of the respondents who had used compact fluorescent lightbulbs, most were not aware of the correct way to dispose of them.

**Chart 25**  
Use Compact Fluorescent Lightbulbs



Over half of the respondents (62.3%) had used compact fluorescent lightbulbs in their home, while 36.3% had not used them. Six respondents (1.5%) were unsure if they had used compact fluorescent lightbulbs in their home.

Source: 2009 Environmental Survey, question 29

Demographic categories with a significantly higher percentage of the respondents who used compact fluorescent lightbulbs included: age 25 to 34 (73.9%).

Demographic categories with a significantly lower percentage of the respondents who used compact fluorescent lightbulbs included: lived in Bedford Township (50.0%).



## Compact Fluorescent Lightbulbs

The 249 respondents who had used compact fluorescent lightbulbs in their home were asked if they liked or disliked the lightbulbs. Of those respondents, 55.8% liked the compact fluorescent lightbulbs and 18.5% did not like the lightbulbs. Twelve percent of the respondents (11.6%) were not sure if they liked or disliked the compact fluorescent lightbulbs and 14.1% chose not to answer the question. The respondents were also asked to indicate why they liked or disliked the lightbulbs. Thirty-five respondents did not indicate reasons they liked or disliked compact fluorescent lightbulbs.

### **Like**

*Like (53 respondents)*  
*Save energy (22 respondents)*  
*Save money (15 respondents)*  
*Last longer (10 respondents)*  
*Bright (5 respondents)*  
*Cheap (3 respondents)*  
*Just because (2 respondents)*  
*No reason not to (2 respondents)*  
*Alright*  
*Bright and last longer*  
*Convenient*  
*Doing something positive*  
*Don't last as long*  
*Feel more energized*  
*Good color and cheap*  
*Good color and last longer*  
*Good for certain rooms in house*  
*Good light for garage*  
*Last longer, use less energy*  
*Love them, good light*  
*No problems with them*  
*Not as bright, but for a good cause*  
*Not beautiful*  
*Not much difference*  
*Not sure why*  
*OK*  
*Seem to work fine*  
*They are nifty*  
*They're better lights*  
*They're fine*  
*They're nice*  
*They're okay*  
*They're okay in some rooms*  
*Used to them*  
*Work well*

### **Dislike**

*Too dim (11 respondents)*  
*Dislike (6 respondents)*  
*Contain mercury (3 respondents)*  
*Don't last long (3 respondents)*  
*Bad color*  
*Bothers eyes*  
*Burn out fast*



## Compact Fluorescent Lightbulbs

### **Dislike - continued**

Color of light  
Dark  
Darker and blow easily  
Didn't last  
Hard to dispose of  
Hard to replace  
It has bad light  
Just because  
More hazardous  
Not fashionable  
Not much light  
Not natural color  
Sizes are complicated  
Slow to get bright  
Switches are easy  
Takes too long to turn on  
They don't work well  
They're dimmer  
Too bright  
Type of light it gives off

### **Neutral**

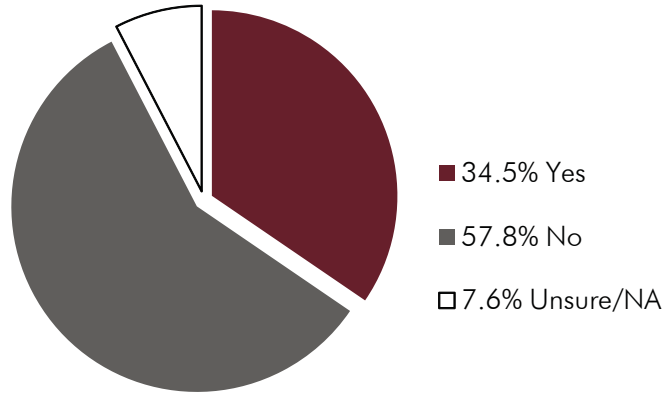
Neutral (16 respondents)  
They're okay (3 respondents)  
They're okay, too dim (2 respondents)  
Just because  
No difference, last longer  
No reason  
Okay, color of light is okay  
Still deciding  
They're fine  
They're okay, no differences really



Chart 26

Compact Fluorescent Lightbulb Disposal

The 249 respondents who had used compact fluorescent lightbulbs in the past were then asked the question, "Did you know the best way to dispose of compact fluorescent lightbulbs is to take them to a household hazardous waste collection event?" Over half (57.8%) of the respondents were not aware of the best way to dispose of compact fluorescent lightbulbs and 34.5% of the respondents were aware. Nineteen of the 249 respondents (7.6%) were unsure if they were aware of the best way to dispose of compact fluorescent lightbulbs.



Source: 2009 Environmental Survey, question 30

Demographic categories with a significantly higher percentage of the respondents who did not know the best way to dispose of compact fluorescent lightbulbs was at a hazardous waste collection event included: age 25 to 34 (76.5%).

There were no demographic categories with a significantly lower percentage of the respondents who did not know the best way to dispose of compact fluorescent lightbulbs was at a hazardous waste collection event.



## Climate Change or Global Warming

**Overview.** Most respondents recognized we are in a period of climate change or global warming and have made changes such as driving less, using compact florescent lightbulbs, and insulating their homes to help stop climate change/global warming and to save energy. The majority of respondents believed that climate change or global warming was a serious matter brought on by both people and natural causes and is a reason for the rise in sea level, melting polar ice caps, and severe shifts in the weather. The respondents also felt the best way to reduce our dependence on foreign oil was to support alternative energy projects and energy saving efforts.

**Chart 27**  
Stop Climate Change or Global Warming

	% Respondents
None	37.3%
Drive less	14.5%
Compact florescent lights	11.0%
Insulate home	9.3%
Use Energy Star appliances	5.3%
Weatherizing home	3.5%
Hybrid vehicle	2.3%
Buy locally grown food	1.3%
Keep heat down	0.8%
Alternative forms of energy	0.3%
Other	11.8%
Unsure/NA	13.8%

All 400 respondents were asked if they had made changes to their lifestyle or home to help stop climate change or global warming. The respondents were not prompted for this question. Over one-third of respondents (37.3%) had not made any changes. The most common changes that respondents did make to their lifestyle or home included: drove less (14.5%), used compact florescent lightbulbs (11.0%), and insulated their home (9.3%). Fourteen percent of the respondents (13.8%) were unsure if they had made changes to their lifestyle or home to help stop climate change or global warming. The chart totals more than 100% as the respondents could name multiple changes they had made to their lifestyle or home.

Source: 2009 Environmental Survey, question 6

\*Chart totals more than 100% as respondents could give more than one response.

Forty-seven respondents named other changes they had made to their lifestyle or home, which included:

**7 Respondents**  
New windows

**5 Respondents**  
Turn lights off



**1 Respondent**

- Burn fire wood*
- Burn instead of trashing*
- Burn less fuel*
- Careful about driving*
- Conserve water*
- Don't use chemicals often*
- Don't use plastic bags; solar cover on pool*
- Draft protector under doors*
- Fire burner outside*
- Good plastics for landfill*
- Green cleaning supplies*
- Less light*
- Low energy appliances*
- Lower heat, conserve water*
- Lower house temperature*
- Made everything energy efficient in home*
- More efficient furnace*
- New heater in home*
- No chemicals*
- No hairspray and pesticides*
- Organic support*
- Recycle plastics with friends*
- Reuse grocery store bags*
- Reusing*
- Save water*
- Turn heat down*
- Turn heat down and lights off*
- Turn heat down; less light usage*
- Turning faucet off, turning lights off*
- Unplugging*
- Use grocery bags as trash bags*
- Use less heat*
- Use less lights*
- Uses green cleaning products*
- Walk to work*

Demographic categories with a significantly higher percentage of the respondents who did not make any changes to their lifestyle or home to help stop climate change or global warming included: no access to the Internet at home or work (48.2%) and one person living in household (47.9%).

Demographic categories with a significantly lower percentage of the respondents who did not make any changes to their lifestyle or home to help stop climate change or global warming included: three people living in household (19.8%).



**Chart 28**  
Reduce Energy Consumption

	% Respondents
None	20.3%
Insulate home	21.3%
Compact fluorescent lights	16.8%
Drive less	15.8%
Keep heat down	15.0%
Use Energy Star appliances	9.0%
Weatherizing home	5.0%
New windows	4.3%
Hybrid vehicle	2.3%
Buy locally grown food	1.0%
Alternative forms of energy	0.5%
Other	20.8%
Unsure/NA	4.8%

The respondents were then asked the question, “In order to save money and energy, what actions have you taken to reduce energy consumption?” The respondents were not prompted for this question. Twenty percent of the respondents (20.3%) had not taken any actions to reduce energy consumption in order to save money. Similar to the changes the respondents had made to help stop climate change or global warming, insulate home (21.3%), use of compact fluorescent lightbulbs (16.8%), and drive less (15.8%) were the top three actions taken to reduce energy consumption. Nineteen respondents (4.8%) were unsure if they had taken action to reduce energy consumption. The chart totals more than 100% as the respondents could name multiple actions they had.

Source: 2009 Environmental Survey, question 7

\*Chart totals more than 100% as the respondents could give more than one response.

Eighty-three respondents named other actions they had taken. One of the respondents did not give an answer. Other responses included:

**16 Respondents**

*Turn lights off*

**7 Respondents**

*Unplug things that are not being used*

**5 Respondents**

*Less lights*

**4 Respondents**

*New furnace*

**2 Respondents**

*Burn wood*

*Save water*



**1 Respondent**

- Automatic thermostat*
- Burn instead of trashing*
- Conservative use*
- Conserve water and electricity*
- Dialing down*
- Doesn't keep heat on when they are not home*
- Don't leave TV on*
- Draft protector under doors*
- Energy saving utilities*
- Fire burner outside*
- Garden*
- Geothermal system*
- Grow food naturally*
- Just use less energy*
- Keep doors closed*
- Keep lights off during day, one TV on at a time*
- Laundry less*
- Low energy utilities*
- Made everything energy efficient in home*
- Minimize usage*
- More efficient heater*
- New doors*
- New roof*
- New roof, siding*
- No heater*
- Only turn on one light in the evening*
- Programmable thermostat*
- Propane fireplace instead of heat*
- Recycle Wal-Mart bags*
- Replaced furnace*
- Reusable bags*
- Ride bike*
- Safe heater*
- Shut bedroom doors so heat is low, don't use a lot of light*
- Shut off computer at night*
- Turn computer off*
- Turn down furnace*
- Turn heat down*
- Turn heat down at night*
- Turn heat off*
- Turn off lights/television*
- Turning off lights, unplugging things*
- Turning things off*
- Use less electricity*
- Use less water*
- Window plastic*

There were no demographic categories with a significantly higher percentage of the respondents who insulated their home to reduce energy consumption.

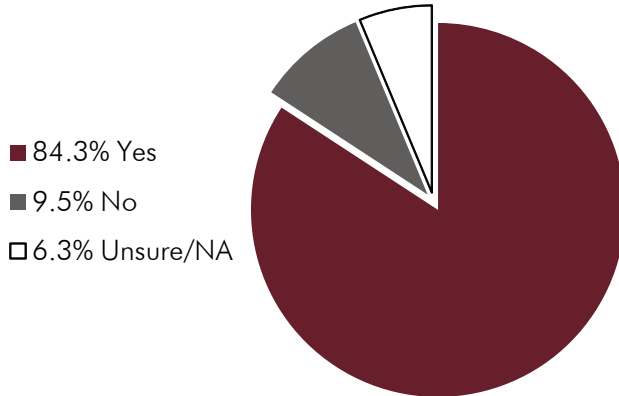
Demographic categories with a significantly lower percentage of the respondents who insulated their home to reduce energy consumption included: age 25 to 34 (6.5%) and lived in Pennfield Township (11.1%).



## Climate Change or Global Warming

**Chart 29**

### Aware of Climate Change or Global Warming



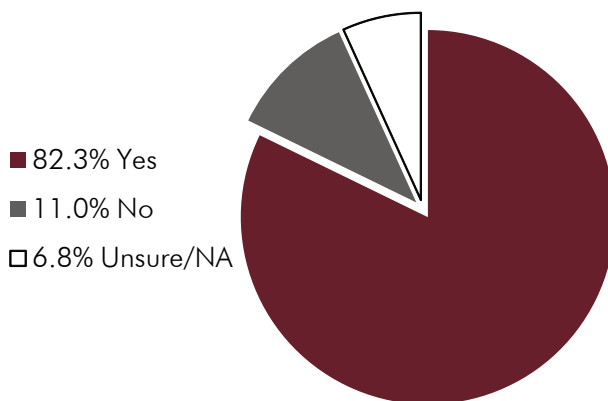
When the respondents were asked if they were aware that we are in a period of climate change or global warming, 84.3% were aware, while 9.5% were not aware. Twenty-five respondents (6.3%) were unsure if we are in a period of climate change or global warming.

Source: 2009 Environmental Survey, question 13

There were no demographic categories with a significantly higher or lower percentage of the respondents who were aware that we are in a period of climate change or global warming.

**Chart 30**

### Aware of Effects of Climate Change or Global Warming



The respondents were then asked if they were aware that climate change or global warming can cause a rise in sea level, melting polar ice caps, and severe shifts in the weather. The majority of the respondents (82.3%) were aware, compared to 11.0% of the respondents who were not aware. Twenty-seven respondents (6.8%) were unsure if climate change or global warming could cause a rise in sea level, melting polar ice caps, and severe shifts in the weather.

Source: 2009 Environmental Survey, question 14

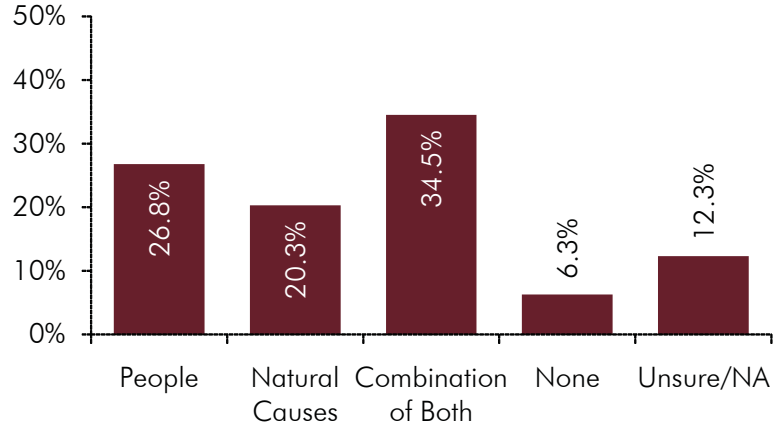
There were no demographic categories with a significantly higher or lower percentage of the respondents who were aware that climate change or global warming can cause a rise in sea level, melting polar ice caps, and severe shifts in the weather.



Chart 31

Causes of Climate Change or Global Warming

When asked if the respondents felt climate change or global warming was caused by people or natural causes, the most common response was a combination of both (34.5%). Just over one-quarter (26.8%) felt climate change or global warming was caused by people, while 20.3% felt it was caused by natural causes. Six percent of the respondents (6.3%) felt climate change or global warming was not caused by either of them and 12.3% of the respondents were unsure.



Source: 2009 Environmental Survey, question 15

Demographic categories with a significantly higher percentage of the respondents who felt climate change or global warming was caused by a combination of both people and natural causes included: age 25 to 34 (47.8%).

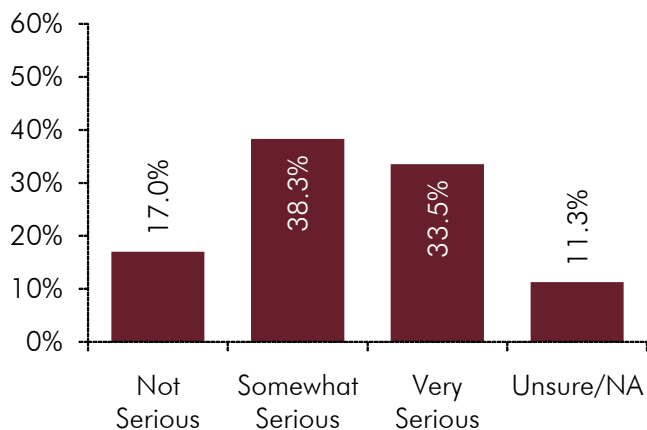
There were no demographic categories with a significantly lower percentage of the respondents who felt climate change or global warming was caused by a combination of both people and natural causes.



## Climate Change or Global Warming

**Chart 32**

### Seriousness of Climate Change or Global Warming



All 400 of the respondents were asked how serious they believed climate change or global warming to be. Thirty-eight percent of the respondents (38.3%) believed it to be somewhat serious, compared to 33.5% who felt it was very serious. Only 17.0% of the respondents believed climate change or global warming was not serious and 11.3% were unsure.

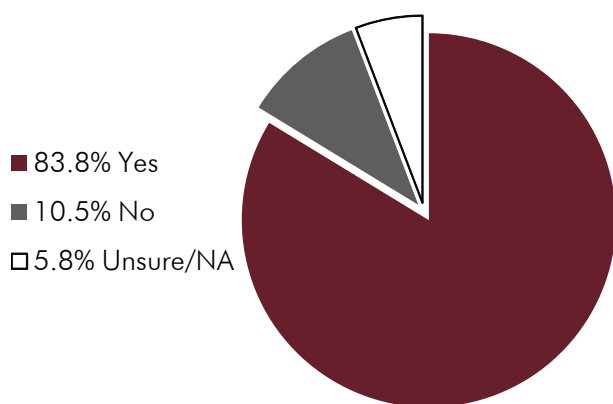
Source: 2009 Environmental Survey, question 16

Demographic categories with a significantly higher percentage of the respondents who believed climate change or global warming was somewhat serious included: bachelor's degree (53.3%) and lived in Bedford Township (57.9%).

Demographic categories with a significantly lower percentage of the respondents who believed climate change or global warming was somewhat serious included: some college (26.6%) and age 35 to 44 (28.3%).

**Chart 33**

### Reduce Dependence on Foreign Oil



All 400 respondents were asked the following question, "Do you feel the best way to reduce our dependence on foreign oil is to support alternative energy projects and energy saving efforts?" The majority of respondents (83.8%) felt supporting alternative energy projects and energy saving efforts is the best way to reduce our dependence on foreign oil, compared to 10.5% who did not feel that is the best way. Six percent of respondents (5.8%) were unsure.

Source: 2009 Environmental Survey, question 19

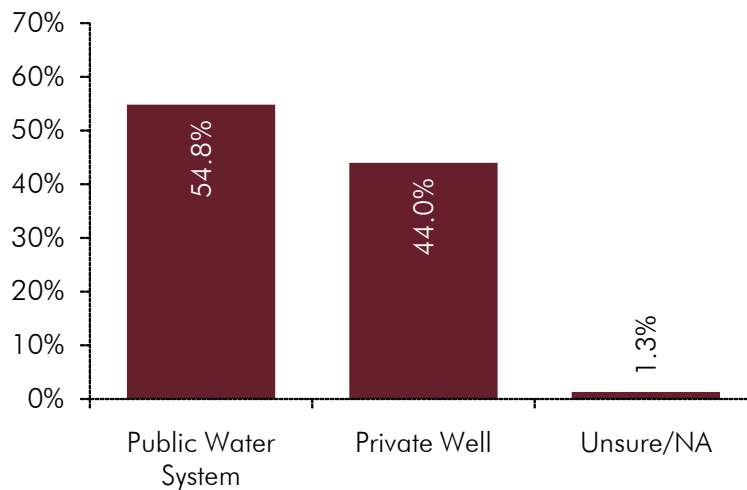
There were no demographic categories with a significantly higher or lower percentage of the respondents who felt the best way to reduce our dependence on foreign oil is to support alternative energy projects and energy saving efforts.



**Overview.** There was close to an even split of the respondents who had water from a public water system and the respondents who had water from a private well. Of the respondents who had water from a public water system, almost all of the water came from the City of Battle Creek water system and over half of those respondents read the city’s Annual Water Quality Report. Very few respondents had unused or abandoned wells on their property, however, the respondents were aware that the private wells should be tested every year. When discussing the drinking water respondents have in their homes, about half of the respondents drank filtered or bottled water because of the improved taste and health concerns. The respondents would definitely be receptive if they were to receive information regarding recycling, energy saving methods, and water quality protection methods, given that almost all of the respondents said they would read a bill stuffer in relation to it. Just over one-third of the respondents had a septic system and were aware that routine cleanings of septic tanks are necessary every two or three years to protect water resources.

**Chart 34**  
Water in Home

All of the respondents were asked to indicate if the water in their home comes from a public water system or a private well. Over half of the respondents (54.8%) had water from a public water system, while 44.0% had water from a private well. There were five respondents (1.3%) who were unsure of where the water in their home came from.



Source: 2009 Environmental Survey, question 31

Demographic categories with a significantly higher percentage of the respondents who had a public water system included: graduate degree (69.2%) and lived in the City of Battle Creek (78.5%).

Demographic categories with a significantly lower percentage of the respondents who had a public water system included: bachelor’s degree (44.0%), lived in Bedford Township (5.3%), lived in Emmett Township (16.3%), and lived in Pennfield Township (22.2%).



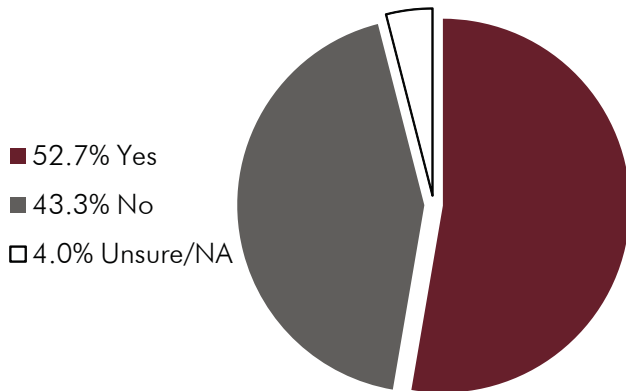
## Water/Sewer Service

The 219 respondents who had water in their home from a public water system, were asked to indicate which water system it came from. Twenty-five respondents (11.4%) were unsure which public water system supplied their home. Other public water systems included:

**189 Respondents**  
Battle Creek

**1 Respondent**  
ABC Water  
Emmett Township  
Harper Creek  
Springfield  
Township

**Chart 35**  
Read the City's Annual Water Quality Report



There were 224 respondents who either indicated the water in their home came from a public water system or were unsure. Over half of those respondents (52.7%) read the city's Annual Water Quality Report, which is mailed to residents annually and could be viewed online at the City of Battle Creek's website. Just over forty-three percent (43.3%) of the respondents did not read the city's annual report and 4.0% were unsure if they had read it.

Source: 2009 Environmental Survey, question 19

Demographic categories with a significantly higher percentage of the respondents who read the city's Annual Water Quality Report included: bachelor's degree (75.8%), graduate degree (66.7%), and age 55 to 64 (64.5%).

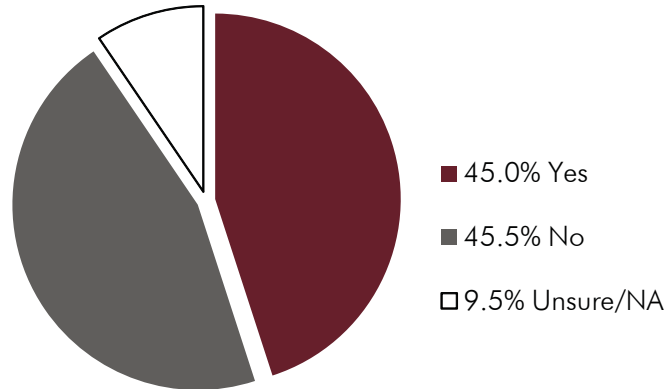
There were no demographic categories with a significantly lower percentage of the respondents who read the city's Annual Water Quality Report.



Chart 36

### Recommend Private Wells be Tested

When the 400 respondents were asked if they were aware that every year it is recommended private wells be tested, 45.5% of the respondents were not aware, compared to 45.0% of the respondents who were aware. Ten percent (9.5%) were unsure.



Source: 2009 Environmental Survey, question 33

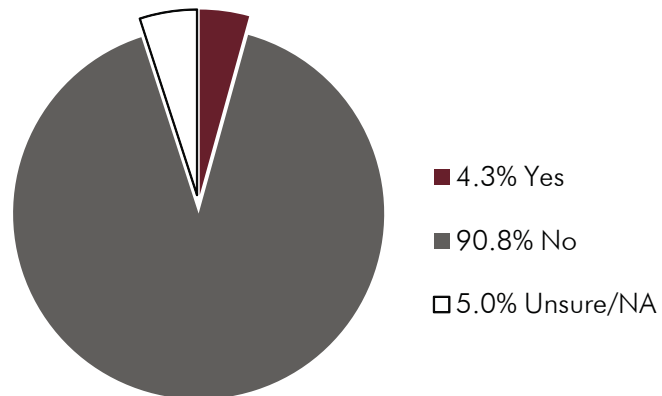
Demographic categories with a significantly higher percentage of the respondents who were not aware that every year it is recommended that private wells be tested included: age 18 to 24 (60.0%).

Demographic categories with a significantly lower percentage of the respondents who were not aware that every year it is recommended that private wells be tested included: lived in Bedford Township (28.9%) and lived in Pennfield Township (27.8%).

Chart 37

### Unused or Abandoned Wells on Property

The respondents were asked if there were any unused or abandoned wells on their property. The majority of the respondents (90.8%) did not have any unused or abandoned wells on their property. Only 4.3% of the respondents had unused or abandoned wells on their property and 5.0% were unsure.



Source: 2009 Environmental Survey, question 34

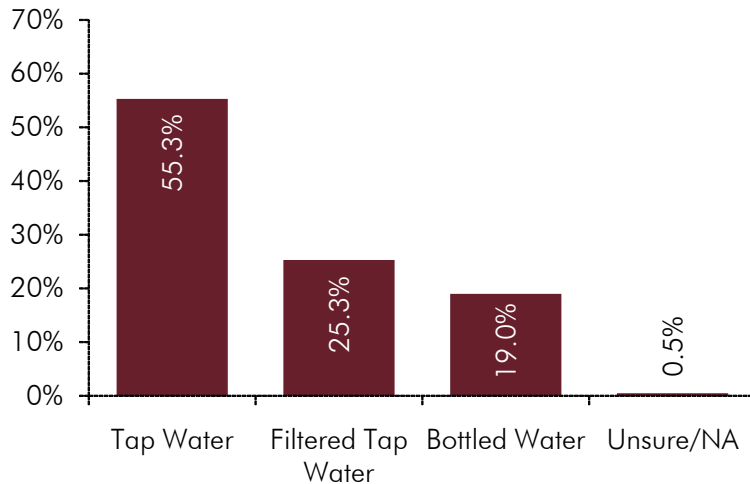
There were no demographic categories with a significantly higher percentage of the respondents who did not have abandoned or unused wells on their property.

Demographic categories with a significantly lower percentage of the respondents who did not have abandoned or unused wells on their property included: bachelor's degree (80.0%), age 25 to 34 (80.4%), and lived in Pennfield Township (80.6%).



## Water/Sewer Service

**Chart 38**  
Primary Source of Drinking Water



The survey respondents were then asked to indicate their primary source of drinking water in their household. Just over half (55.3%) of the 400 respondents got their drinking water straight from the tap, while 25.3% of the respondents had filtered tap water, such as Brita or PUR filters. Nineteen percent of the respondents (19.0%) had bottled water as their primary source of drinking water in their household and two respondents (0.5%) were unsure of their primary source of drinking water.

Source: 2009 Environmental Survey, question 35

Demographic categories with a significantly higher percentage of the respondents who drank water straight from the tap included: lived in Bedford Township (76.3%) and no access to the Internet at home or work (66.3%).

Demographic categories with a significantly lower percentage of the respondents who drank water straight from the tap included: associates degree (42.6%) and lived in Pennfield Township (44.4%).

**Chart 39**  
Filtered or Bottled Drinking Water

	% Respondents
Improved taste	60.5%
Health concerns	31.6%
Improved clarity	15.3%
Other	9.0%
Unsure/NA	3.4%

The 177 respondents who drank filtered or bottled water were asked why. Sixty-one percent (60.5%) of the respondents indicated they drank filtered or bottled water because of improved taste, while 31.6% indicated it was because of health concerns. Fifteen percent (15.3%) of the respondents said they drank filtered or bottled water because it had improved clarity, and six respondents (3.4%) were unsure.

Source: 2009 Environmental Survey, question 36



Sixteen respondents indicated other reasons why they drank filtered or tap water, which included:

**4 Respondents**

*Convenience*

**2 Respondents**

*Convenient size*

**1 Respondent**

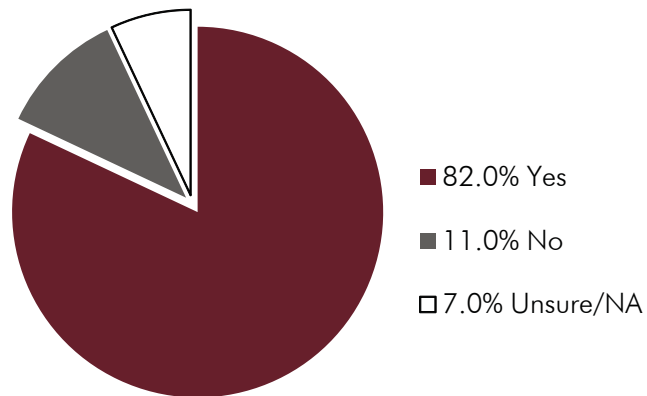
- Came with fridge*
- Cost; cheaper than bottled*
- Doesn't lime up unit*
- Don't trust well water*
- Habit*
- Husband works*
- Just always have*
- Soft water*
- Water too hard*
- Well water bad*

Demographic categories with a significantly higher percentage of the respondents who drank filtered or bottled water because of the improved taste included: age 35 to 44 (73.1%).

Demographic categories with a significantly lower percentage of the respondents who drank filtered or bottled water because of the improved taste included: no access to the Internet at home or work (42.9%).

**Chart 40**  
Informative Bill Stuffer

Respondents were asked the question, "If a bill stuffer contained information on recycling, ways to save energy and ways to protect water quality, would you read it?" Of the 400 respondents, 82.0% would read it, while 11.0% of the respondents would not read it. Twenty-eight respondents (7.0%) were unsure if they would read the bill stuffer.



Source: 2009 Environmental Survey, question 37

There were no demographic categories with a significantly higher or lower percentage of the respondents who were interested in reading a bill stuffer.



## Water/Sewer Service

The 44 respondents who would not read the bill stuffer were asked why. Eighteen respondents were unsure why they would not read the bill stuffer. Other responses included:

**7 Respondents**

*Not Interested*

**4 Respondents**

*Lazy*

**3 Respondents**

*Can't see very well*

**2 Respondents**

*Already do*

*Boring*

**1 Respondent**

*Already get enough water advertising*

*Already know a lot*

*Already read the other report*

*Already receive a lot of information*

*Busy*

*Not necessary to read, already know*

*Read a lot*

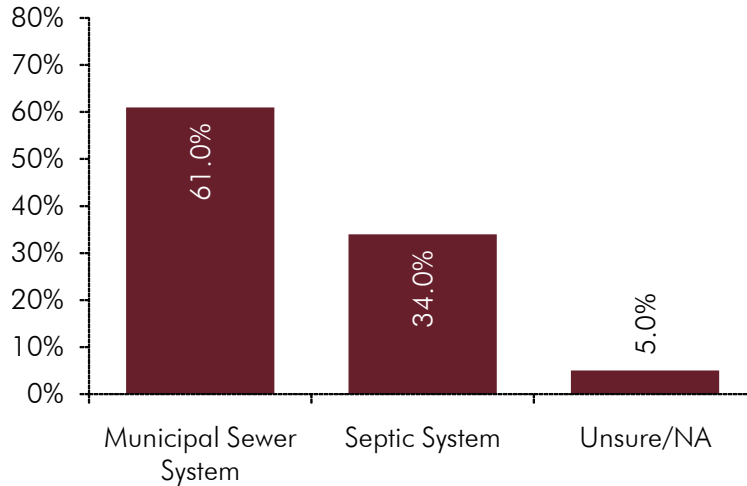
*Waste of time*



Chart 41

Municipal Water System or Septic Tank

When asked if the respondent's home was served by a municipal sewer or septic system, 61.0% had a municipal sewer system, compared to 34.0% who had a septic system. Twenty respondents (5.0%) were unsure if they had a municipal sewer system or septic system in their home.



Source: 2009 Environmental Survey, question 38

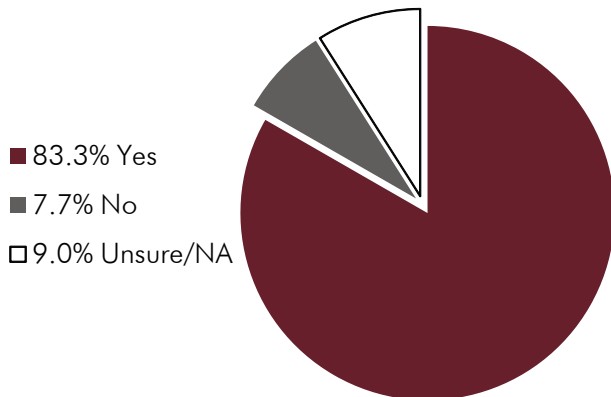
Demographic categories with a significantly higher percentage of the respondents who had a municipal sewer system included: graduate degree (84.6%) and lived in the City of Battle Creek (80.7%).

Demographic categories with a significantly lower percentage of the respondents who had a municipal sewer system included: associates degree (50.8%), lived in Bedford Township (15.8%), lived in Emmett Township (26.5%), lived in Pennfield Township (38.9%), and no access to the Internet at home or work (49.4%).



## Water/Sewer Service

**Chart 42**  
Aware of Routine Cleanings



There were 156 respondents that had indicated they had a septic system in their home. The 156 respondents were then asked if they were aware that routine cleanings of septic tanks are necessary every two or three years to protect water resources. The majority (83.3%) of the respondents were aware that routine cleanings were necessary, while only 7.7% were not aware. Fourteen respondents (9.0%) were unsure if routine cleanings of septic tanks were necessary every two or three years to protect water resources.

Source: 2009 Environmental Survey, question 39

Demographic categories with a significantly higher percentage of the respondents who were aware that routine cleanings of septic tanks were necessary every two to three years included: bachelor's degree (96.4%), age 45 to 54 (100.0%), and lived in Bedford Township (93.8%).

Demographic categories with a significantly lower percentage of the respondents who were aware that routine cleanings of septic tanks were necessary every two to three years included: lived in the City of Battle Creek (67.4%).

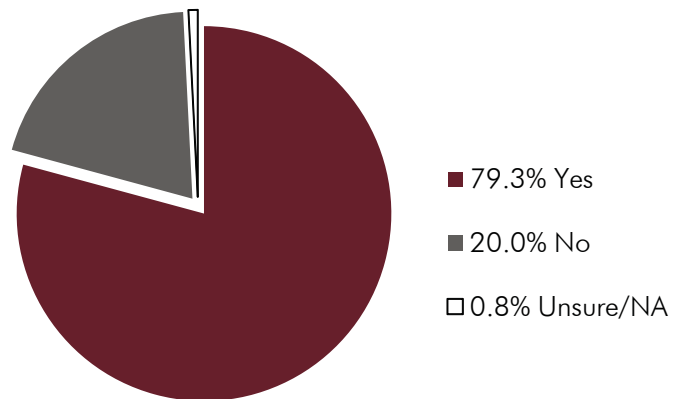


**Overview.** Overall, respondents were very willing to assist in the conservation and protection of water quality. The respondents were aware that the major source of drinking water comes from groundwater, and not from local lakes, rivers, and streams, and would be willing to pay additional money each month to protect those lakes and streams. The majority of the respondents would also support ordinances and stricter building requirements to protect the quality of water and to help conserve energy.

Chart 43

Major Source of Drinking Water

The respondents were asked if they knew the major source of drinking water comes from groundwater, and not from local lakes, rivers, and streams. Most respondents (79.3%) were aware of where the major source of drinking water comes from, compared to 20.0% of the respondents who did not know. Three respondents (0.8%) were unsure.



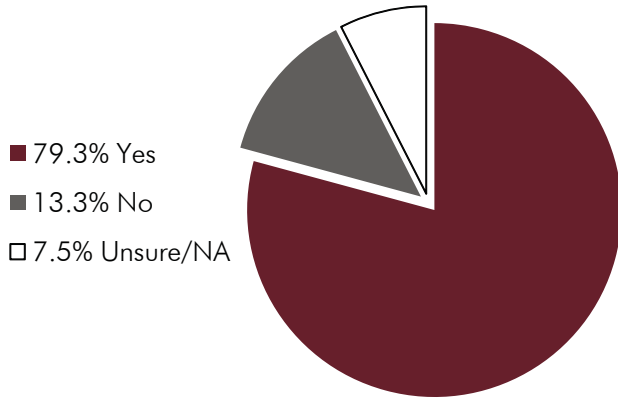
Source: 2009 Environmental Survey, question 8

There were no demographic categories with a significantly higher or lower percentage of the respondents who knew the major source of drinking water comes from groundwater.



## Water Protection

**Chart 44**  
Support Ordinances



The 400 survey respondents were then asked if they would support ordinances that gave local governments greater authority to protect the quality of water and helped conserve energy. Close to eighty percent (79.3%) of the respondents would support the ordinances, while 13.3% of the respondents would not. Eight percent of the respondents (7.5%) were unsure if they would support ordinances that gave local governments greater authority to protect the quality of water and helped conserve energy.

Source: 2009 Environmental Survey, question 17

Demographic categories with a significantly higher percentage of the respondents who would support ordinances that gave local governments greater authority to protect the quality of water and helped conserve energy included: graduate degree (92.3%).

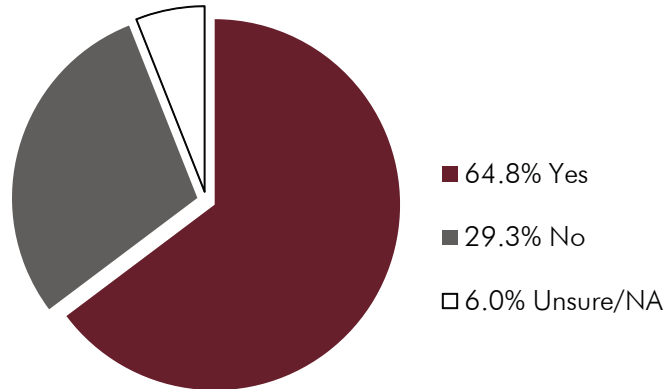
There were no demographic categories with a significantly lower percentage of the respondents who would support ordinances that gave local governments greater authority to protect the quality of water and helped conserve energy.



Chart 45

Pay Government to Protect Water

When the respondents were asked if they would be willing to pay \$2 per month to their local government to protect lakes and streams against phosphorus and other pollutants, 64.8% would pay additional money, while 29.3% would not. Twenty-four respondents (6.0%) were unsure if they would pay \$2 per month to their local government to protect lakes and streams against phosphorus and other pollutants.



Source: 2009 Environmental Survey, question 18

Demographic categories with a significantly higher percentage of the respondents who would be willing to pay \$2 per month to their local government to protect lakes and streams against phosphorus and other pollutants included: graduate degree (84.6%) and four people in household (76.0%).

Demographic categories with a significantly lower percentage of the respondents who would be willing to pay \$2 per month to their local government to protect lakes and streams against phosphorus and other pollutants included: age 18 to 24 (51.4%) and age 25 to 34 (45.7%).

The 117 respondents who would not be willing to pay \$2 per month to their local government to protect lakes and streams against phosphorus and other pollutants were asked why. Thirty-nine respondents were unsure. Other responses included:

**20 Respondents**

*Can't afford it*

**7 Respondents**

*Already pay enough money*

*Take enough money*

**4 Respondents**

*Don't want to pay*

**3 Respondents**

*Already give government money*

*Already pay taxes*

*Don't need to*

*Take it from taxes*

*Taxed too much already*

*Won't use it for that*



## Water Protection

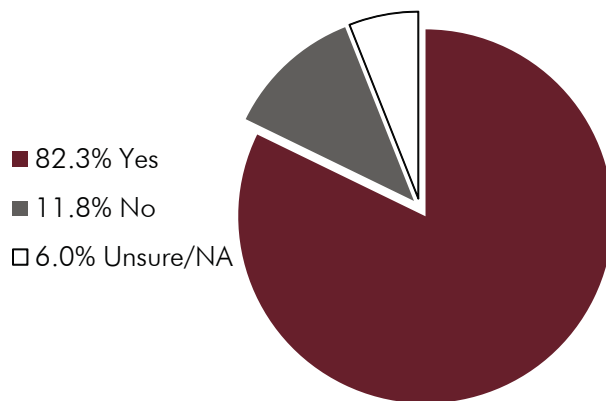
### 2 Respondents

Don't need more money  
Should already be doing that

### 1 Respondent

Battle Creek needs 70% of employees for the solar plant to live outside Battle Creek so Battle Creek residents can't get a job when they used a lot of tax credits to build the plant. The federal funding put that stipulation in  
Can't trust where money goes  
Could use the \$2 they take in taxes already  
Depends on action taken  
Do other things  
Don't handle my own finances anymore  
Don't like the government  
Don't think it will help  
Don't think it's necessary  
Enough private money  
Give too much control to government  
Should use money from fishing licenses  
Squandered too much already  
The government needs to spend their money wiser  
That's bologna  
They should be able to take out of our property tax  
They should use the recently provided government grant to do so  
We already pay income tax

**Chart 46**  
Support Stricter Building Requirements



Respondents were then asked if they support stricter building requirements for new buildings that would help conserve water and be more energy efficient. Of the 400 respondents, 82.3% would support stricter building requirements, while 11.8% would not support them. Twenty-four respondents (6.0%) were unsure if they would support stricter building requirements for new buildings that would help conserve water and be more energy efficient.

Source: 2009 Environmental Survey, question 20

There were no demographic categories with a significantly higher or lower percentage of the respondents who would support stricter building requirements for new buildings that would help conserve water and be more energy efficient.

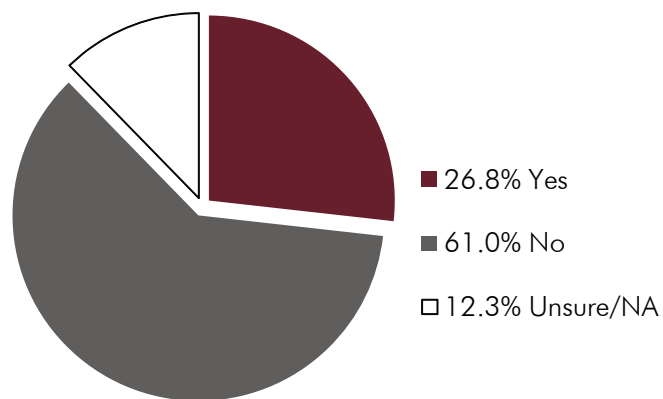


**Overview.** The following section of the report looks into how aware the respondents were of water quality and recycling. Over half of the respondents recalled seeing the Clean Water logo in the past, with the most common places being on road signs, public events, and near waterways. The most common places for the respondents to have seen water quality and recycling advertising was in newspapers, on television, and in magazines. After seeing or hearing advertisements, more than half of the respondents had not taken any actions to protect water quality or to recycle.

**Chart 47**

### Recall Clean Water Logo

The respondents were asked if they recall seeing the Clean Water logo. Over half of the respondents (61.0%) did not recall seeing the Clean Water logo, while only 26.8% did recall seeing the logo. Forty-nine respondents (12.3%) were unsure if they recalled seeing the Clean Water logo.



Source: 2009 Environmental Survey, question 47

Demographic categories with a significantly higher percentage of the respondents who did not recall seeing the clear water Clean Water logo included: age 18 to 24 (85.7%) and four people living in household (72.0%).

Demographic categories with a significantly lower percentage of the respondents who did not recall seeing the clear water Clean Water logo included: associates degree (42.6%) and age 55 to 64 (48.3%).



## Awareness of Water Quality and Recycling

**Chart 48**

### Where You Recall Seeing the Clean Water Logo

	% Respondents
Signs on the road	30.8%
Public events	7.7%
Near waterways	4.8%
Pre-movie advertisements	1.0%
Other	19.6%
Unsure/NA	36.5%

The 107 respondents who recalled seeing the Clean Water logo were asked where they saw the logo. The respondents were not prompted for this question. The respondents recalled seeing the Clean Water logo on signs on the road (30.8%), public events (7.7%), and near waterways (4.8%). One-third of the respondents (36.5%) were unsure of where they saw the Clean Water logo.

Source: 2009 Environmental Survey, question 41

Twenty-one respondents recalled seeing the Clean Water logo in other areas:

**2 Respondents**

*Television*

**1 Respondent**

*Besco water systems*

*Billboards*

*Bills from the city*

*Brochure from city*

*Buildings*

*Bumper sticker*

*City newsletter*

*In the mail*

*In the newspaper they get in the mail*

*Mall*

*On a truck*

*Polling station*

*Signs*

*Someone came door-to-door telling me about it*

*Television, government advertising*

*Textbook in school*

*Water bills and other mail*

*Water tower*

*Work at Lowe's*

Demographic categories with a significantly higher percentage of the respondents who recalled seeing the Clean Water logo on road signs included: some college (48.0%).

There were no demographic categories with a significantly lower percentage of the respondents who recalled seeing the Clean Water logo on road signs.



Chart 49

Saw Water Quality and Recycling Advertising

The respondents were then asked the question, "Where have you seen water quality and recycling advertising?" The respondents were not prompted for this question. Forty percent of the respondents (40.3%) had never seen an advertisement. Seventeen percent of the respondents (16.5%) had seen advertising in newspapers, followed by television (15.8%), and magazines (7.0%). Just over sixteen percent of the respondents (16.3%) were unsure where they had seen or heard water quality and recycling advertising. The chart totals more than 100% as the respondents could name multiple places they had seen water quality and recycling advertising.

	% Respondents
Have never seen an advertisement	40.3%
Newspapers	16.5%
Television	15.8%
Magazines	7.0%
Pre-movie advertisements	2.3%
Community reports	2.0%
School courses or programs	2.0%
At community events	1.0%
Lakeview Square Mall displays	0.8%
YMCA Battle Creek advertisements	0.3%
Other	9.8%
Unsure/NA	16.3%

Source: 2009 Environmental Survey, question 42

\*Chart totals more than 100% as the respondents could give more than one response.

Thirty-nine respondents named other areas where respondents had seen or heard water quality and recycling advertising. One respondent chose not to answer. Other responses included:

**3 Respondents**

- Billboards
- Grocery store
- Mail
- Website

**2 Respondents**

- Internet
- Phonebook
- Work

**1 Respondent**

- Ads from garbage company
- Building, products
- Cars
- City signs
- City water bill
- Flyers



## Awareness of Water Quality and Recycling

### 1 Respondent - continued

- Newsletters
- On boxes or product, ink cartridges
- On recycling bin
- On the road; products
- Parks, garbage disposal
- Radio
- School
- Shopper
- Signs near rivers
- Soccer event
- Township office
- Trucks
- Work bins
- Work, green team

Demographic categories with a significantly higher percentage of the respondents who had never seen or heard advertising for water quality and recycling included: age 18 to 24 (54.3%).

Demographic categories with a significantly lower percentage of the respondents who had never seen or heard advertising for water quality and recycling included: associates degree (24.6%).

### Chart 50

#### Where You Recall Seeing Water Quality and Recycling Ads

	% Respondents
None	44.8%
Newspapers	34.7%
Pre-movie advertisements	13.4%
Lakeview Square Mall displays	5.4%
WBXX 104.1 radio announcements	2.1%
Unsure/NA	7.1%

Source: 2009 Environmental Survey, question 43

\*Chart totals more than 100% as the respondents could give more than one response.

only five respondents (2.1%) had heard them on WBXX 104.1 radio announcements. Seventeen respondents (7.1%) were unsure where they had seen or heard advertisements of water quality and recycling. The chart totals more than 100% as the respondents could name multiple places they had seen or heard water quality and recycling advertising.

The 239 respondents who had seen or heard water quality and recycling advertising were then asked if they had seen or heard the advertising in four places: pre-movie advertisements at West Columbia 7, WBXX 104.1 radio advertisements, newspapers, or Lakeview Square Mall displays. Close to half of the respondents (44.8%) had not seen or heard advertising in any of the four specific places. Just over one-quarter (34.7%) had seen advertising in the newspapers, while 13.4% had seen pre-movie advertisements at West Columbia 7. Five percent of the respondents (5.4%) had seen advertisements on Lakeview Square Mall displays and



Chart 51

Actions to Protect Water Quality and Recycling

Of the 132 respondents who had seen or heard water quality and recycling advertising at West Columbia 7, WBXX 104.1 radio, newspapers, or Lakeview Square Mall displays, 53.0% had not taken any actions to protect water quality or to recycle. Six percent of the respondents (6.1%) have told a friend, family member or relative about water quality and recycling and 5.3% sought additional information.

	% Respondents
Nothing	53.0%
Told friend/family/relative	6.1%
Sought additional information	5.3%
Protect water quality	3.8%
Other	15.9%
Unsure/NA	15.9%

Source: 2009 Environmental Survey, question 44

Five respondents (3.8%) had taken the following actions to protect water quality, which included:

**2 Respondents**

*Filtering*

**1 Respondent**

*Filtered water  
Not using pesticides  
Using less*

Twenty-one respondents took the following actions after seeing or hearing water quality and recycling advertisements:

**6 Respondents**

*Keep recycling everything I can*

**3 Respondents**

*Recycle*

**2 Respondents**

*Recycle more*

**1 Respondent**

*Collecting jars to recycle  
Conserve water (limiting laundry loads)  
Considered rain barrel  
Got number for place to recycle batteries  
New type of filtration for house  
Pays close attention to what they are throwing away  
Planning to buy a Brita  
Recycle paper  
Reduced consumption  
Try to recycle as much as possible*



## Awareness of Water Quality and Recycling

Demographic categories with a significantly higher percentage of the respondents who had not taken actions to protect water quality or to recycle included: bachelor's degree (68.0%) age 65 or older (66.7%).

Demographic categories with a significantly lower percentage of the respondents who had not taken actions to protect water quality or to recycle included: age 45 to 54 (34.6%).



**Younger Generation.** Throughout the study there are many instances where respondents age 18 to 24 were less aware than any other age groups about environmental issues. For example, when respondents were asked if they reduce, reuse, or recycle, 65.7% of respondents age 18 to 24 indicated that they did, compared to nearly eighty percent (79.3%) of the entire sample.

When all respondents were asked why they don't reduce, reuse, or recycle, the most common responses were no time, no space, and indicated cost was a factor. However, for the 12 respondents age 18 to 24 who do not reduce, reuse, or recycle; half were unsure of why they didn't reduce, reuse, or recycle, and the remaining half said they either never thought about it, don't care to, or it costs too much. These responses suggest respondents age 18 to 24 were not constrained by time or space but by the lack of information or motivation to reduce, reuse, or recycle.

Questions that addressed supporting environmental issues in the greater Battle Creek area did not receive the same level of support from respondents 18 to 24 as other age groups. When asked the question pertaining to garbage limitations to save landfill space, respondents age 18 to 24 were less likely to support this issue (40.0%) compared to the entire sample (56.3%). Respondents age 18 to 24 were also less aware of an ordinance to prohibit the use of fertilizers containing phosphorus in the City of Battle Creek, and less likely to support paying the government \$2 per month to protect lakes and streams against phosphorus and other pollutants.

Respondents age 18 to 24 were not necessarily unwilling to recycle and support ordinances, they are just challenged by limited awareness of the issues and perhaps lack motivation to participate. Increasing awareness of benefits of recycling and supporting environmental issues among the younger generation should result in increased participation and support.

**Support for Issues.** There were a series of questions related to the support of environmental issues in the greater Battle Creek area. These issues included limiting garbage per household to save landfill space, willing to make changes to their yard to improve the environment, supporting ordinances that gave local governments greater authority to protect the quality of water, and paying the government \$2 to protect water quality against phosphorus.

Throughout the survey, respondents age 45 to 54, and those with higher levels of education are more willing to support these issues such as: planting trees, replacing their lawn with native plants, and using rain barrels. These respondents are also more willing to support local ordinances that give local government more authority to protect quality of water and conserve energy.

The results to these two questions; "Would you support ordinances that give local governments more authority to protect the quality of water and conserve energy?" and "Would you be willing to pay \$2 per month to your local government to protect our lakes and streams against phosphorus and other pollutants?" need to be carefully considered. While the percentage of respondents who support these issues are fairly high, they should not be used to predict the outcome of a vote on these issues. Since the survey did not ask respondents if they were a registered voter, and their likelihood of voting on these issues, the results of these questions should be used as guidance and not a predictive.



## Conclusions

**Advertising Effectiveness.** Respondents were asked, “Where have you seen water quality and recycling advertising?” Over forty percent (40.3%) of respondents had never seen an advertisement for water quality and recycling. Of those who had seen the advertisements, two thirds (66.7%) of respondents age 35 to 44 had seen or heard water quality advertisements, compared to forty-six percent (45.7%) of those age 18 to 24. These results indicate that the advertising such as newspapers, community reports, and school courses were more effective in reaching people 35 to 44 years old than those 18 to 24 years old. This can explain why respondents age 35 to 44 were more likely to see and recall the water quality and recycling advertisements. If the City of Battle Creek, Calhoun County Solid Waste, and the Climate Change Coalition want to increase awareness of water quality and recycling to people age 18 to 24, or other age groups, it may be necessary to look at other types and methods of advertising to more effectively reach these age groups.

**Active Recyclers.** The 317 respondents who reduce, reuse, and recycle were asked to list all of the items they recycle, that do not receive a deposit for doing so. Out of the 317 respondents who recycled, 252 respondents recycled at least two items, and 173 recycled three or more items. The number of respondents who recycled four or more items dramatically decreased to 91 respondents. These “active recyclers” who recycle four or more items are predominantly female (62.6%), and age 45 and older (76.9%). Active recyclers are more likely to live in the City of Battle Creek (71.4% compared to 58.3% of all respondents who lived in the City of Battle Creek). Strategies to increase recycling may want to focus increasing this “active recycler” group as they are already actively recycling, or addressing the concerns of other groups such as providing more information and increasing awareness to the younger generation, or providing curbside recycling or pick-up services to those who do not live in the City of Battle Creek.

**City of Battle Creek Residents versus Township Residents.** Respondents were asked the question “Are you aware of an ordinance to prohibit the use of fertilizers containing phosphorous in the City of Battle Creek?” Forty-six percent (46.3%) of respondents indicated that they were aware of this; however, since this was asked of all 400 respondents and not just the respondents who reside in the City of Battle Creek, the percentages need to be looked at more carefully.

When this question was examined by those who lived in the City of Battle Creek, and those who lived in surrounding areas, it was found that half (50.6%) of respondents who lived in the City of Battle Creek were aware of this ordinance. Respondents living in the surrounding areas ranged from 42.9% awareness in Emmett Township to 20.0% awareness of respondents who resided in Newton Township.

When asked “What is your primary source of drinking water?” fifty-five percent (55.3%) of respondents indicated that tap water was their primary source. Those respondents who were more likely to drink water straight from the tap are those who reside in Bedford Township (76.3%), Leroy Township (75.0%) and Emmett Township (59.2%). The areas that are less likely to drink straight from the tap include: City of Battle Creek (52.4%), City of Springfield (50.0%) and Newton Township (50.0%), and Pennfield Township (44.4%). This is an example of the differences between the cities and the townships being due to differences in services as it is likely that respondents who live in Bedford Township, Leroy Township, and Emmett Township have a private well, rather than a municipal water system.



## Conclusions

Since over half (58.3%) of the survey respondents lived in the City of Battle Creek this also means that results for the outlying townships are small percentages of the total survey sample. These smaller numbers of survey respondents means there will not be as many statistical differences for the individual townships. For differences noted in the outlying townships, most are likely to be attributed to the availability of recycling services in the townships. It may be valuable in analyzing the results of this survey to look at results for each question by the geographic area of the respondent, which is found in the statistical reference binder.





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City of Battle Creek - Environmental Survey

Good evening, my name is \_\_\_\_\_ from Perspectives Consulting Group. I am talking with Battle Creek residents about environmental issues.

Are you over the age of 18?

- [ 1 ] Yes - continue [ 2 ] No - May I speak with someone 18 years or older?

Are you a resident of the City of Battle Creek, City of Springfield, Bedford Township, Emmett Township, Newton Township, Leroy Township, or Pennfield Township?

- [ 1 ] Yes - continue to survey [ 2 ] No - Thank them for their time

Tel. Number: \_\_\_\_\_

Interviewer: \_\_\_\_\_

Date/Time: \_\_\_\_\_

FINAL DATE 2-5-09

1. Do you reduce, reuse or recycle?

- [ 1 ] Yes [ 2 ] No, why? \_\_\_\_\_ (skip to question 4) [ 3 ] Unsure/NA (skip to question 4)

2. Which of the following describes what you do with your recycling? (Read ALL - Check all that apply)

- [ 1 ] Recycling Curbside [ 2 ] Drop off recycling [ 3 ] Other, \_\_\_\_\_ [ 4 ] Unsure/NA

3. What items do you recycle, besides those you receive a deposit for? (DO NOT PROMPT—Check all that apply)

- [ 1 ] Plastics [ 2 ] Newspaper [ 3 ] Glass [ 4 ] Styrofoam [ 5 ] Cardboard [ 6 ] Metal/Can [ 7 ] Electronics [ 8 ] Yard Waste [ 9 ] Plastic bags [ 10 ] Other, \_\_\_\_\_ [ 11 ] Unsure/NA

\*\*\*\*\*Skip to question 5\*\*\*\*\*

4. If curbside recycling was available to all county residents, would you be less likely, more likely, or have no impact on your decision to recycle?

- [ 1 ] Less likely [ 2 ] More likely [ 3 ] No impact [ 4 ] Unsure/NA

5. Which of the following household chemicals do you dispose of at a household hazardous waste collection event? (Read ALL - Check all that apply)

- [ 1 ] Oil based paints [ 2 ] Paint thinners [ 3 ] Cleaning materials [ 4 ] Old pharmaceuticals [ 5 ] Herbicides [ 6 ] Pesticides [ 7 ] Coolants [ 8 ] None, why? \_\_\_\_\_ [ 9 ] Unsure/NA

\*\*\*\*\*Skip to question 5\*\*\*\*\*

6. Have you made changes to your lifestyle or home to help stop climate change or global warming? (Do NOT Read Choices, Check ALL that apply)

- [ 1 ] Drive less [ 2 ] Buy locally grown food [ 3 ] Use Energy Star appliances [ 4 ] Weatherizing home [ 5 ] Insulate home [ 6 ] Alternative forms of energy, such as solar or wind [ 7 ] Compact fluorescent lights [ 8 ] Hybrid vehicle [ 9 ] Eat less meat [ 10 ] Other, \_\_\_\_\_ [ 11 ] Unsure/NA [ 11 ] None

7. In order to save money and energy, what actions have you taken to reduce energy consumption? (Do NOT read choices, Check ALL that apply)

- [ 1 ] Drive less [ 2 ] Buy locally grown food [ 3 ] Use Energy Star products [ 4 ] Weatherize/insulate home [ 5 ] Insulate home [ 6 ] Alternative forms of energy, such as solar or wind power [ 7 ] Compact fluorescent lights [ 8 ] Hybrid vehicle [ 9 ] Eat less meat [ 10 ] Other, \_\_\_\_\_ [ 11 ] Unsure/NA [ 11 ] None

8. Did you know the major source of our drinking water comes from groundwater, and not from local lakes, rivers, and streams?

- [ 1 ] Yes [ 2 ] No [ 3 ] Unsure/NA

9. Fertilizer bags have a label showing three numbers. Did you know the middle, or second, number on that label indicates phosphorus?

- [ 1 ] Yes [ 2 ] No [ 3 ] Unsure/NA

10. Did you know that weed killers, fertilizers, grub control products, leaves, grass clippings, and pet waste that gets into street drains can affect the water quality of nearby bodies of water?

- [ 1 ] Yes [ 2 ] No [ 3 ] Unsure/NA

11. Are you aware of an ordinance to prohibit the use of fertilizers containing phosphorus in the City of Battle Creek?

- [ 1 ] Yes [ 2 ] No [ 3 ] Unsure/NA



# City of Battle Creek 2009 Environmental Survey

12. Are you aware that when the water from rain, snowmelt, or sprinklers runs off your lawn, it goes into street drains and directly into local water bodies without being cleaned?	[ 1 ] Yes [ 3 ] Unsure/NA	[ 2 ] No
13. Are you aware we are in a period of climate change or global warming?	[ 1 ] Yes [ 3 ] Unsure/NA	[ 2 ] No
14. Are you aware that climate change or global warming can cause a rise in sea level, melting polar ice caps, and severe shifts in the weather?	[ 1 ] Yes [ 3 ] Unsure/NA	[ 2 ] No
15. Do you feel climate change or global warming is caused by people or natural causes?	[ 1 ] None [ 3 ] Natural causes [ 5 ] Unsure/NA	[ 2 ] People [ 4 ] Combination of both
16. How serious do you believe climate change or global warming to be?	[ 1 ] Not serious [ 3 ] Very serious	[ 2 ] Somewhat serious [ 4 ] Unsure/NA
17. Would you support ordinances that give local governments' greater authority to protect the quality of water and to help conserve energy?	[ 1 ] Yes [ 3 ] Unsure/NA	[ 2 ] No
18. Would you be willing to pay \$2 per month to your local government to protect our lakes and streams against phosphorus and other pollutants?	[ 1 ] Yes [ 2 ] No, why? _____ [ 3 ] Unsure/NA	
19. Do you feel the best way to reduce our dependence on foreign oil is to support alternative energy projects and energy saving efforts?	[ 1 ] Yes [ 3 ] Unsure/NA	[ 2 ] No
20. Would you support stricter building requirements for new buildings that would help conserve water and be more energy efficient?	[ 1 ] Yes [ 3 ] Unsure/NA	[ 2 ] No
21. Do you feel that the amount of garbage per household should be limited to save landfill space?	[ 1 ] Yes [ 3 ] Unsure/NA	[ 2 ] No
22. Do you live in a house or an apartment?	[ 1 ] House [ 2 ] Apartment/condominiums, (skip to question 29)	[ 3 ] Other, _____ [ 4 ] Refused/NA
23. How often do you apply fertilizers to your lawn?	[ 1 ] Zero, (skip to question 25) [ 3 ] Twice per year [ 4 ] Three or more times per year [ 5 ] Don't have a lawn, (skip to question 29)	[ 2 ] Once per year [ 6 ] Unsure/NA
24. Have you ever used any of the following resources in deciding how much fertilizer to apply to your lawn? (Read all responses – check ALL that apply)	[ 1 ] Label information [ 2 ] Consultation with local home and garden centers [ 3 ] Friends/ Family/ Neighbors [ 4 ] Fertilizing lawn until it's green [ 5 ] Lawn care company recommendations [ 6 ] Soil tests [ 8 ] Unsure/NA	[ 7 ] Other, _____
25. How often do you apply weed killer or grub control to your lawn?	[ 1 ] Never [ 3 ] Twice per year [ 4 ] Three or more times per year [ 5 ] Unsure/NA	[ 2 ] Once per year
26. Would you be willing to make changes to your yard to improve the environment, such as: plant trees, replace lawn with native plants, or use rain barrels?	[ 1 ] Yes [ 3 ] Unsure/NA	[ 2 ] No







# City of Battle Creek 2009 Environmental Survey

27. What do you do with the waste material, such as: leaves, garden trimmings, or tree trimmings from your property? (Do NOT prompt – Check ALL that apply)	<input type="checkbox"/> [ 1 ] Leave on grass <input type="checkbox"/> [ 2 ] Take to landfill <input type="checkbox"/> [ 3 ] Take to Compost Center, or Composting Site <input type="checkbox"/> [ 4 ] Compost in back yard (compost pile) <input type="checkbox"/> [ 5 ] Lawn care company removes from property <input type="checkbox"/> [ 6 ] Burn materials on property <input type="checkbox"/> [ 7 ] Put compost into bags and leave on curb for pick-up <input type="checkbox"/> [ 8 ] Rake into street and leave on curb for pick-up <input type="checkbox"/> [ 9 ] Other, _____ <input type="checkbox"/> [ 10 ] Unsure/NA
28. Are you aware that there is a Compost Center in Marshall, Michigan where all Calhoun County residents can compost their yard waste?	<input type="checkbox"/> [ 1 ] Yes <input type="checkbox"/> [ 2 ] No <input type="checkbox"/> [ 3 ] Unsure/NA
29. Do you use Compact Fluorescent Lights in your home?	<input type="checkbox"/> [ 1 ] Yes, do you like or dislike, and why? _____ <input type="checkbox"/> [ 2 ] No (Skip to question 31) <input type="checkbox"/> [ 3 ] Unsure/NA
30. Did you know the best way to dispose of Compact Fluorescent Lights is to take them to a household hazardous waste collection event?	<input type="checkbox"/> [ 1 ] Yes <input type="checkbox"/> [ 2 ] No <input type="checkbox"/> [ 3 ] Unsure/NA
31. Does the water in your home come from a public water system, or a private well? (Read ALL)	<input type="checkbox"/> [ 1 ] Public Water System, which one? _____ <input type="checkbox"/> [ 2 ] Private well (skip to question 33) <input type="checkbox"/> [ 3 ] Other, _____ <input type="checkbox"/> [ 4 ] Unsure/NA
32. Do you read the city's Annual Water Quality Report, which is mailed to residents annually and can be viewed online at the City of Battle Creek's website?	<input type="checkbox"/> [ 1 ] Yes <input type="checkbox"/> [ 2 ] No <input type="checkbox"/> [ 3 ] Unsure/NA
33. Are you aware that every year it is recommended that private wells should be tested?	<input type="checkbox"/> [ 1 ] Yes <input type="checkbox"/> [ 2 ] No <input type="checkbox"/> [ 3 ] Unsure/NA
34. Do you have any unused or abandoned wells on your property?	<input type="checkbox"/> [ 1 ] Yes <input type="checkbox"/> [ 2 ] No <input type="checkbox"/> [ 3 ] Unsure/NA
35. What is your primary source of drinking water in your household?	<input type="checkbox"/> [ 1 ] Straight from the tap, (skip to question 37) <input type="checkbox"/> [ 2 ] Filtered tap water, such as: Brita and PUR filters <input type="checkbox"/> [ 3 ] Bottled water <input type="checkbox"/> [ 4 ] Unsure/NA
36. Why is your drinking water filtered or bottled? (Read ALL – Check ALL that apply)	<input type="checkbox"/> [ 1 ] Health concerns <input type="checkbox"/> [ 2 ] Improved taste <input type="checkbox"/> [ 3 ] Improved clarity <input type="checkbox"/> [ 4 ] Other, _____ <input type="checkbox"/> [ 5 ] Unsure/NA
37. If a bill stuffer that contained information on recycling, ways to save energy, and ways to protect water quality, would you be interested in reading it?	<input type="checkbox"/> [ 1 ] Yes <input type="checkbox"/> [ 2 ] No, why? _____ <input type="checkbox"/> [ 3 ] Unsure/NA
38. Is your home served by a municipal sewer system or a septic system?	<input type="checkbox"/> [ 1 ] Municipal sewer system, (skip to question 40) <input type="checkbox"/> [ 2 ] Septic system <input type="checkbox"/> [ 3 ] Other, _____ <input type="checkbox"/> [ 4 ] Unsure/NA
39. Are you aware that routine cleanings of septic tanks are necessary every two to three years to protect water resources?	<input type="checkbox"/> [ 1 ] Yes <input type="checkbox"/> [ 2 ] No <input type="checkbox"/> [ 3 ] Unsure/NA
40. Can you recall seeing the Clean Water Logo?	<input type="checkbox"/> [ 1 ] Yes <input type="checkbox"/> [ 2 ] No, (skip to question 42) <input type="checkbox"/> [ 3 ] Unsure/NA, (skip to question 42)
41. Where do you recall seeing it? (Do NOT Prompt)	<input type="checkbox"/> [ 1 ] Signs on the road <input type="checkbox"/> [ 2 ] Near Waterways <input type="checkbox"/> [ 3 ] Public events <input type="checkbox"/> [ 4 ] Pre-movie advertisements at West Columbia 7 <input type="checkbox"/> [ 5 ] Other _____ <input type="checkbox"/> [ 6 ] Unsure/NA



# City of Battle Creek 2009 Environmental Survey

<p> <b>42. Where have you seen water quality and recycling advertising?</b> <i>(DO NOT PROMPT – Check all that apply)</i></p>	<p>[ 1 ] Have never seen an advertisement, (skip to question 45) </p> <p>[ 2 ] Pre-movie advertisements at West Columbia 7</p> <p>[ 3 ] WBXX 104.1 radio advertisements</p> <p>[ 4 ] Newspapers [ 5 ] Magazines</p> <p>[ 6 ] YMCA Battle Creek advertisements</p> <p>[ 7 ] Lakeview Square Mall displays</p> <p>[ 8 ] School courses or programs</p> <p>[ 9 ] At county fairs, festivals, or other community events</p> <p>[ 10 ] Super Soils Test Saturday</p> <p>[ 11 ] Photography contest [ 12 ] Willard Library display</p> <p>[ 13 ] Community reports [ 14 ] Letters to the editor</p> <p>[ 15 ] Other, _____</p> <p>[ 16 ] Unsure/NA</p>
<p><b>43. Have you seen or heard advertisements of water quality and recycling on:</b> <i>(Read ALL – Check ALL that apply)</i></p>	<p>[ 1 ] Pre-movie advertisements at West Columbia 7</p> <p>[ 2 ] WBXX 104.1 radio advertisements</p> <p>[ 3 ] Newspapers</p> <p>[ 4 ] Lakeview Square Mall displays</p> <p>[ 5 ] None (skip to question 45)  [ 6 ] Unsure/NA</p>
<p><b>44. Based on the information you have heard or read from the water quality and recycling advertisements, what actions have you taken to protect water quality or to recycle?</b></p>	<p>[ 1 ] Nothing</p> <p>[ 2 ] Sought additional information [ 3 ] Told a friend/family/relative</p> <p>[ 4 ] Protect water quality by _____</p> <p>[ 5 ] Other, _____</p> <p>[ 6 ] Unsure/NA</p>
<p> <b>45. What is the highest degree or level of education you have completed?</b></p>	<p>[ 1 ] Some High School [ 2 ] High School Diploma/ GED</p> <p>[ 3 ] Some College [ 4 ] Associates Degree</p> <p>[ 5 ] Bachelor's Degree [ 6 ] Graduates Degree</p> <p>[ 7 ] Other, please list _____</p> <p>[ 8 ] Refused/NA</p>
<p><b>46. Is your age....</b> <i>(Read choices)</i></p>	<p>[ 1 ] 18 to 24 years [ 2 ] 25 to 34 years</p> <p>[ 3 ] 35 to 44 years [ 4 ] 45 to 54 years</p> <p>[ 5 ] 55 to 64 years [ 6 ] 65 year or older</p> <p>[ 7 ] Refused/NA</p>
<p><b>47. Do you live in the...</b> <i>(Read Choices—Check only one)</i></p>	<p>[ 1 ] City of Battle Creek [ 2 ] City of Springfield</p> <p>[ 3 ] Bedford Township [ 4 ] Emmett Township</p> <p>[ 5 ] Leroy Township [ 6 ] Newton Township</p> <p>[ 7 ] Pennfield Township [ 8 ] Refused/NA</p>
<p><b>48. Do you have access to the Internet at home or at work?</b></p>	<p>[ 1 ] Home [ 2 ] Work</p> <p>[ 3 ] Both [ 4 ] None</p> <p>[ 5 ] Unsure/NA</p>
<p><b>49. How many people are in your household?</b></p>	<p>[ 1 ] One [ 2 ] Two</p> <p>[ 3 ] Three [ 4 ] Four</p> <p>[ 5 ] Five [ 6 ] Six</p> <p>[ 7 ] Seven or more [ 8 ] Refused/NA</p>
<p><b>50. Do you have any children under the age of 18 living in your household?</b></p>	<p>[ 1 ] Yes [ 2 ] No</p> <p>[ 3 ] Refused/NA</p>
<p><b>This concludes our survey, thank you for your time. The City of Battle Creek, the Climate Change Coalition, and the Calhoun County Solid Waste appreciates your help. Have a good evening.</b></p>	
<p><b>51. Determine by voice (Do NOT ask) Gender of respondent</b></p>	<p>[ 1 ] Male [ 2 ] Female</p>



**2009 Environmental Survey  
City of Battle Creek**

**Project Dates:** January 9, 2009 - March 17, 2009  
**Project Number:** CL126-P12

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Founded in 1987, Perspectives Consulting Group, Inc. provides market research and strategic planning services to businesses and organizations throughout the United States. Using state-of-the-art market research techniques including focus groups, telephone/mail surveys, interviews and customer response systems, Perspectives Consulting Group, Inc. obtains the information necessary to make efficient and effective decisions and plan for the future. Perspectives Consulting Group, Inc. offers a full-range of planning services including strategic planning and feasibility studies that are essential to succeed in today's marketplace. Our primary focus is meeting the needs of nonprofit organizations, educational institutions, religious organizations, and United Ways.

We firmly believe and practice the following guiding philosophies:

- To provide the client with what they need, when they need it.
- To follow the simple process of listening, planning, researching, analyzing, evaluating and reporting for each client and project.
- To treat each client's situation as unique and individual, providing the best combination of services to meet the client's needs.
- To maintain a state of involvement that allows clear, unbiased objectivity that insures and protects the confidentiality of the client's situation.

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