Greater Lansing Regional Water Quality Survey Final Findings Report

Submitted to

Greater Lansing Regional Committee

by

ETC Institute

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Contents

2012 Regional Water Quality Survey

Executive Summary

Purpose and Methodology

Purpose. The Greater Lansing Regional Committee conducted a water quality survey during the fall of 2012. The purpose of the survey was to gather feedback from resident to determine the effectiveness of regional and local public outreach campaigns on water quality issues in the Greater Lansing region. The survey results will be compared to the results from the first water quality survey that was administered in the fall of 2006.

Method of Administration. A four-page survey and cover letter were mailed to a stratified random sample of 1,800 households in the Greater Lansing region, which includes the Looking Glass, Red Cedar and Grand River watersheds; 600 households were selected at random from each of the three watersheds. Approximately 10 days after the surveys were mailed, residents who received the survey were contacted by phone. Those who indicated that they had not returned the survey were given the option of completing it by phone. Of the 1,800 households in the Greater Lansing region that received a survey, 369 households returned the survey by mail and 277 completed the survey by phone for a total of 646 completed surveys.

The sample was stratified to obtain at least 200 completed surveys from each of the three watersheds in the Greater Lansing Region. This was done to ensure that the results for each watershed would be statistically representative. The results for each watershed have a precision of at least +/-6.9% at the 95% level of confidence. The overall results for the Greater Lansing region have a precision of at least +/-3.8% at the 95% level of confidence.

Major Findings

The major findings from the survey are listed on the following pages; significant changes from the 2006 survey results are also noted (significant changes are any changes of more than 4% from 2006 to 2012 results.

Perceptions of Water Resources

Residents were asked questions about their perceptions of water resources. Some of the findings are listed on the following page:

- Residents were asked to rate the quality of water in lakes, rivers, and streams in the community where they live. One-fourth (25%) of those surveyed thought water quality was improving ("somewhat better" or "much better"); 23% reported that they thought water quality was getting worse ("somewhat worse" or "much worse"), 31% thought it was "staying the same" and 21% did not have an opinion.

    - ***Significant Changes From 2006**:* The percent of residents who felt the quality of water in lakes, rivers and streams was improving ("somewhat better" or "much better") decreased 5% from 30% in 2006 to 25% in 2012.

- Most (86%) of those surveyed thought the way they cared for their lawn and home affects the quality of water in lakes and streams in the community where they live; 8% did not, and 6% indicated that they "didn't know."

    - ***Significant Changes From 2006**:* The percent of residents who thought the way they cared for their lawn and home affected the quality of water in lakes and streams increased 6% from 80% in 2006 to 86% in 2012.

- More than one-third (38%) of those surveyed indicated that their household had taken some type of action to protect water resources in the past five years; 51% had not, and 11% indicated that they "didn't know" if their household had done anything that would have helped protect water resources.

    - ***Significant Changes From 2006**:* The percent of residents who indicated their household had taken some type of action to protect water resources in the past five years increased 11% from 27% in 2006 to 38% in 2012.

Connection of Stormwater Runoff and Water Resources

Residents were asked questions about stormwater runoff and water resource issues. Selected findings are listed below:

- Twenty-nine percent (29%) of those surveyed thought stormwater runoff was the greatest contributor of pollution to lakes, rivers and streams; 23% selected factory/industrial discharges; 17% selected agricultural operations, 12% selected sewage overflow and 9% selected discharges from wastewater treatment plants.

    - ***Significant Changes From 2006**:* The percent of residents who felt agricultural operations was a major contributor to water pollution increased 9% from 8% in 2006 to 17% in 2012. The percent of residents who felt construction sites and new development was a major contributor to water pollution decreased 8% from 15% in 2008 to 7% in 2006.

- Forty-nine percent (49%) of the residents surveyed thought stormwater goes directly to lakes/streams without treatment; 17% thought it goes to a treatment plant, 12% thought it goes to lakes/streams with treatment and 22% indicated that they "did not know."

    - ***Significant Changes From 2006:*** The percent of residents who thought that stormwater goes to lakes/streams without treatment decreased 7% from 56% in 2006 to 49% in 2012.

- Only twenty-nine percent (29%) of those surveyed really understood the meaning of the term "watershed." Thirty-one percent (31%) of those surveyed indicated that were not familiar with the term "watershed, " 24% indicated that they lived near, but not in, a watershed and 16% of those surveyed indicated that they did not live in a watershed.

    - ***Significant Changes From 2006:*** None.

- Most (88%) of those surveyed either "strongly agreed" or "agreed" with the statement that the quality of local streams and rivers where they live affects the Great Lakes.

    - ***Significant Changes From 2006:*** None.

- More than half (58%) of those surveyed reported that they had seen road signs identifying rivers and 54% of residents reported they had seen signs indicating that they were entering a watershed.

    - ***Significant Changes From 2006:*** The percent of residents who reported they had seen road signs identifying rivers increased 6% from 52% in 2006 to 58% in 2012 and the percent of residents who reported they had seen signs indicating they were entering a watershed increased 10% from 44% in 2008 to 54% in 2006.

Current Activities

Residents were asked questions regarding lawn and home care activities. Some of the findings are listed below:

- Nearly three-fourths (72%) of the residents surveyed indicated that they use a car wash to wash their vehicle(s); 13% indicated they typically wash their vehicle(s) at home in the driveway and 5% wash their vehicle(s) at home on the grass.

    - ***Significant Changes From 2006:*** The percent of residents who reported they wash their vehicle(s) at home in the driveway decreased 7% from 20% in 2006 to 13% in 2012.

- 15% of those surveyed indicated that members of their household usually change motor oil, transmission fluid or radiator fluid for a vehicle at their home.

    - ***Significant Changes From 2006****:* None.

- More than three-fourths (77%) of those surveyed indicated that their household uses a community collection site to dispose of household hazardous waste, such as old oil, fluids from vehicles, batteries, and pesticides; 14% of those surveyed indicated that their household typically disposes of household hazardous waste with their regular trash and 8% leave household hazardous waste in a container at home.

    - ***Significant Changes From 2006****:* The percent of residents who reported they disposed of household hazardous waste at a scheduled community collection site increased 8% from 69% in 2006 to 77% in 2012 and the percent of residents who reported they disposed of household hazardous waste in their regular trash decreased 5% from 19% in 2006 to 14% in 2012.

- Among those surveyed who were not using a community collection site for household hazardous waste, forty percent (40%) indicated that the reason they did not use a community collection site was because they did not know where one was located; 11% indicated they were not using a community collection site because they did not have time and 5% did not because there were no sites near their home.

    - ***Significant Changes From 2006****:* The percent of residents who reported the reason they did not use a community collection site for household hazardous waste was because there were no sites near their home decreased 6% from 11% in 2006 to 5% in 2012.

- Most (85%) of the residents surveyed indicated that they typically pick up their dog's waste when they go for a walk.

    - ***Significant Changes From 2006****:* The percent of residents who indicated they typically pick up their dog's waste increased 18% from 67% in 2006 to 85% in 2012.

- Twenty-nine percent (29%) of those surveyed indicated that their household uses a lawn service for mowing, fertilizer and/or pesticide applications.

    - ***Significant Changes From 2006***: None.

- Fifteen percent (15%) of the residents surveyed reported that they had their soil tested to determine how much and what kind of nutrients their lawn needs.

    - ***Significant Changes From 2006****:* The percent of residents who reported they had their soil tested decreased 6% from 21% in 2006 to 15% in 2012.

- The most common reasons that residents gave for selecting the type of fertilizer or pesticide their household uses most were: their previous experience with a product (27%), how safe it is for the environment (20%) and price (14%).

    - ***Significant Changes From 2006****:* There were significant decreases in the following reasons that residents gave for selecting the type of fertilizer or pesticide their household used most: previous experience with the product (decrease of 17% from 44% in 2006 to 27% in 2012), price (decrease of 10% from 24% in 2006 to 14% in 2012) and recommendations from store employees (decrease of 5% from 10% in 2006 to 5% in 2012). There was a significant increase in the percent of residents who indicated that how safe the product is for the environment influenced the type of fertilizer or pesticide their household used most (increase of 5% from 15% in 2006 to 20% in 2012).

Willingness to Take Action to Help Reduce Pollution of Streams and Lakes.
Residents were asked how willing they would be to perform various actions to help reduce pollution in lakes and streams. Residents were most willing ("very willing" or "willing") to dispose of hazardous waste at a community collection day (92%), sweep excess fertilizer/grass clippings into their lawn (90%), change their car washing practices (86%), and use low phosphorus or slow release fertilizer (85%). Residents were least willing to have their soil tested (50%).

- ***Significant Changes From 2006****:* There was a significant increase in the percent of residents who were willing to promptly pick up and dispose of their pet's waste (increase of 7% from 78% in 2006 to 85% in 2012). There was a significant decrease in the percent of residents who were willing to have their soil tested (decrease of 6% from 56% in 2006 to 50% in 2012).

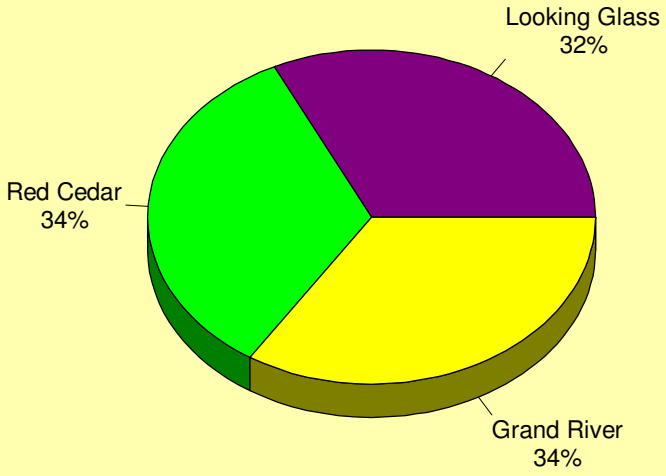
Best Ways to Inform Residents about Ways to Protect Lakes and Streams.
The top ways residents preferred to receive information about what they can do to protect lakes and streams were from the Lansing State Journal (43%), community newspaper (41%), television news (38%), the Internet (38%) and the Municipal Newsletter (33%).

- ***Significant Changes From 2006:*** There were significant increases in the percentage of residents who preferred to receive information on ways to protect lakes and streams in the following ways: Internet (increase of 22% from 16% in 2006 to 38% in 2012), Municipal website (increase of 11% from 18% in 2006 to 7% in 2012) and the Municipal newsletter (increase of 8% from 25% in 2006 to 38% in 2012). There were significant decreases in the percent of residents who preferred to receive information in the following ways: Lansing State Journal (decrease of 19% from 62% in 2006 to 43% in 2012) and television news (decrease of 7% from 45% in 2006 to 38% in 2012.)

Charts and Graphs

Distribution of Respondents by Watershed

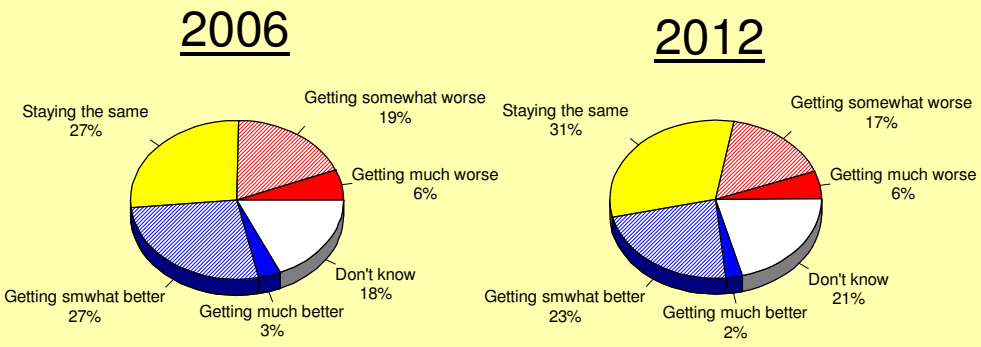
by percentage of respondents



Source: ETC Institute (November 2012)

How Residents Think the Quality of Water in Lakes, Rivers, and Streams in Their Community Is Changing

by percentage of respondents

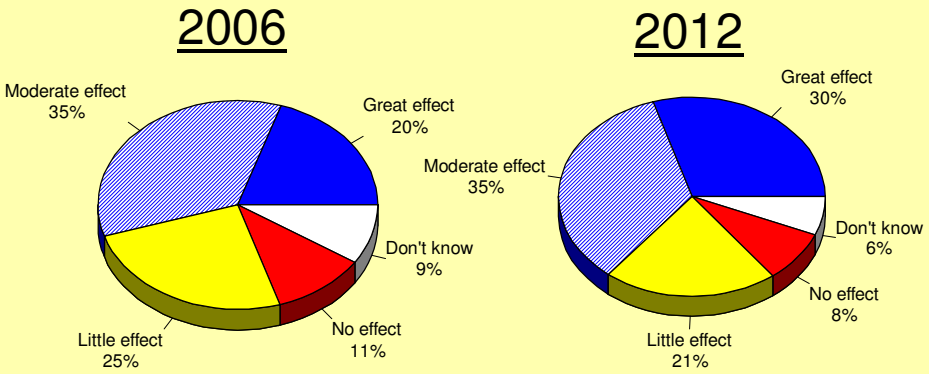


Source: ETC Institute (November 2012)

TRENDS

How much do you think the way you maintain your home affects the quality of water in lakes and streams in the community where you live?

by percentage of respondents

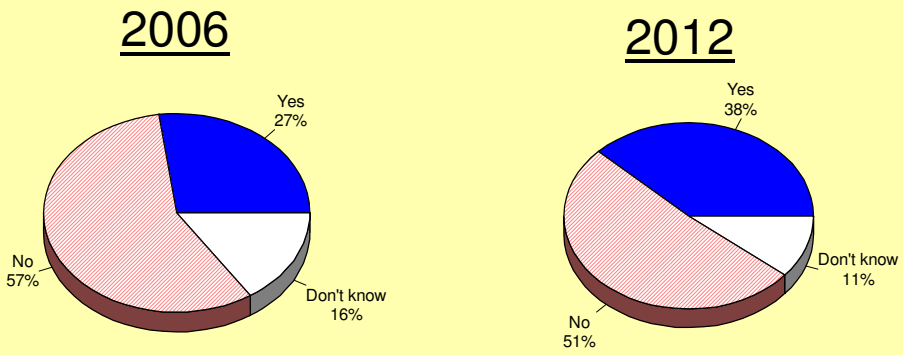


Source: ETC Institute (November 2012)

TRENDS

During the past 5 years, have you or someone in your household taken action at your home or in your community to protect water resources?

by percentage of respondents

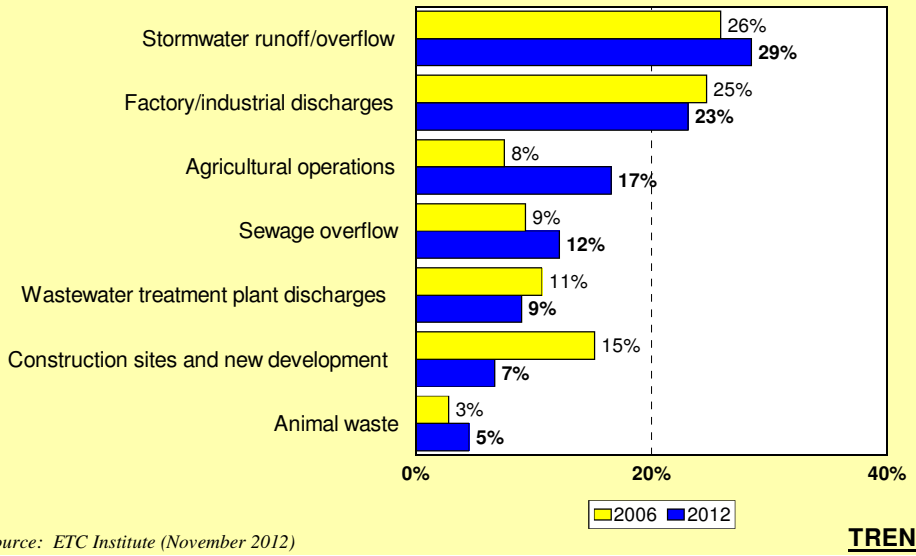


Source: ETC Institute (November 2012)

TRENDS

During the past year, which of the following do you think contributed the MOST pollution to lakes, rivers and streams in the community where you live?

by percentage of respondents

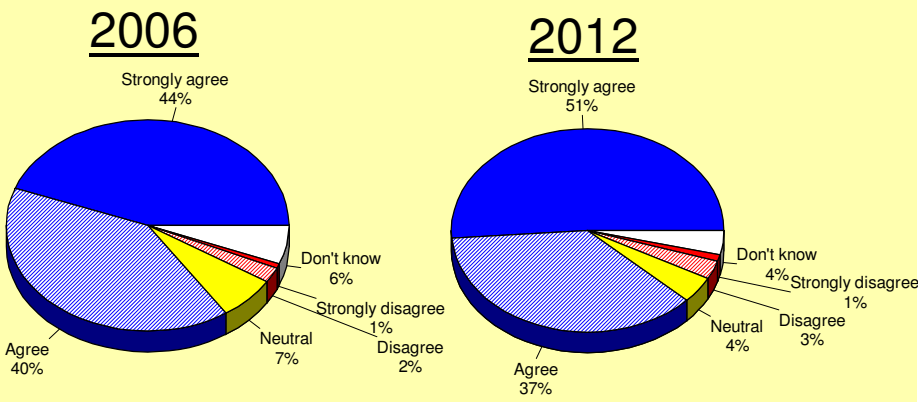


Source: ETC Institute (November 2012)

TRENDS

Level of agreement with the statement: "The quality of local streams and rivers where I live affects the Great Lakes."

by percentage of respondents



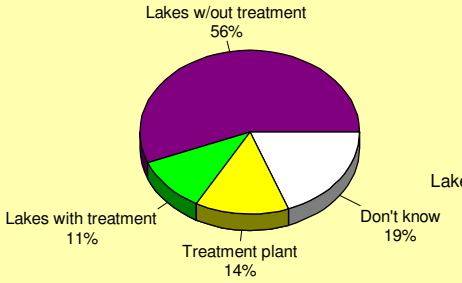
Source: ETC Institute (November 2012)

TRENDS

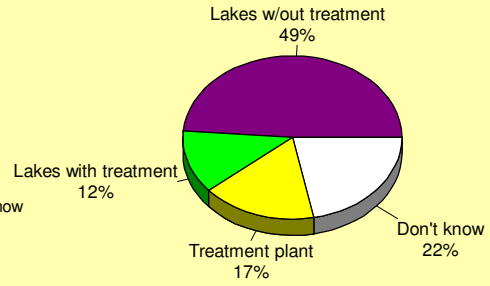
Where do you think stormwater goes after it enters a storm drain or roadside ditch in your community?

by percentage of respondents

2006



2012



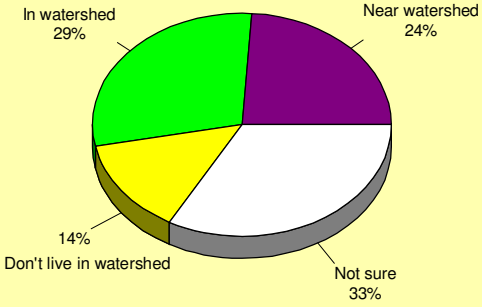
Source: ETC Institute (November 2012)

TRENDS

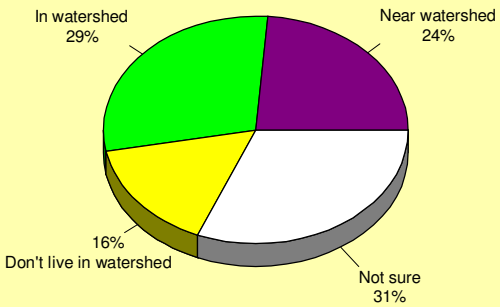
Which ONE of the following BEST describes the location where you live?

by percentage of respondents

2006



2012

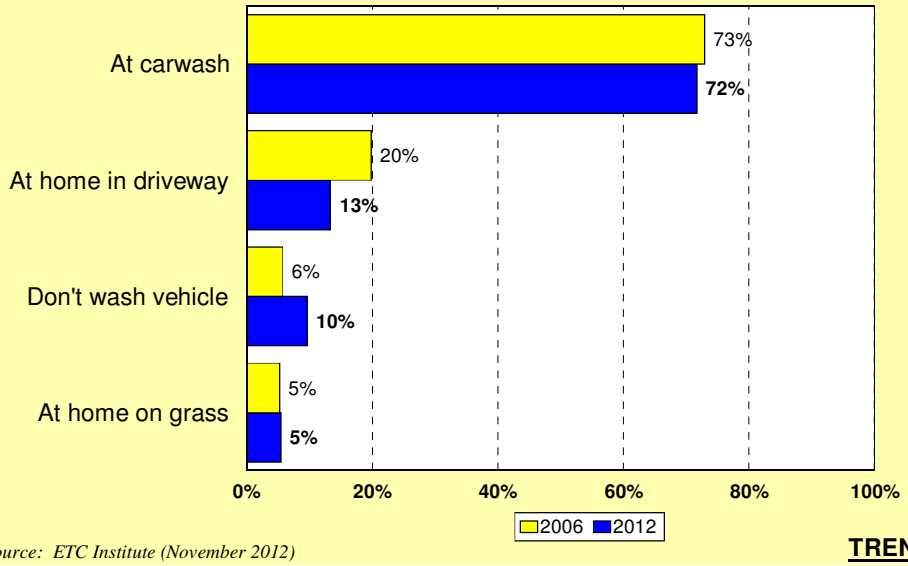


Source: ETC Institute (November 2012)

TRENDS

Where Residents Typically Wash Their Vehicles During the Summer

by percentage of respondents (multiple answers allowed)

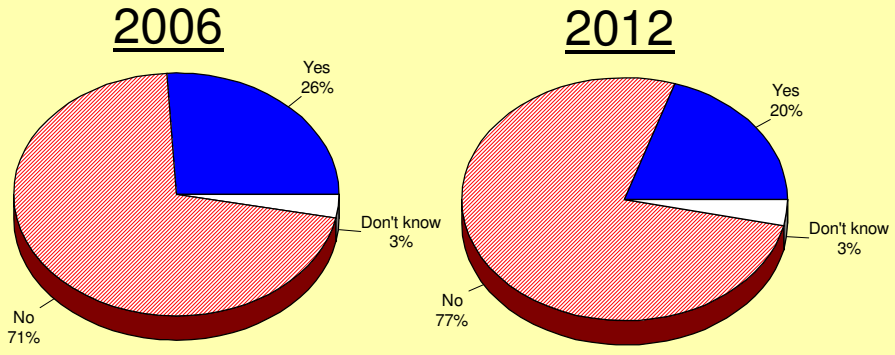


Source: ETC Institute (November 2012)

TRENDS

Do you have a septic system at your home?

by percentage of respondents

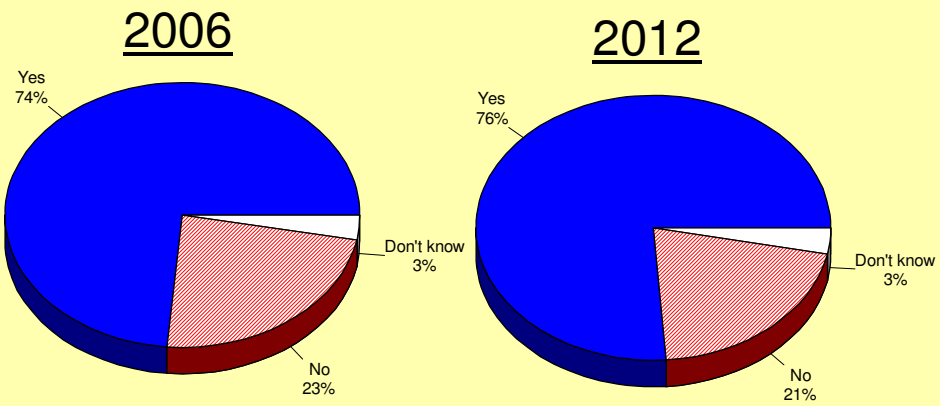


Source: ETC Institute (November 2012)

TRENDS

If "YES", have you had your septic system checked or serviced during the past five years?

by percentage of respondents who hve a septic system in thier home

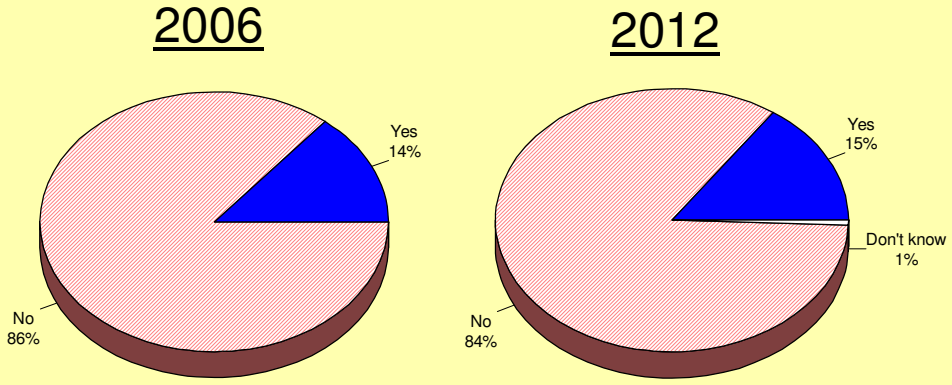


Source: ETC Institute (November 2012)

TRENDS

Do you or other members of your household usually change motor oil, transmission fluid, or radiator fluid for vehicles at your home?

by percentage of respondents

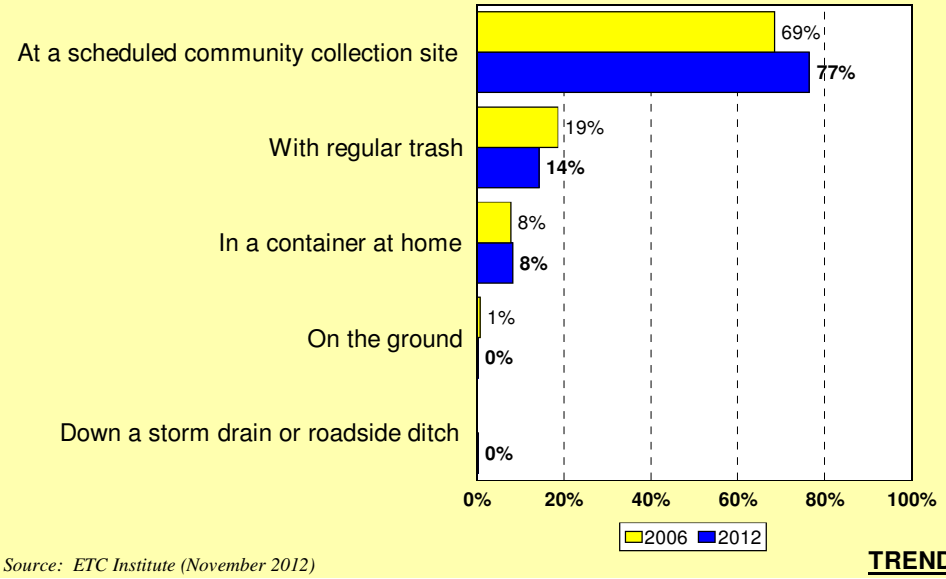


Source: ETC Institute (November 2012)

TRENDS

Where Residents Typically Dispose of Household Hazardous Waste

by percentage of respondents (multiple answers allowed)

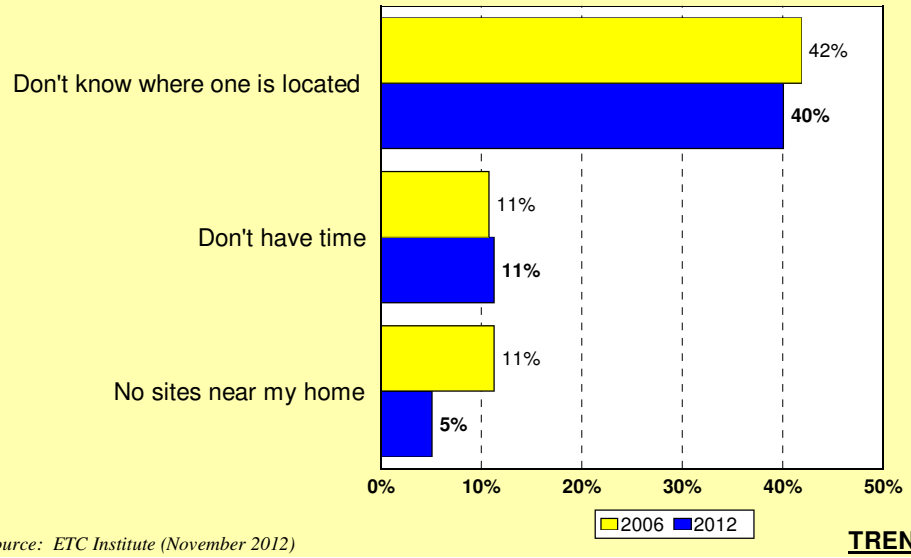


Source: ETC Institute (November 2012)

TRENDS

Top Three Reasons that Residents Do Not Dispose of Household Hazardous Waste at a Community Collection Site

by percentage of respondents that **DO NOT** use community collection sites

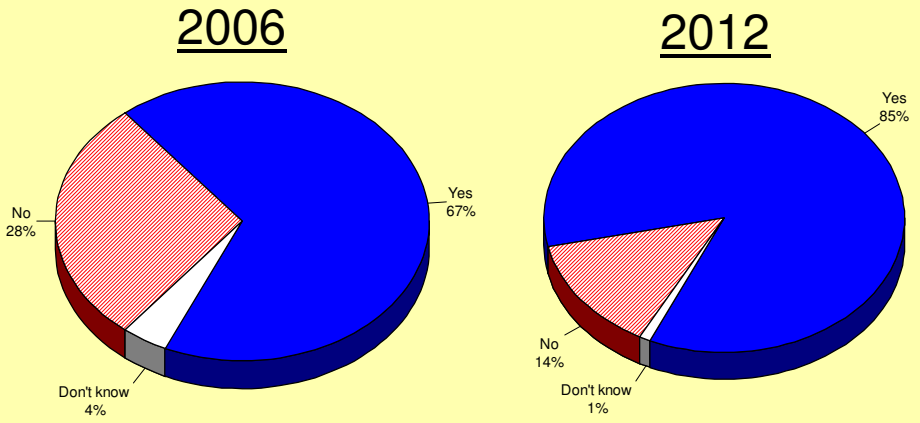


Source: ETC Institute (November 2012)

TRENDS

Do you or other members of your household typically pick up your dog's waste when you go for a walk?

by percentage of respondents who indicated that they own a dog

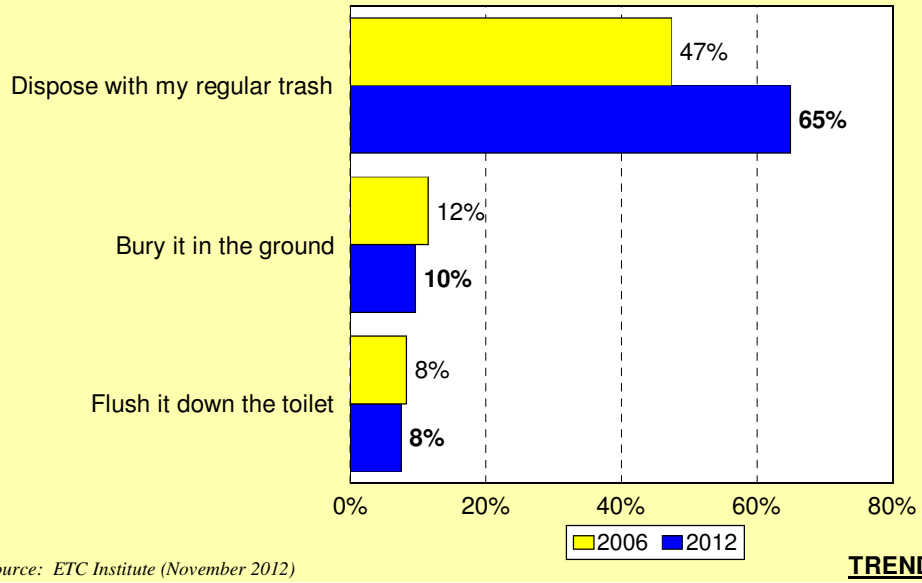


Source: ETC Institute (November 2012)

TRENDS

Top Three Methods Used by Residents to Dispose of Their Dog's Waste

by percentage of respondents that **HAVE** a dog

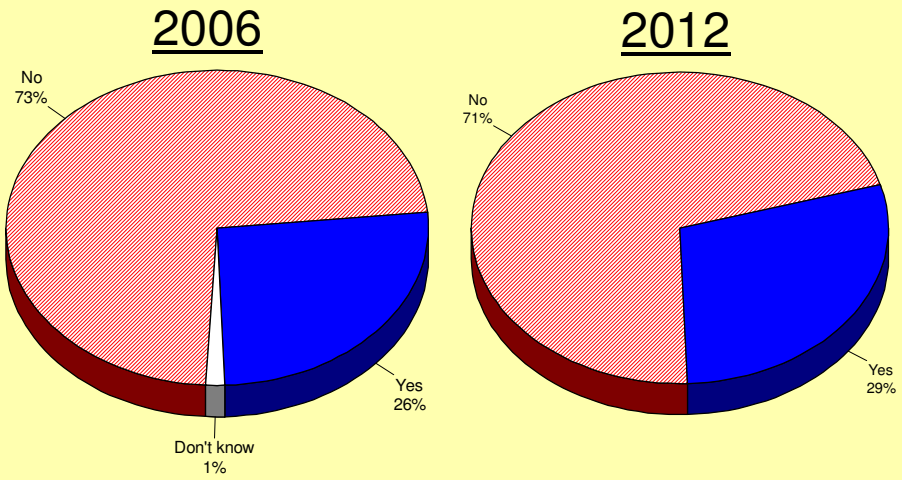


Source: ETC Institute (November 2012)

TRENDS

Does your household use a lawn service for mowing, fertilizer and/or pesticide applications?

by percentage of respondents

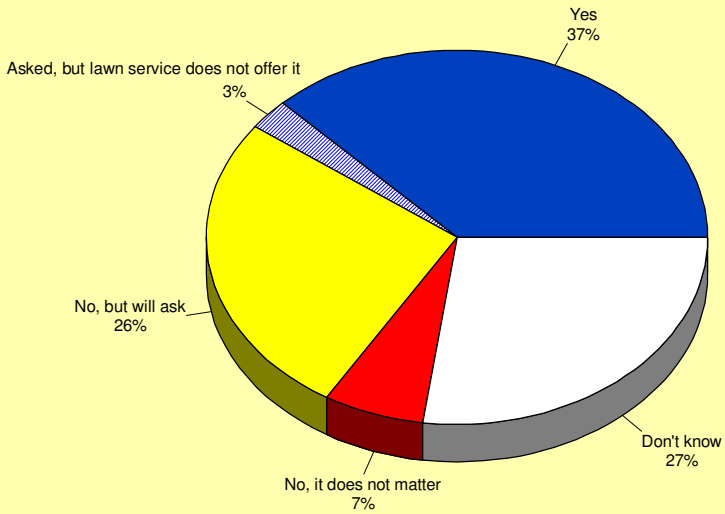


Source: ETC Institute (November 2012)

TRENDS

Does your household ask your lawn service to use environmentally friendly/organic products and practices?

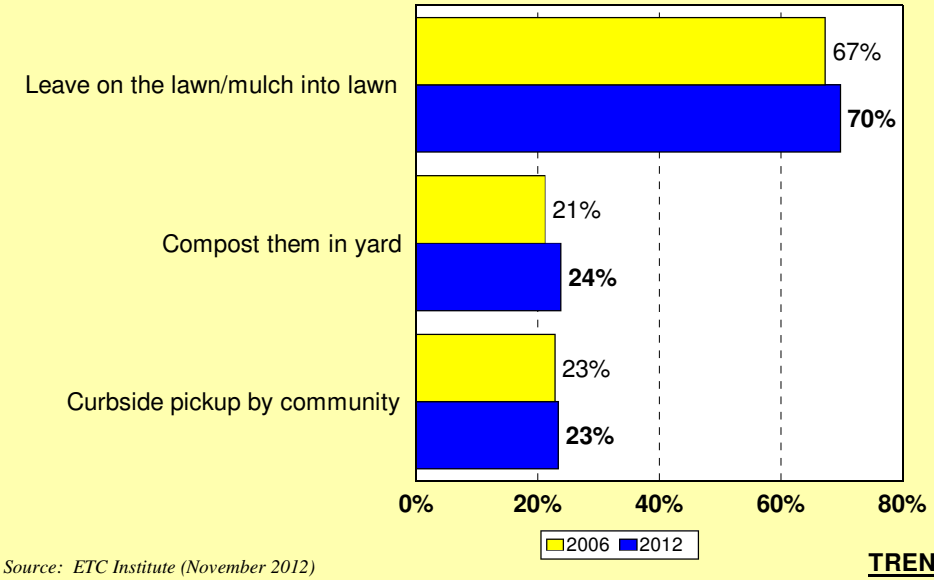
by percentage of respondents that **USE** a lawn service



Source: ETC Institute (November 2012)

Top Three Methods Used by Residents to Dispose of Grass Clippings and/or Leaves

by percentage of respondents (multiple answers allowed)

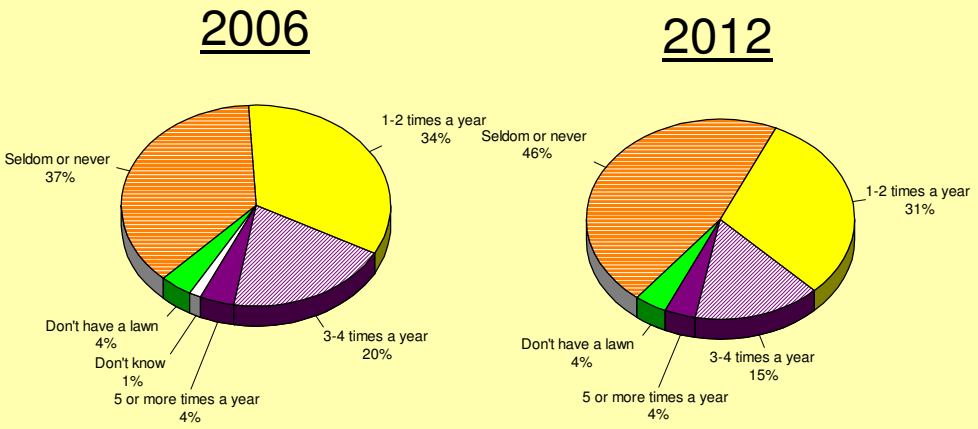


Source: ETC Institute (November 2012)

TRENDS

Which of the following BEST describes how often your household fertilizes your lawn?

by percentage of respondents

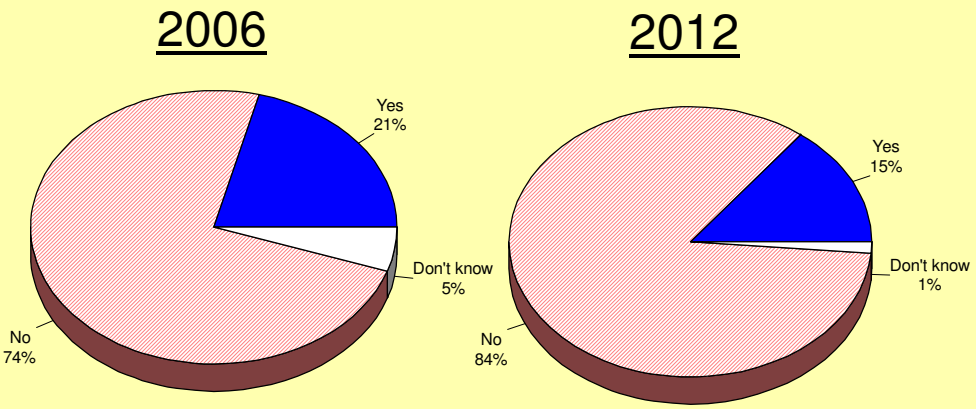


Source: ETC Institute (November 2012)

TRENDS

Have you had your soil tested to determine how much and what kind of nutrients your lawn needs?

by percentage of respondents that **USE** fertilizer on their lawns

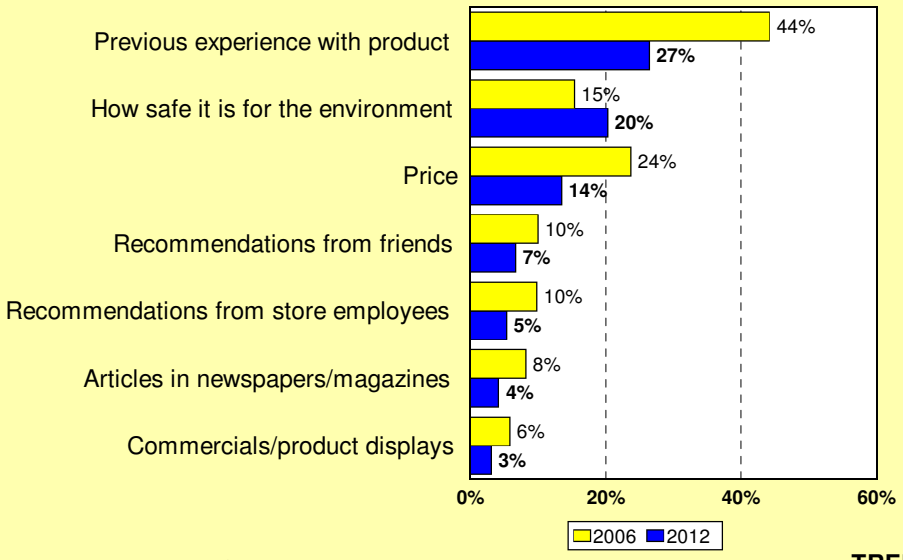


Source: ETC Institute (November 2012)

TRENDS

Which of the following reasons influence the type of fertilizer or pesticide your household uses most?

by percentage of respondents that USE Fertilizer (multiple answers allowed)

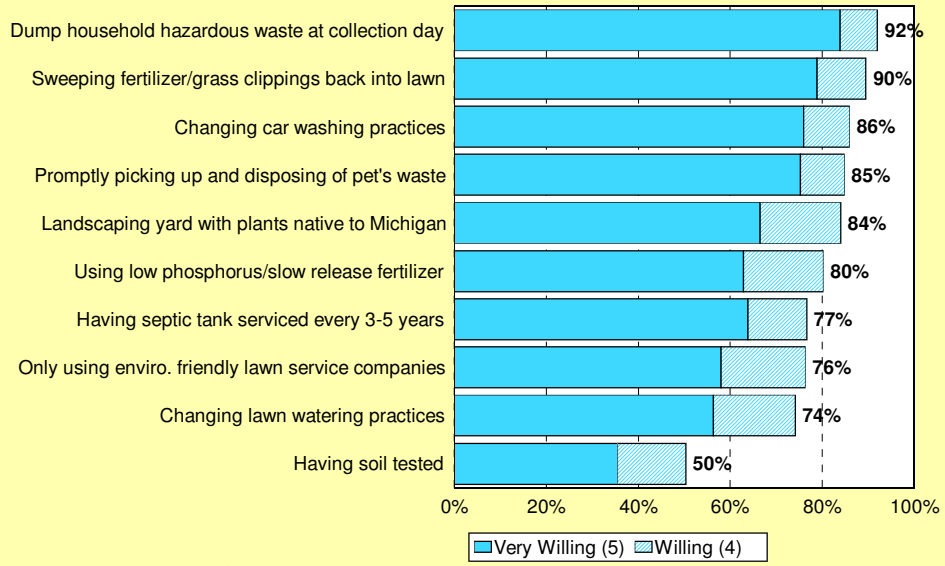


Source: ETC Institute (November 2012)

TRENDS

Willingness of Residents to Take Various Actions to Help Reduce Pollution of Streams and Lakes

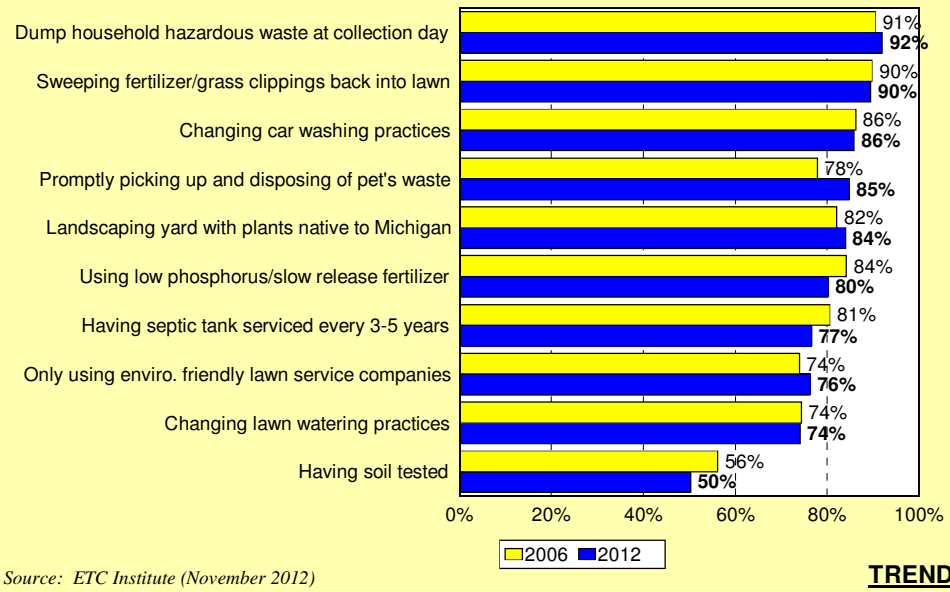
by percentage of respondents (excluding don't knows)



Source: ETC Institute (November 2012)

Willingness of Residents to Take Various Actions to Help Reduce Pollution of Streams and Lakes

by percentage of respondents who were "very willing" or "willing" (excluding not applicable)

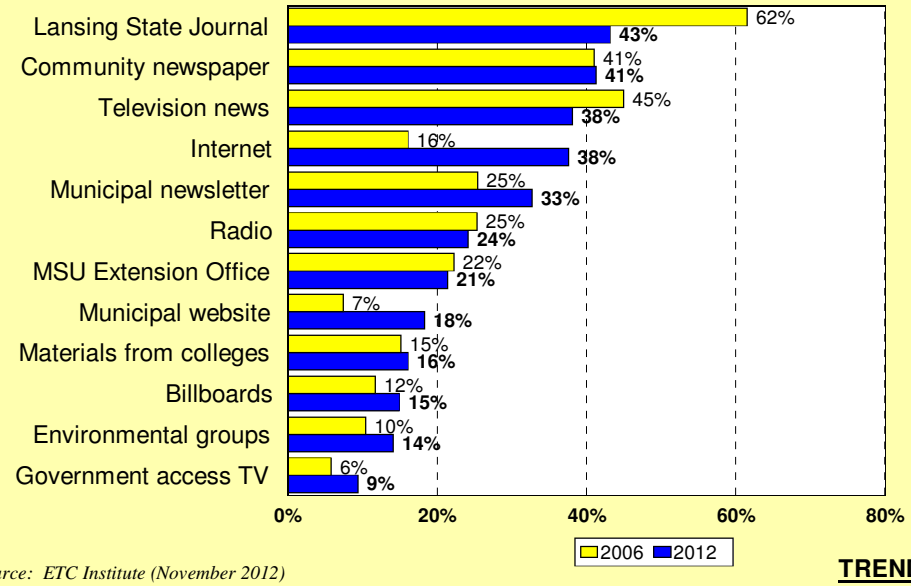


Source: ETC Institute (November 2012)

TRENDS

How Residents Would Prefer to Receive Information about Ways to Protect Lakes and Streams

by percentage of respondents (multiple answers allowed)

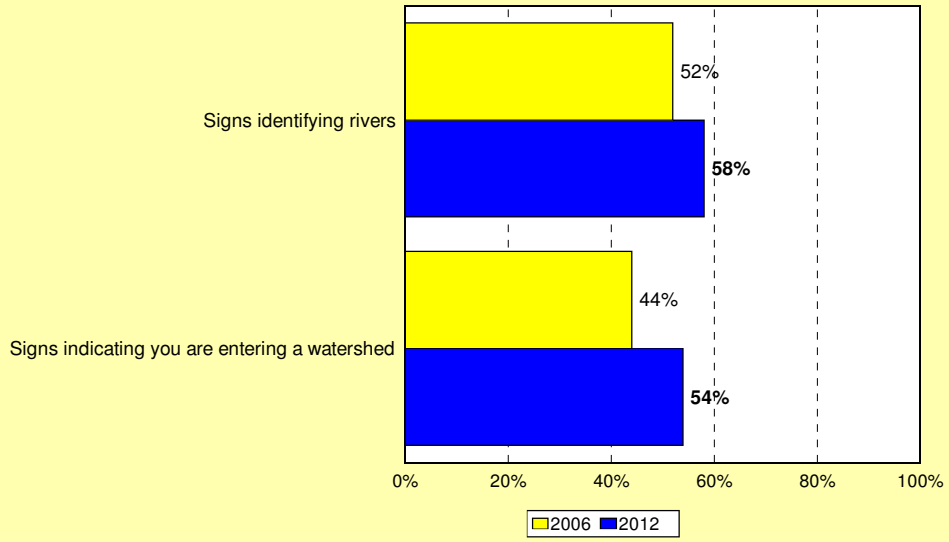


Source: ETC Institute (November 2012)

TRENDS

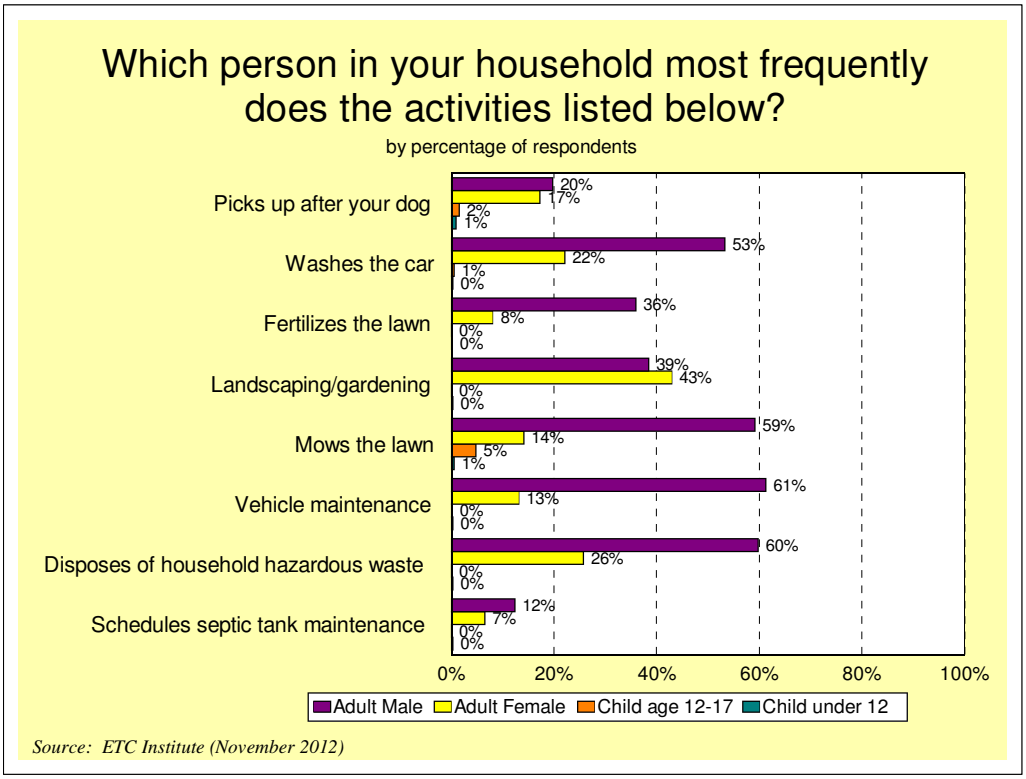
Percentage of Residents Who Have Seen Various Types of Signs in Their Community

by percentage of respondents



Source: ETC Institute (November 2012)

TRENDS


Which person in your household most frequently does the activities listed below?
by percentage of respondents
Picks up after your dog
20%
17%
2%
1%
Washes the car
53%
22%
1%
0%
Fertilizes the lawn
36%
8%
0%
0%
Landscaping/gardening
39%
43%
0%
0%
Mows the lawn
59%
14%
5%
1%
Vehicle maintenance
61%
13%
0%
0%
Disposes of household hazardous waste
60%
26%
0%
0%
Schedules septic tank maintenance
12%
7%
0%
0%
0%
20%
40%
60%
80%
100%
Adult Male
Adult Female
Child age 12-17
Child under 12
Source: ETC Institute (November 2012)

GIS Maps

Interpreting the Maps

The maps on the following pages show the mean ratings for several questions on the survey based on the home zip code the respondents.

If all zip codes on a map are the same color, then most residents across the Lansing region generally feel the same about that issue.

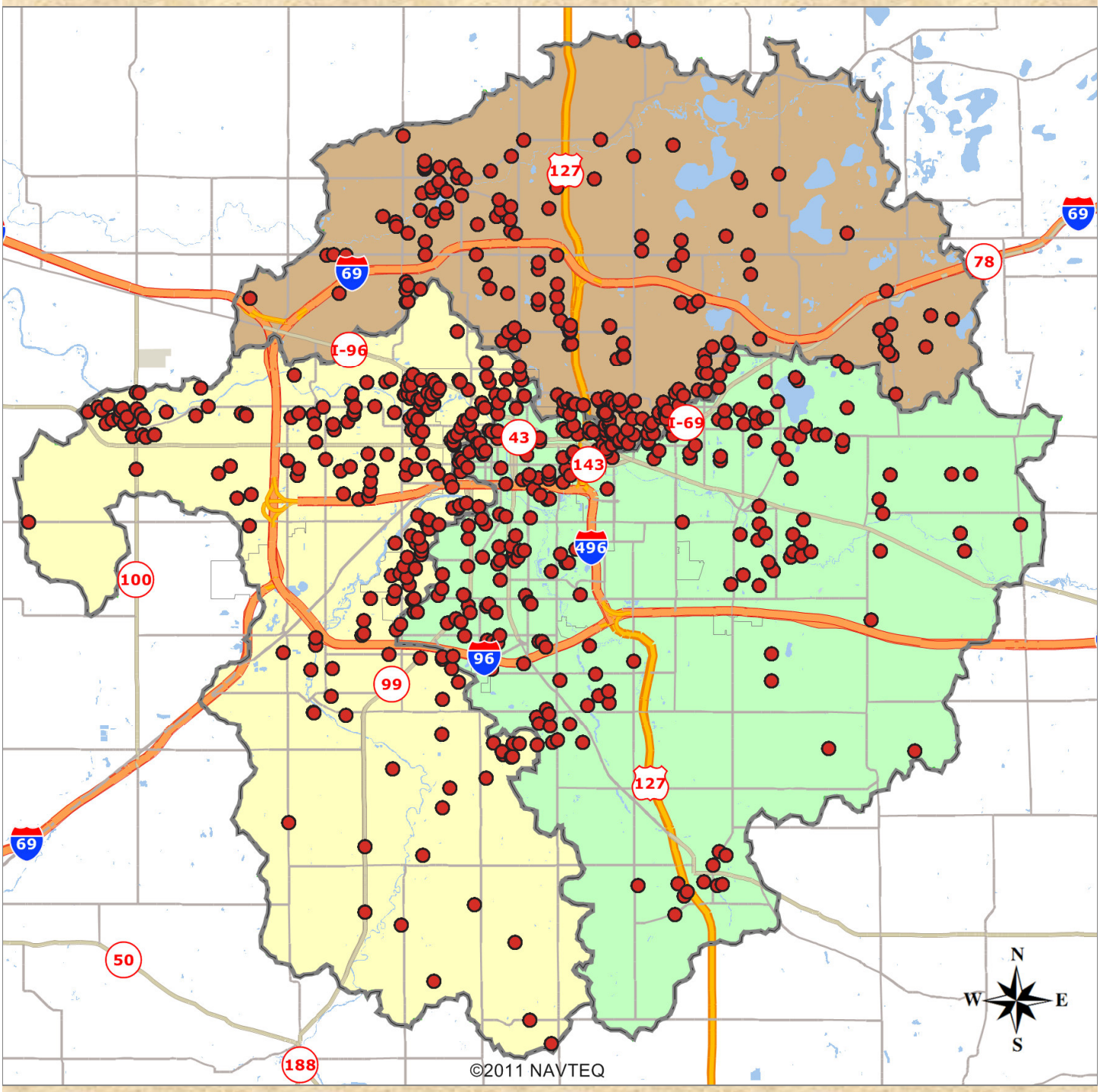
When reading the maps, please use the following color scheme as a guide:

- DARK/LIGHT BLUE shades identify POSITIVE ratings. Shades of blue generally indicate willingness, agreement, and affirmative responses ("YES") to questions.

- OFF-WHITE/LIGHT YELLOW shades identify NEUTRAL ratings. Shades of neutral generally indicate that residents think things are staying about the same, results are mixed, or residents do not have a strong opinion about an issue.

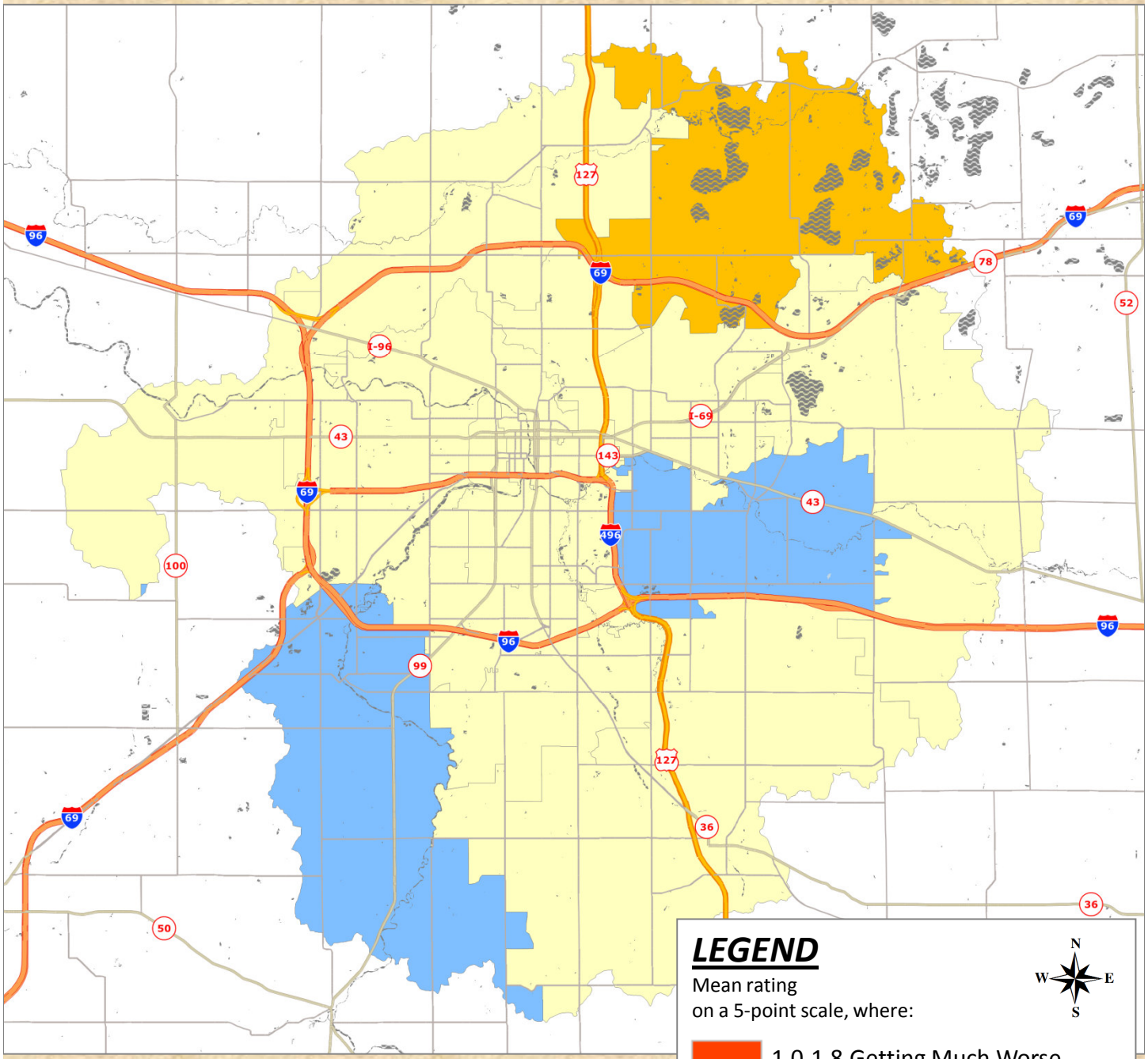
- ORANGE/RED shades identify NEGATIVE ratings. Shades of orange/red generally indicate unwillingness, disagreement, and negative responses ("NO") to questions.

Location of Survey Respondents



2012 Greater Lansing Regional Water Quality Survey

Q1 How Residents Think the Quality of Water in Lakes, Rivers, and Streams in Their Community is Changing

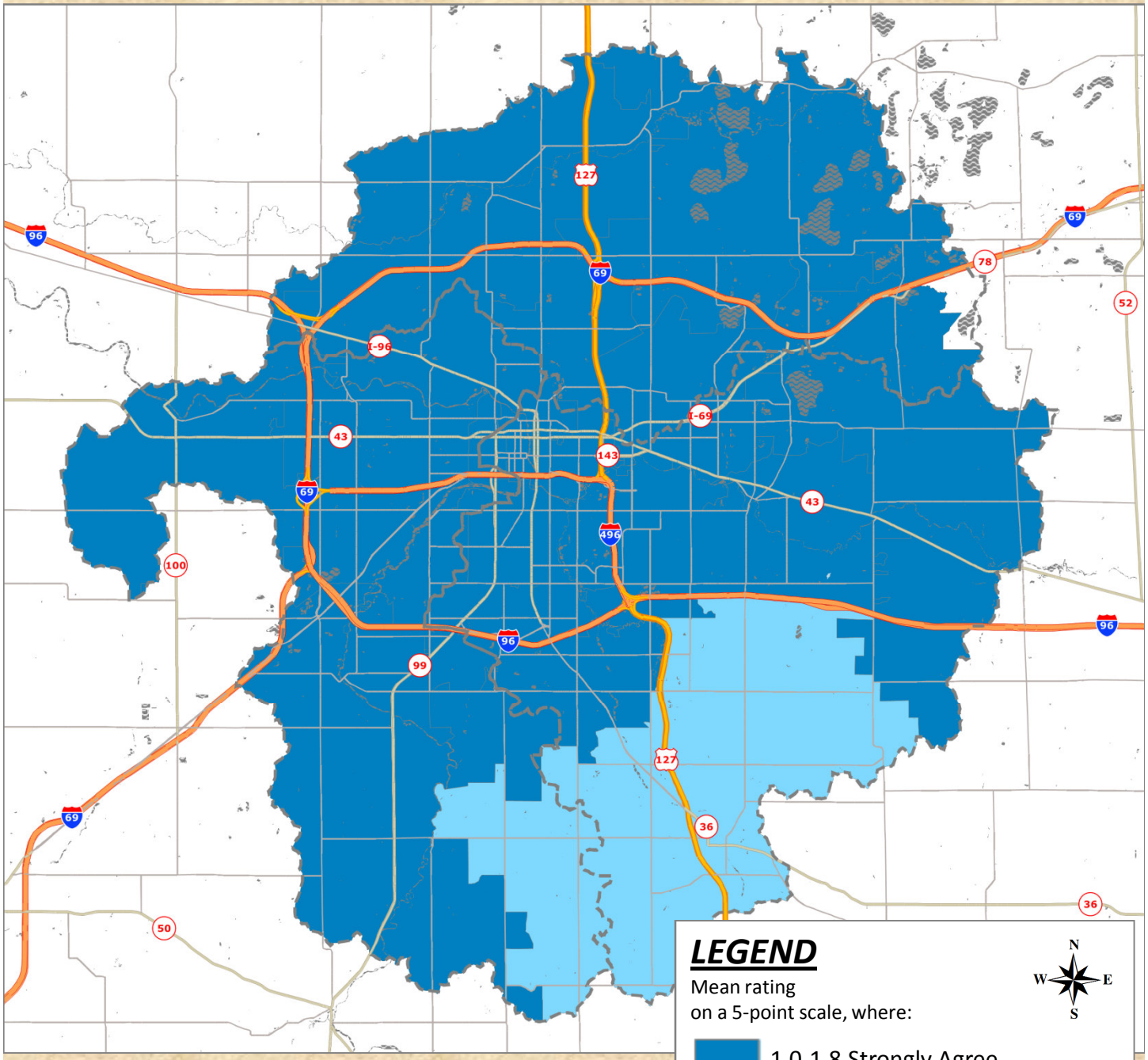


2012 Greater Lansing Regional Water Quality Survey

Shading reflects the mean rating
for all respondents **by ZIP Code***

*Clipped to watershed boundaries and combined based on respondent distribution

Q5 Level of Agreement That the Quality of Local Steams and Rivers Affects the Great Lakes



2012 Greater Lansing Regional Water Quality Survey

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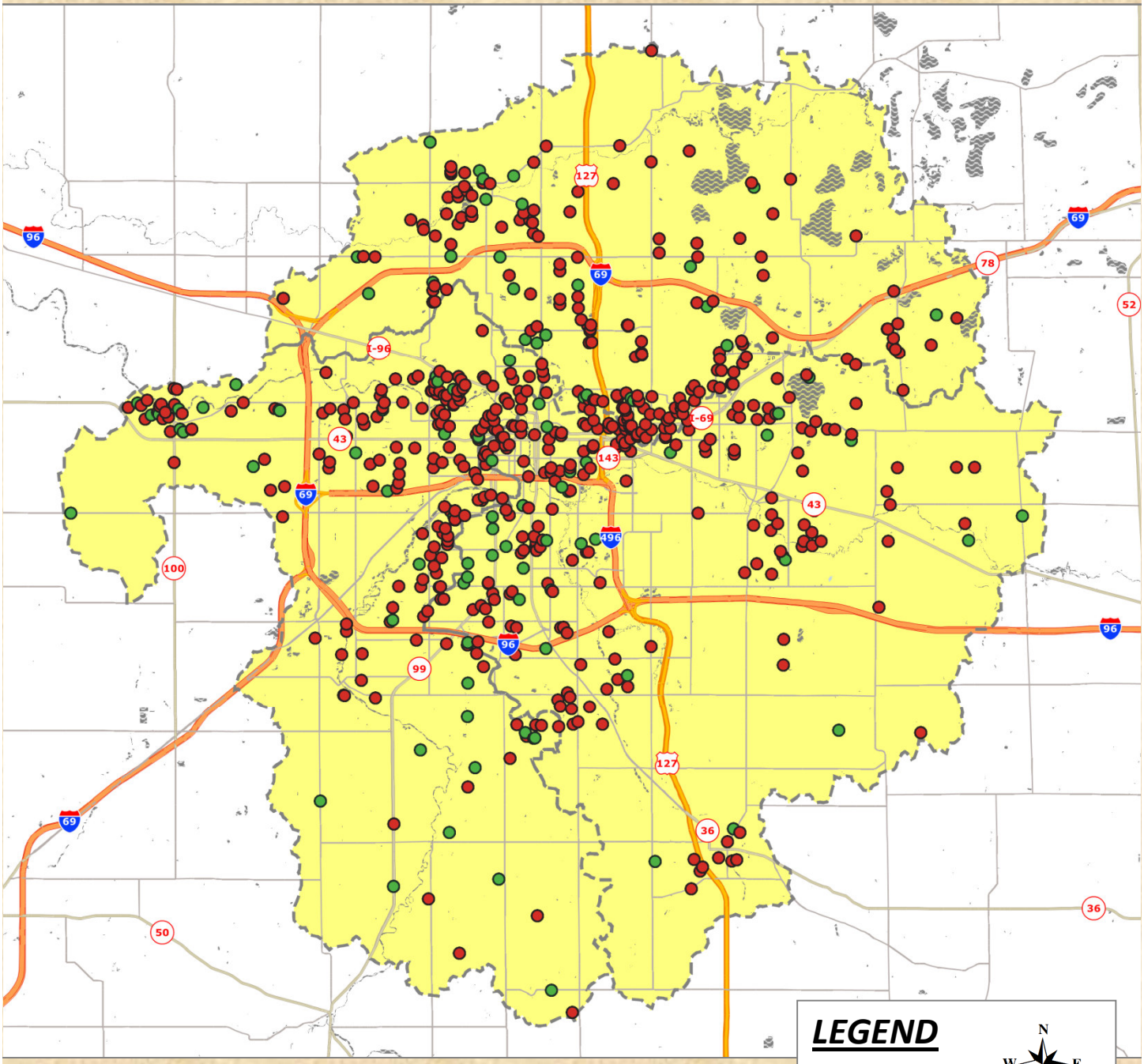
LEGEND

Mean rating
on a 5-point scale, where:

N
W E
S

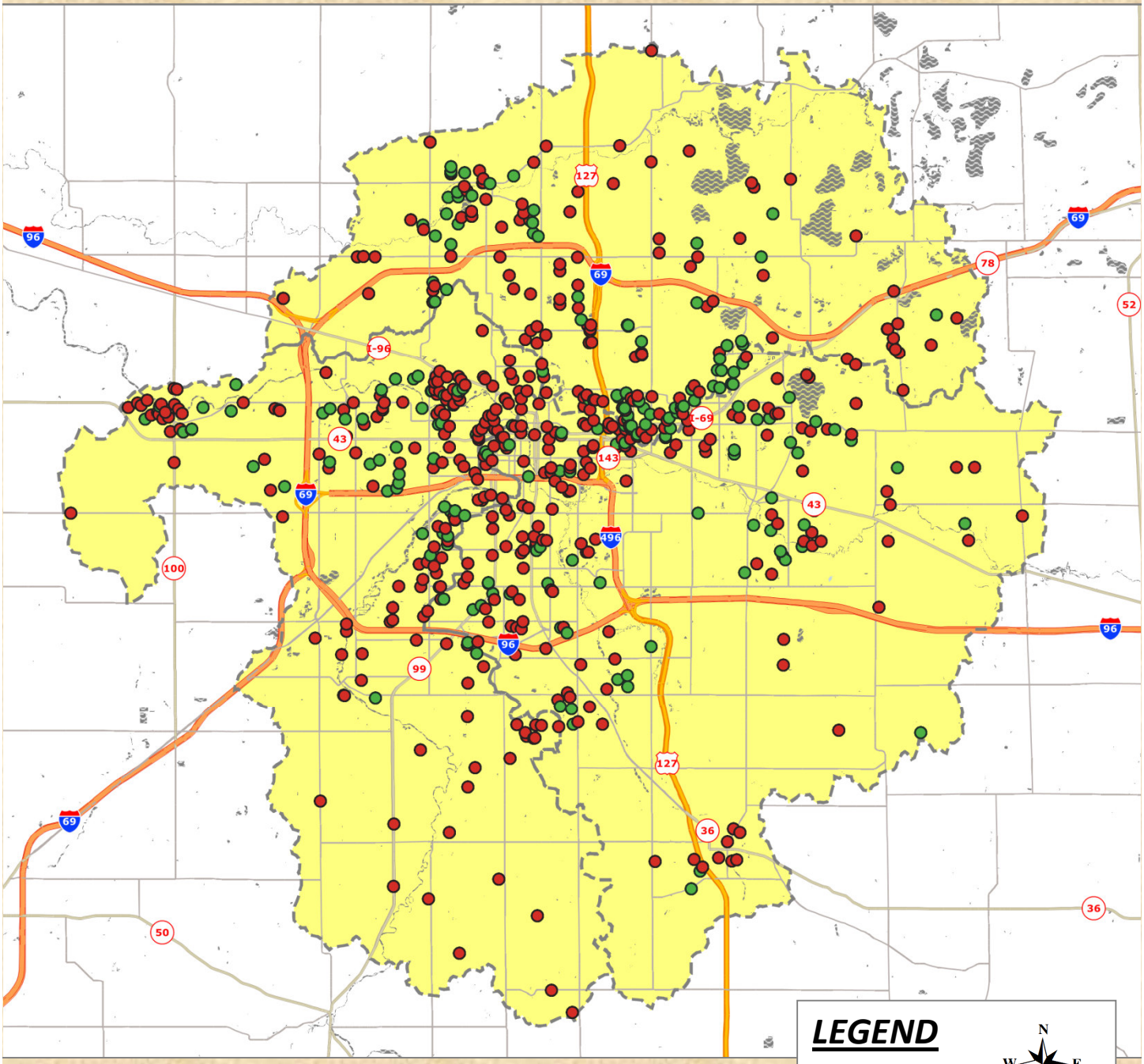
- 1.0-1.8 Strongly Agree
- 1.8-2.6 Agree
- 2.6-3.4 Neither Agree/Disagere
- 3.4-4.2 Disagree
- 4.2-5.0 Strongly Disagree
- Other (no responses)

Q10. Do you or other members of your household usually change motor oil, transmission fluid, or radiator fluid for vehicles at your home?



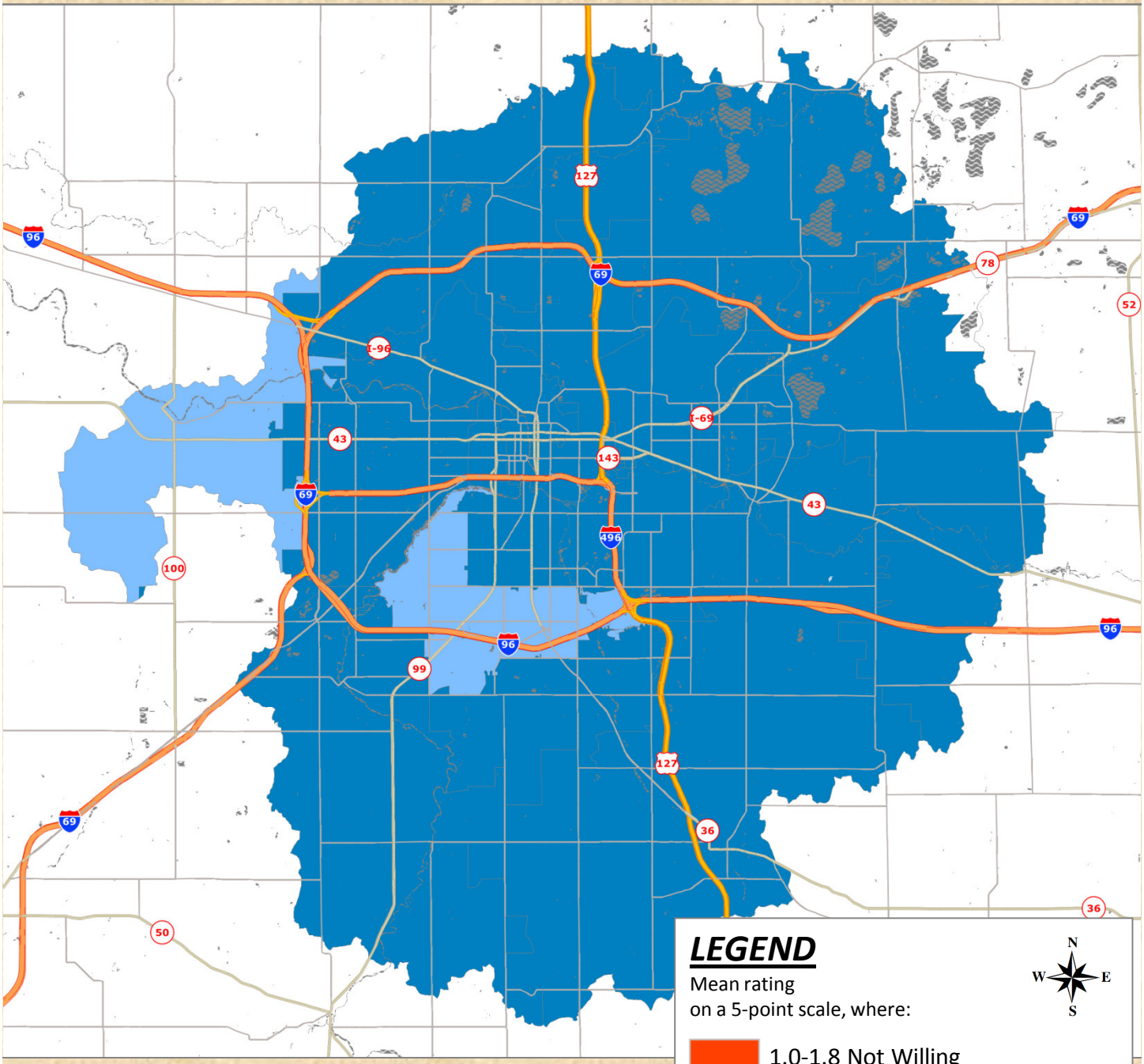
2012 Greater Lansing Regional Water Quality Survey

Q13 Does your household use a lawn service for mowing, fertilizer and/or pesticide applications?



2012 Greater Lansing Regional Water Quality Survey

Q16a Willingness to Change Car Washing Practices



2012 Greater Lansing Regional Water Quality Survey

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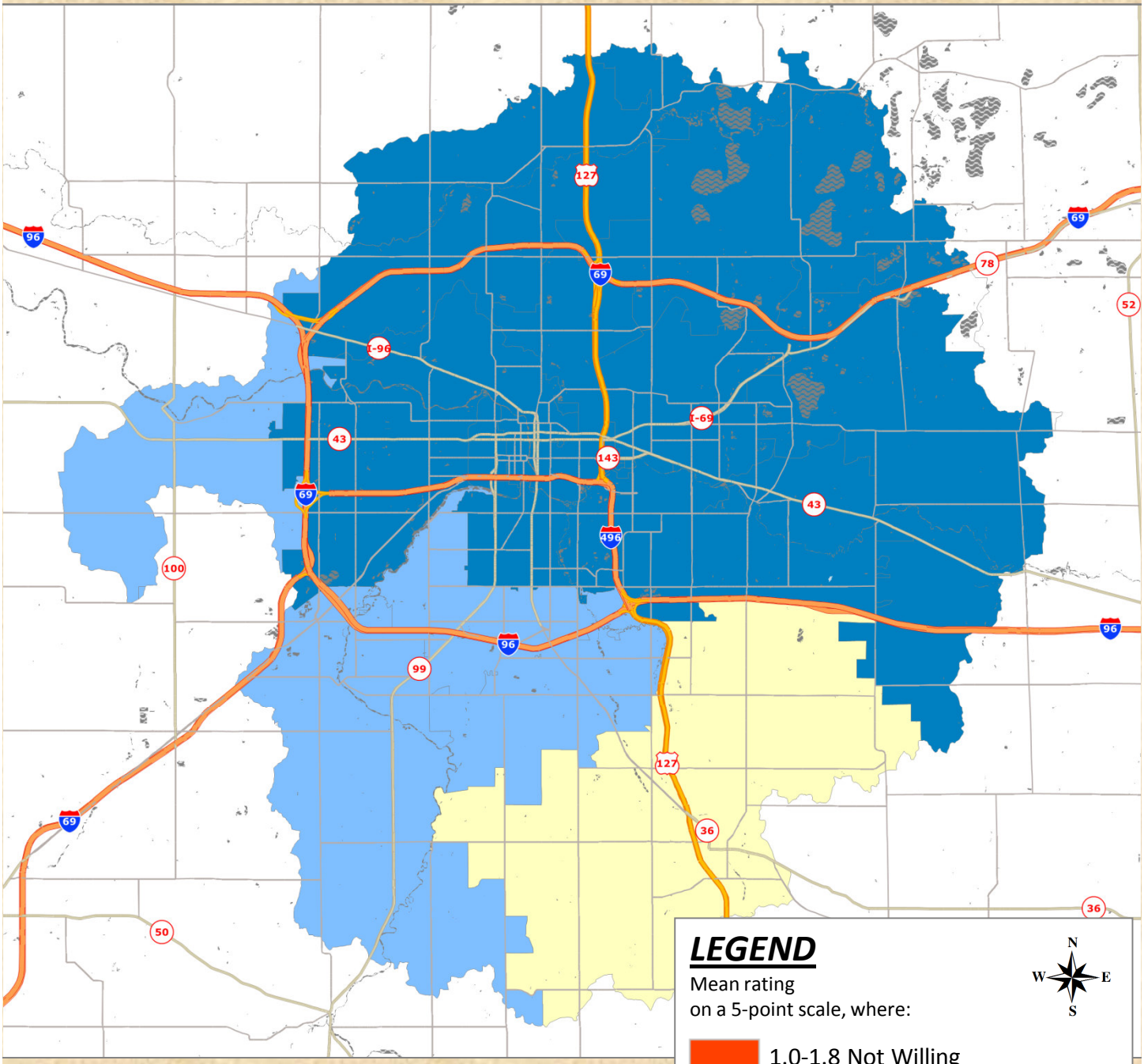
LEGEND

Mean rating
on a 5-point scale, where:

- 1.0-1.8 Not Willing
- 1.8-2.6 Somewhat Not Willing
- 2.6-3.4 Neutral
- 3.4-4.2 Somewhat Willing
- 4.2-5.0 Very Willing
- Other (no responses)

Q16b Willingness to Promptly Pickup and Dispose of Pet Waste



2012 Greater Lansing Regional Water Quality Survey

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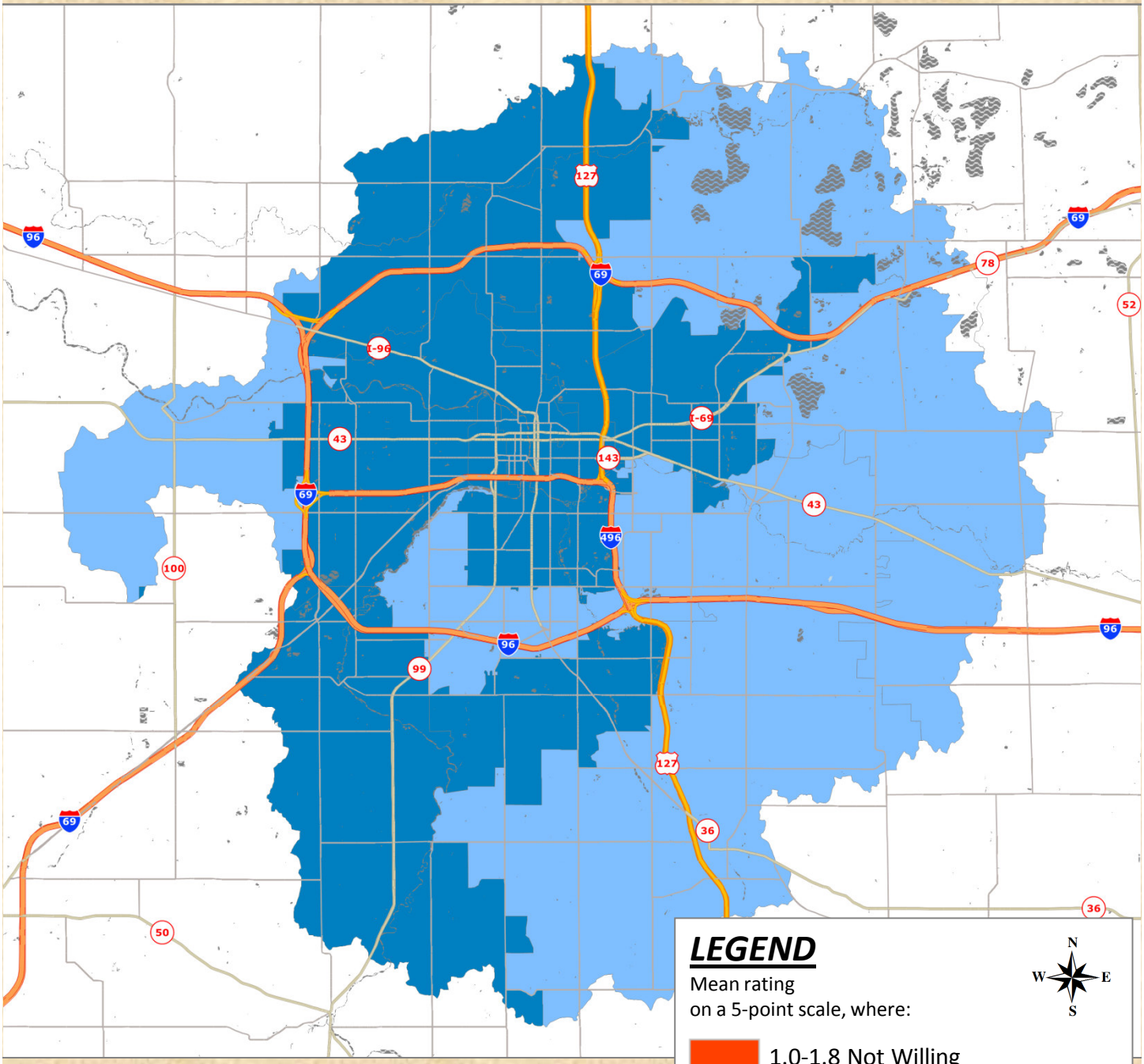
Q16c Willingness to Have Septic Tank Serviced Every 3-5 years



2012 Greater Lansing Regional Water Quality Survey

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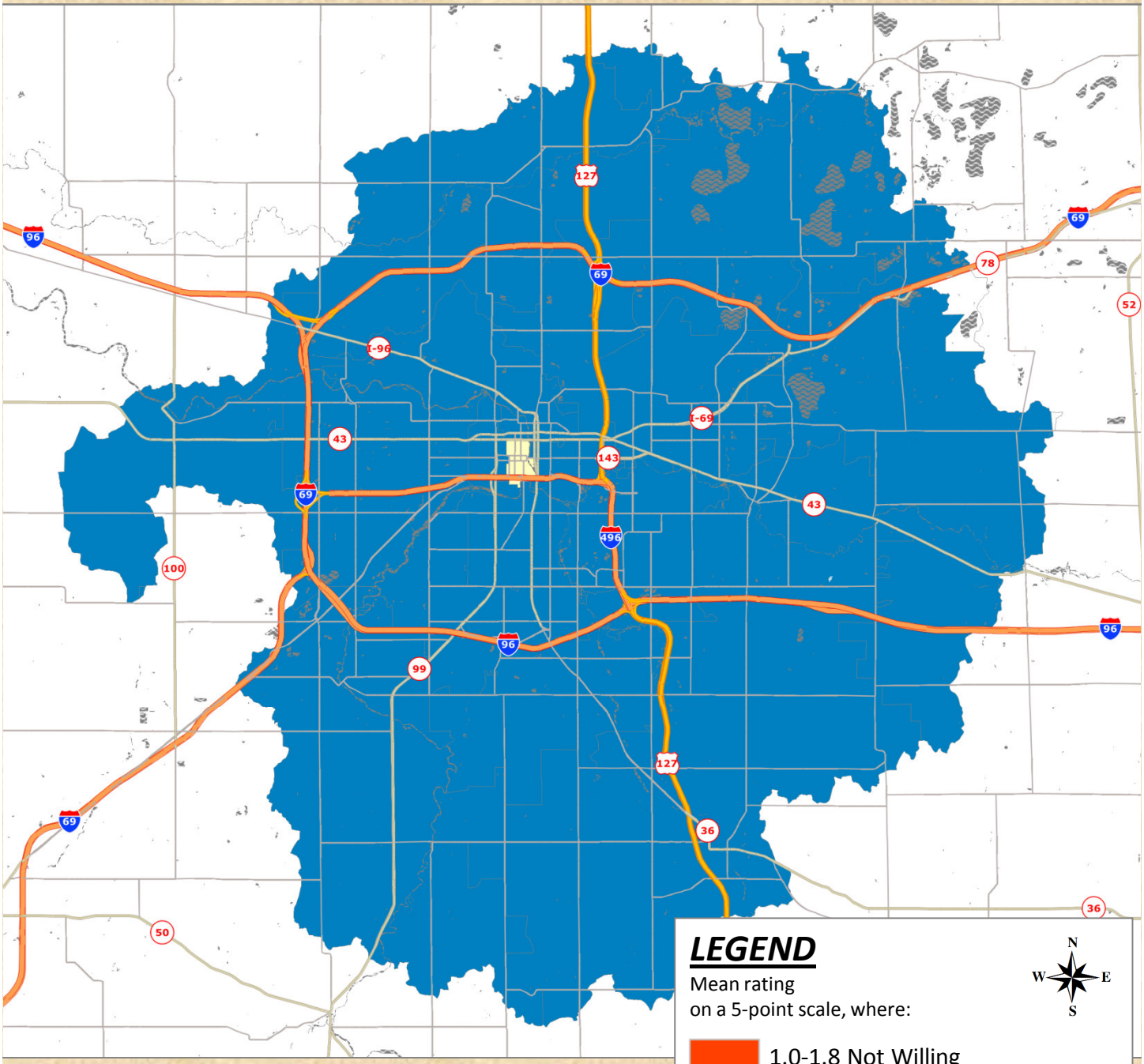
Q16d Willingness to Sweep Excess Fertilizer and Grass Clippings from Paved Surfaces Back Onto Lawn



2012 Greater Lansing Regional Water Quality Survey

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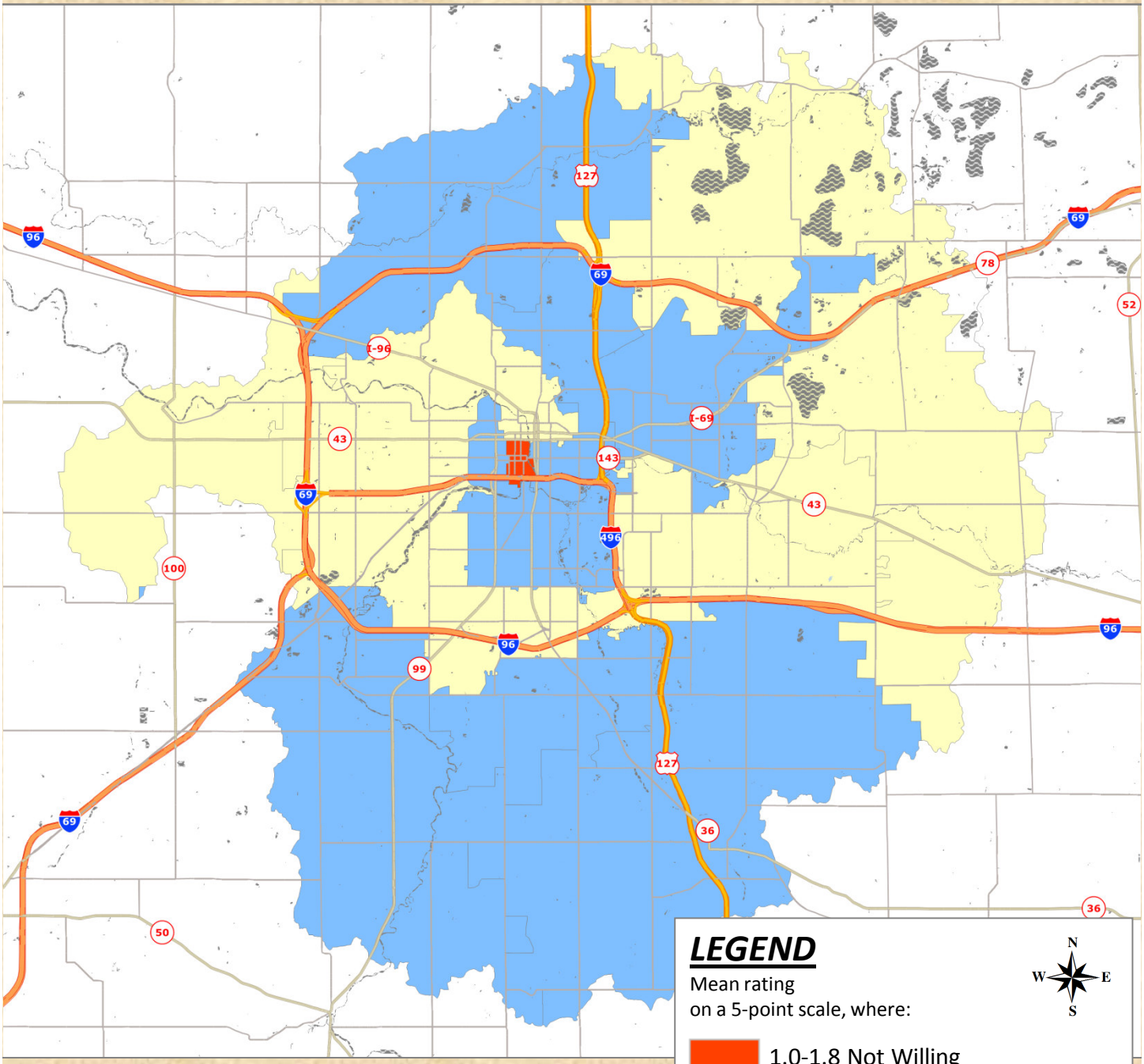
Q16e Willingness to Have Soil Tested



2012 Greater Lansing Regional Water Quality Survey

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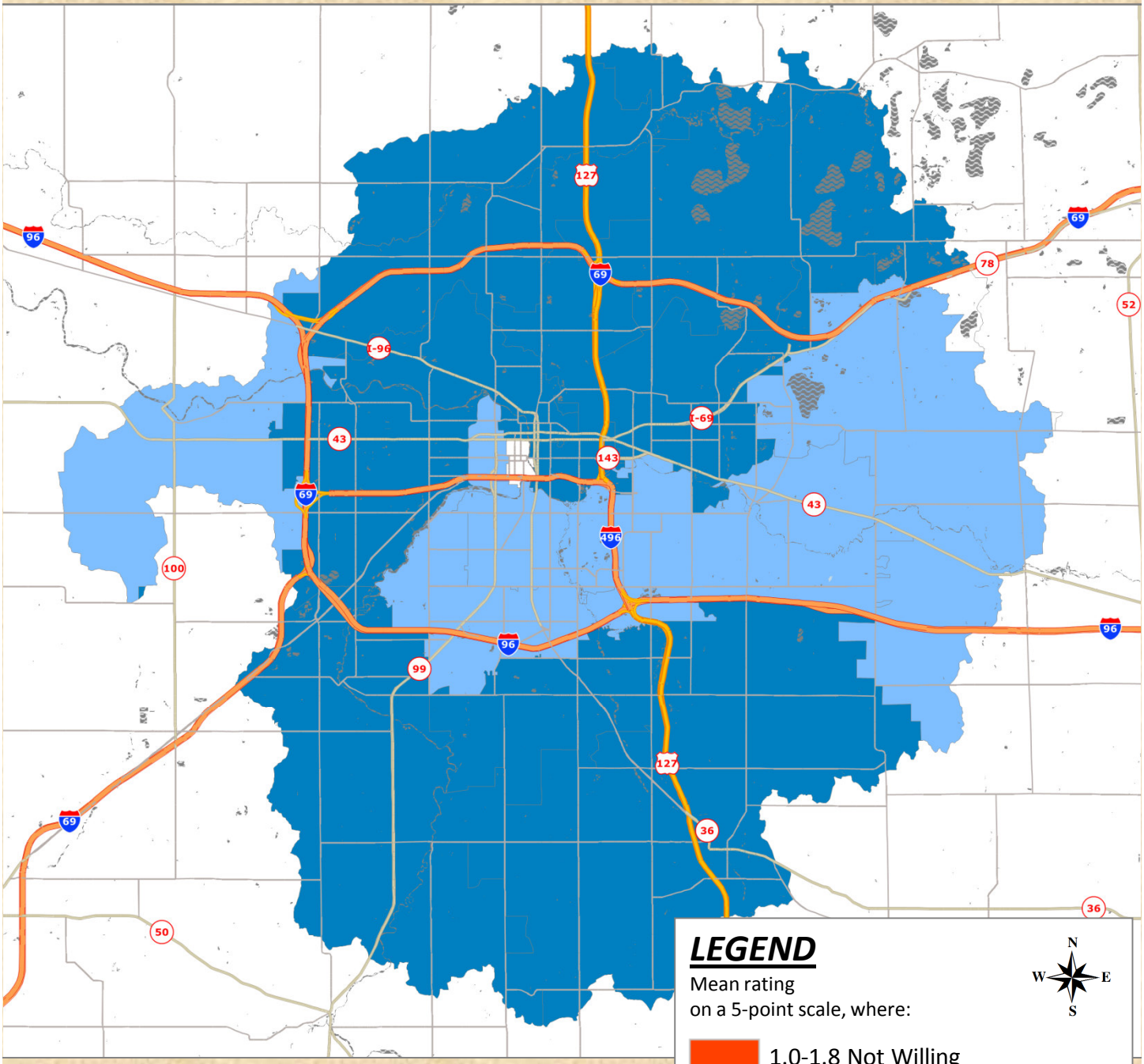
Q16f Willingness to Use Low Phosphorus or Slow Release Nitrogen Fertilizer On Lawns



2012 Greater Lansing Regional Water Quality Survey

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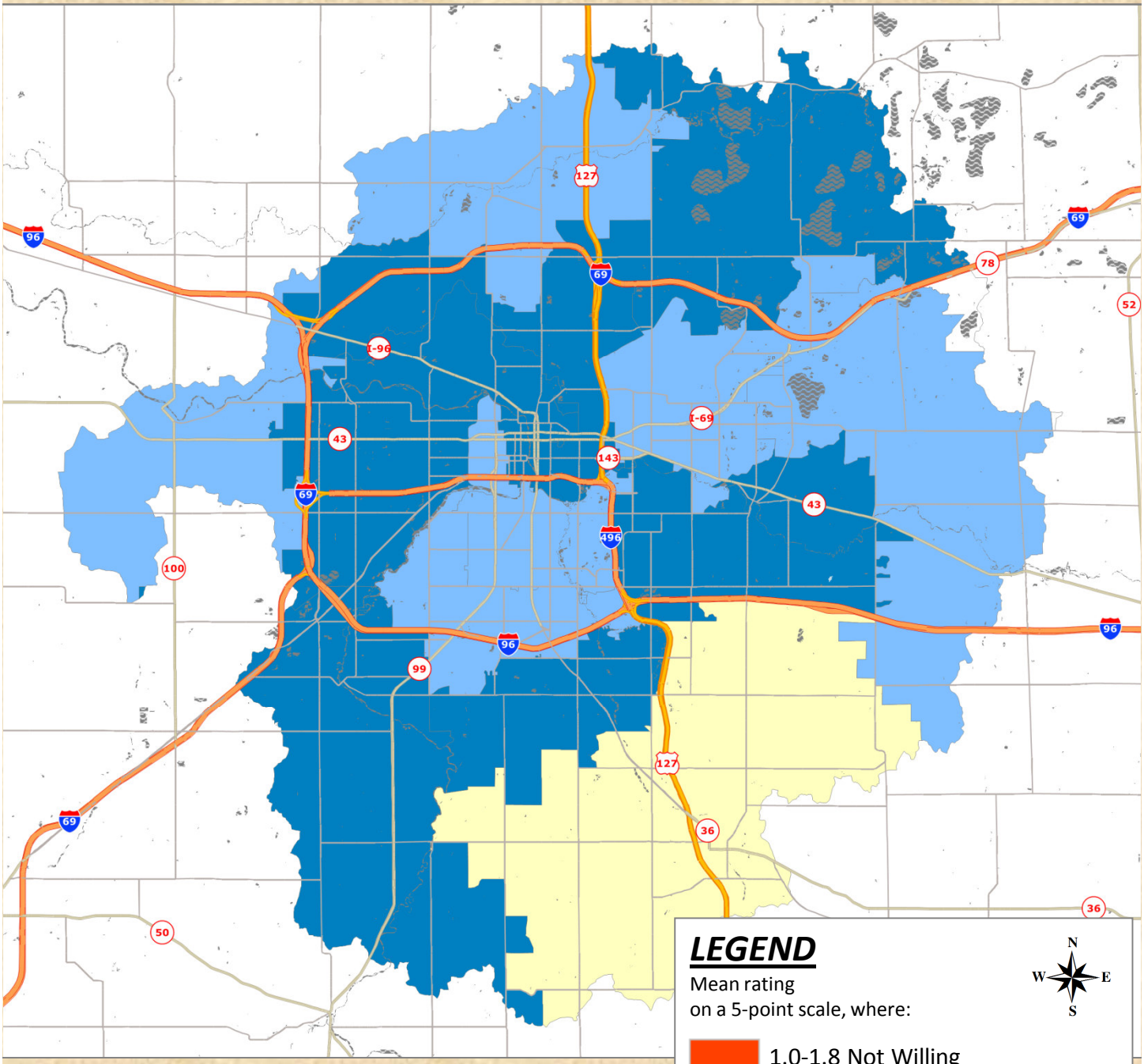
Q16g Willingness to Only Use Lawn Service Companies That Use Environmentally Friendly Products



2012 Greater Lansing Regional Water Quality Survey

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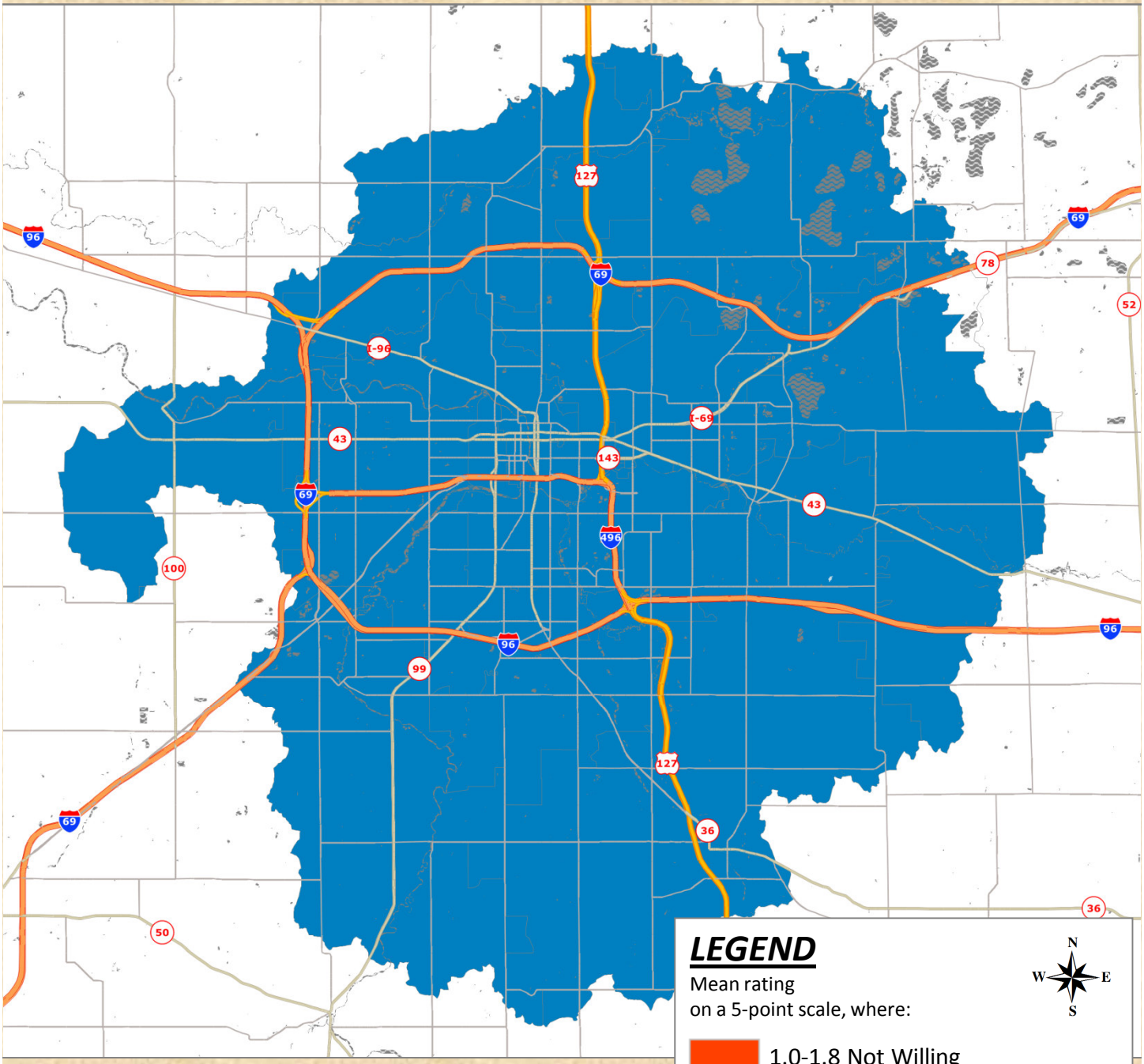
LEGEND

Mean rating
on a 5-point scale, where:

N
W E
S

- 1.0-1.8 Not Willing
- 1.8-2.6 Somewhat Not Willing
- 2.6-3.4 Neutral
- 3.4-4.2 Somewhat Willing
- 4.2-5.0 Very Willing
- Other (no responses)

Q16h Willingness to Dispose of Household Hazardous Waste at a Community Collection Day



2012 Greater Lansing Regional Water Quality Survey

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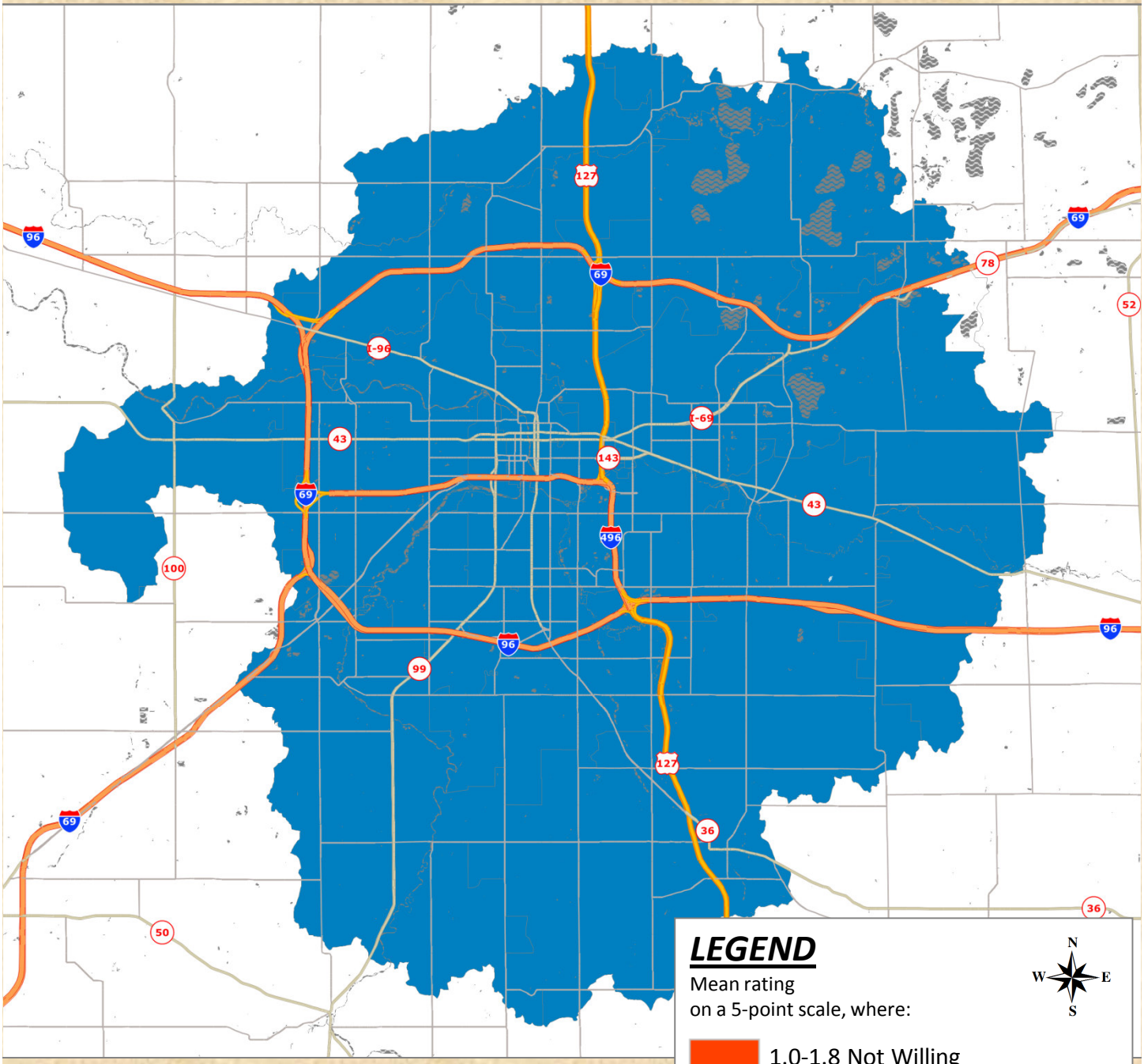
Q16i Willingness to Landscape Yard with Plants Native to Michigan



2012 Greater Lansing Regional Water Quality Survey

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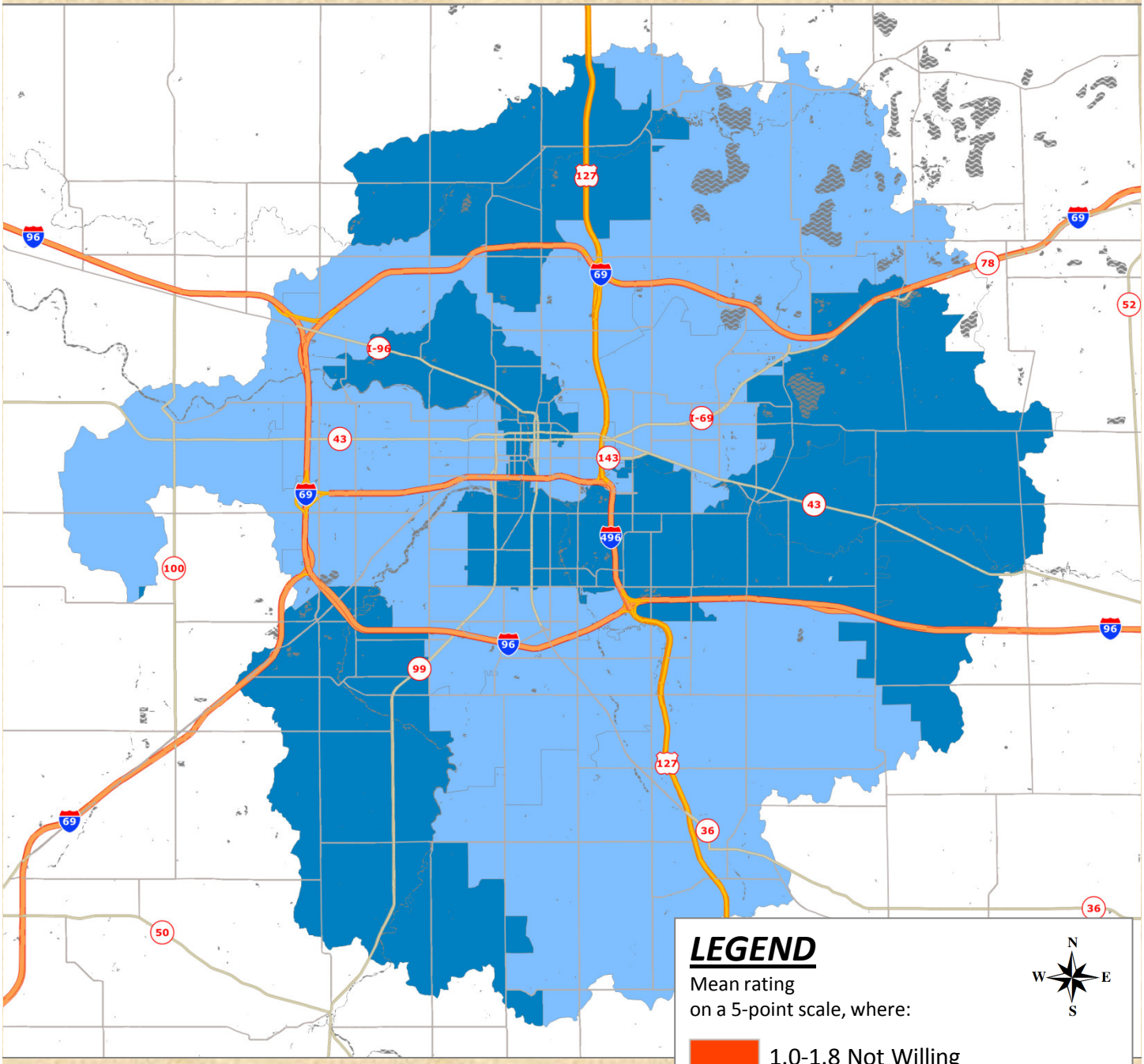
Q16j Willingness to Change Lawn Watering Practices



2012 Greater Lansing Regional Water Quality Survey

Shading reflects the mean rating
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*Clipped to watershed boundaries and combined based on respondent distribution

Tabular Data
(Crosstabs by Watershed)

Q1. Do you think the quality of water in lakes, rivers, and streams in the community where you live is:

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q1. Quality of water in lakes, rivers, & streams in your community				
Getting much worse	5.5%	4.4%	7.3%	5.7%
Getting somewhat worse	16.8%	19.9%	13.2%	16.6%
Staying the same	26.8%	35.0%	32.0%	31.3%
Getting somewhat better	28.2%	18.9%	21.5%	22.9%
Getting much better	2.7%	1.5%	3.2%	2.5%
Don't know	20.0%	20.4%	22.8%	21.1%

Q2. How much do you think the way you maintain your home (e.g., lawn care, trash disposal, pet care) affects the quality of water in lakes and streams in the community where you live?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q2. How much does the way you maintain your home affect the quality of water in lakes & streams in your community				
Great effect	30.5%	26.2%	32.0%	29.6%
Moderate effect	30.5%	38.8%	35.2%	34.7%
Little effect	22.7%	20.9%	19.2%	21.1%
No effect	7.7%	8.7%	9.1%	8.5%
Don't know	8.6%	5.3%	4.6%	6.2%

Q3. During the past 5 years, have you or someone in your household taken action at your home or in your community to protect water resources?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q3. Have you taken action to protect water resources				
Yes	35.0%	42.2%	35.6%	37.6%
No	51.4%	46.6%	56.2%	51.4%
Don't know	13.6%	11.2%	8.2%	11.0%

Q4. During the past year, which ONE of the following do you think contributed the MOST pollution to lakes, rivers and streams in the community where you live?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q4. Pollution to lakes, rivers & streams in your community				
Wastewater treatment plant discharges	10.9%	5.8%	10.0%	9.0%
Factories/industrial discharges	26.8%	17.5%	24.2%	23.1%
Stormwater overflow	27.3%	31.1%	27.4%	28.5%
Sewage overflow	17.3%	6.8%	12.3%	12.2%
Animal waste	4.1%	5.8%	3.7%	4.5%
Construction sites & new development	10.0%	4.4%	5.5%	6.7%
Agricultural operations	13.2%	21.8%	15.1%	16.6%
None chosen	11.4%	17.0%	11.9%	13.3%

Q5. Please indicate your level of agreement with the following statement: "The quality of local streams and rivers where I live affects the Great Lakes."

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q5. Your level of agreement with the statement				
Strongly agree	53.6%	48.5%	51.1%	51.1%
Agree	30.9%	43.7%	36.1%	36.8%
Neither agree nor disagree	5.5%	2.4%	5.0%	4.3%
Disagree	2.3%	2.4%	4.1%	2.9%
Strongly disagree	1.4%	1.0%	0.9%	1.1%
Don't know	6.4%	1.9%	2.7%	3.7%

Q6. Where do you think stormwater (rain water) goes after it enters a storm drain or roadside ditch in your community?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q6. Where does stormwater go after it enters a storm drain or roadside ditch				
Directly to lakes & streams without treatment	51.4%	53.9%	41.1%	48.6%
To lakes & streams after receiving some treatment	11.8%	9.2%	16.0%	12.4%
To a wastewater treatment plant	19.5%	13.6%	17.4%	16.9%
Don't know	17.3%	23.3%	25.6%	22.1%

Q7. Which ONE of the following BEST describes the location where you live?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q7. Where you live				
I live near a watershed	20.9%	26.7%	23.7%	23.7%
I live in a watershed	25.9%	36.4%	26.9%	29.6%
I don't live in a watershed	14.5%	13.6%	19.2%	15.8%
Don't know/I'm not familiar with the term "watershed"	38.6%	23.3%	30.1%	31.0%

Q8. Where does your household typically wash your vehicle(s) during the summer?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q8. Where do you wash your vehicle(s) during summer				
At home in driveway	14.5%	10.7%	14.6%	13.3%
At home on grass	6.8%	4.9%	4.6%	5.4%
At a carwash	68.2%	75.2%	71.7%	71.7%
Other place	2.7%	1.0%	1.8%	1.9%
Don't wash a vehicle	10.5%	9.2%	9.1%	9.6%

Q9. Do you have a septic system at your home?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q9. Do you have a septic system at home				
Yes	21.8%	25.7%	13.2%	20.1%
No	75.5%	72.8%	80.8%	76.5%
Don't know	2.7%	1.5%	5.9%	3.4%

Q9a. [If YES] Has your household had your septic system checked or serviced during the past five years?

N=130	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q9a. Had your septic system checked or serviced				
Yes	77.1%	77.4%	72.4%	76.2%
No	18.8%	20.8%	24.1%	20.8%
Don't know	4.2%	1.9%	3.4%	3.1%

Q10. Do you or other members of your household usually change motor oil, transmission fluid, or radiator fluid for vehicles at your home?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q10. Do you change motor oil, transmission fluid, or radiator fluid for vehicles at home				
Yes	17.7%	12.1%	16.0%	15.3%
No	81.4%	87.9%	83.1%	84.1%
Don't know	0.9%	0.0%	0.9%	0.6%

Q11. Where does your household typically dispose of materials, such as old oil/fluids from your vehicle, batteries, pesticides, paints, and other household hazardous wastes?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q11. Where do you dispose of materials, such as old oil/fluids from vehicle, batteries, pesticides, paints, & other household hazardous wastes				
On the ground	0.0%	0.0%	0.5%	0.2%
With my regular trash	13.6%	12.6%	16.4%	14.2%
At a scheduled community collection site or facility that accepts them	72.7%	79.1%	77.6%	76.5%
I keep it in a container at home	7.7%	8.3%	8.7%	8.2%
Down a storm drain or roadside ditch	0.0%	0.0%	0.5%	0.2%
Other	8.2%	5.8%	5.0%	6.3%
None chosen	3.2%	2.9%	3.2%	3.1%

Q11a. Why doesn't your household typically dispose of your household hazardous waste at a community collection site?

N=177	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q11a. Why not at a community collection site				
Don't know where one is located	38.1%	37.3%	44.4%	40.1%
Don't have time	9.5%	17.6%	7.9%	11.3%
No sites are located near my home	4.8%	11.8%	0.0%	5.1%
I don't think household hazardous waste facilities are necessary	6.3%	0.0%	0.0%	2.3%
Other	23.8%	13.7%	25.4%	22.0%
None chosen	11.1%	13.7%	9.5%	11.3%

Q12. Do you or other members of your household typically pick up your dog's waste when you go for a walk?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q12. Do you pick up your dog's waste				
Yes	32.7%	37.6%	41.1%	37.1%
No, but we have a dog	8.2%	4.4%	5.9%	6.2%
No, we don't have a dog	59.1%	58.0%	53.0%	56.7%

Q12. Do you or other members of your household typically pick up your dog's waste when you go for a walk? (excluding respondents who did not have a dog)

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q12. Do you pick up your dog's waste				
Yes	80.0%	89.5%	87.4%	85.7%
No, but we have a dog	20.0%	10.5%	12.6%	14.3%

Q12a. [If you have a dog] How does your household typically dispose of your dog's waste?

N=239	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q12a. How do you dispose of your dog's waste				
Throw it in the ditch	1.4%	1.3%	2.2%	1.7%
Dispose with regular trash	65.3%	68.8%	61.1%	64.9%
Bury it in ground	11.1%	5.2%	12.2%	9.6%
Flush it down toilet	9.7%	7.8%	5.6%	7.5%
Don't pick up dog waste	2.8%	2.6%	2.2%	2.5%
Other	13.9%	14.3%	16.7%	15.1%
None chosen	1.4%	2.6%	2.2%	2.1%

Q13. Does your household use a lawn service for mowing, fertilizer and/or pesticide applications?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q13. Do you use a lawn service				
Yes	22.7%	36.9%	27.4%	28.8%
No	77.3%	63.1%	72.6%	71.2%

Q13a. [If YES] Does your household ask your lawn service to use environmentally friendly/organic products and practices?

N=186	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q13a. Does your lawn service use environmentally friendly/organic products & practices				
Yes. Lawn service uses environmentally friendly products & practices	44.0%	38.2%	30.0%	37.1%
Yes. I asked, but lawn service doesn't offer these services	2.0%	1.3%	5.0%	2.7%
No. I haven't asked, but will in the future	30.0%	25.0%	25.0%	26.3%
No. I don't think using environmentally friendly products matters	10.0%	2.6%	8.3%	6.5%
Don't know	14.0%	32.9%	31.7%	27.4%

Q14. What does your household (or your lawn service) typically do with your grass clippings and/or leaves?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q14. What do you do with grass clippings and/or leaves				
Leave them on the lawn/ Mulch into lawn	68.2%	76.7%	65.3%	69.8%
Compost them in yard	20.5%	23.3%	27.4%	23.8%
Sweep them into street or into roadside ditch/stream/ wetland	1.8%	0.5%	1.4%	1.2%
Curbside pickup by community	25.5%	20.9%	23.7%	23.4%
Other	7.7%	7.3%	6.8%	7.3%
Do not have a yard	2.3%	1.5%	2.7%	2.2%
None chosen	0.0%	0.0%	1.4%	0.5%

Q15. Which of the following BEST describes how often your household fertilizes your lawn?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q15. How often do you fertilize your lawn				
5+ times per year	4.1%	3.9%	3.2%	3.7%
3-4 times per year	16.4%	17.5%	11.9%	15.2%
1-2 times per year	30.9%	33.5%	28.3%	30.8%
Seldom or never, but I have a lawn	45.0%	42.7%	48.9%	45.7%
Not applicable, I don't have a lawn	3.2%	1.9%	6.8%	4.0%
Don't know	0.5%	0.5%	0.9%	0.6%

Q15a. [If Your Household Fertilizes Your Lawn] Have you had your soil tested to determine how much and what kind of nutrients your lawn needs?

N=616	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q15a. Had your soil tested				
Yes	7.5%	16.9%	19.8%	14.6%
No	92.5%	80.6%	78.7%	84.1%
Don't know	0.0%	2.5%	1.5%	1.3%

Q15b. [If You Use Fertilizer] Which of the following reasons influence the type of fertilizer or pesticide your household uses most?

N=616	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q15b. Reasons influence type of fertilizer or pesticide you use most				
Previous experience with product	26.9%	25.4%	26.7%	26.5%
Price	11.3%	14.9%	14.4%	13.5%
Commercials/product displays	2.4%	2.0%	5.0%	3.1%
Recommendations from friends	6.1%	6.0%	7.9%	6.7%
Articles in newspapers/ magazines	2.4%	5.0%	5.4%	4.2%
Recommendations from store employees	6.6%	4.0%	5.4%	5.4%
How safe it is for environment	17.5%	22.4%	21.3%	20.3%
Other	12.3%	23.4%	15.8%	17.0%
Don't know	38.2%	30.8%	36.6%	35.2%

Q16. Several ways that residents can help reduce pollution of streams and lakes in their community are listed below. Using a 5-point scale where "1" means "not willing" and "5" means "very willing," please indicate how willing you would be to do each of the following: (without "not applicable")

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q16a. Changing your car washing practices				
Not Willing	9.6%	3.8%	6.2%	6.8%
2	3.4%	1.9%	1.7%	2.3%
3	4.5%	5.0%	5.6%	5.0%
4	9.6%	11.3%	9.0%	9.9%
Very Willing	72.9%	78.1%	77.5%	76.0%
Q16b. Promptly picking up & disposing of your pet's waste				
Not Willing	6.9%	7.5%	5.6%	6.6%
2	2.9%	1.1%	2.8%	2.3%
3	6.9%	4.3%	7.4%	6.3%
4	8.8%	8.6%	11.1%	9.6%
Very Willing	74.5%	78.5%	73.1%	75.2%

Q16. Several ways that residents can help reduce pollution of streams and lakes in their community are listed below. Using a 5-point scale where "1" means "not willing" and "5" means "very willing," please indicate how willing you would be to do each of the following: (without "not applicable")

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q16c. Having your septic tank serviced every 3-5 years				
Not Willing	3.2%	7.3%	2.4%	4.4%
2	3.2%	9.1%	7.3%	6.3%
3	12.9%	9.1%	17.1%	12.7%
4	14.5%	10.9%	12.2%	12.7%
Very Willing	66.1%	63.6%	61.0%	63.9%
Q16d. Sweeping excess fertilizer & grass clippings from paved surfaces back onto lawn				
Not Willing	6.0%	1.2%	3.9%	3.7%
2	2.4%	0.6%	2.8%	2.0%
3	4.2%	4.3%	5.6%	4.7%
4	11.3%	12.4%	8.4%	10.6%
Very Willing	76.2%	81.4%	79.2%	78.9%

Q16. Several ways that residents can help reduce pollution of streams and lakes in their community are listed below. Using a 5-point scale where "1" means "not willing" and "5" means "very willing," please indicate how willing you would be to do each of the following: (without "not applicable")

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q16e. Having your soil tested				
Not Willing	21.2%	16.4%	19.7%	19.3%
2	13.4%	11.3%	6.7%	10.5%
3	17.3%	23.2%	19.7%	20.0%
4	16.8%	16.4%	11.2%	14.8%
Very Willing	31.3%	32.8%	42.7%	35.5%
Q16f. Using a low phosphorus or slow release nitrogen fertilizer				
Not Willing	5.8%	4.3%	8.9%	6.3%
2	2.9%	0.7%	0.7%	1.4%
3	12.9%	9.3%	13.3%	12.0%
4	22.3%	18.6%	11.1%	17.3%
Very Willing	56.1%	67.1%	65.9%	62.9%

Q16. Several ways that residents can help reduce pollution of streams and lakes in their community are listed below. Using a 5-point scale where "1" means "not willing" and "5" means "very willing," please indicate how willing you would be to do each of the following: (without "not applicable")

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q16g. Only using lawn service companies that use environmentally friendly products				
Not Willing	5.5%	7.0%	10.7%	7.5%
2	2.7%	3.0%	2.4%	2.7%
3	13.6%	14.0%	11.9%	13.6%
4	17.3%	24.0%	13.1%	18.3%
Very Willing	60.9%	52.0%	61.9%	58.0%
Q16h. Disposing of household hazardous waste at a community collection day				
Not Willing	3.2%	1.6%	3.1%	2.6%
2	1.6%	0.0%	0.0%	0.5%
3	5.3%	3.8%	5.6%	4.9%
4	9.5%	9.2%	5.6%	8.1%
Very Willing	80.5%	85.3%	85.7%	83.9%

Q16. Several ways that residents can help reduce pollution of streams and lakes in their community are listed below. Using a 5-point scale where "1" means "not willing" and "5" means "very willing," please indicate how willing you would be to do each of the following: (without "not applicable")

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q16i. Landscaping your yard with plants native to Michigan				
Not Willing	4.1%	1.1%	3.7%	3.0%
2	1.5%	2.1%	1.6%	1.7%
3	12.7%	8.0%	13.2%	11.3%
4	12.7%	23.4%	16.8%	17.5%
Very Willing	69.0%	65.4%	64.7%	66.5%
Q16j. Changing your lawn watering practices				
Not Willing	8.3%	6.3%	7.9%	7.5%
2	6.3%	2.8%	2.6%	3.9%
3	16.7%	14.7%	11.9%	14.6%
4	16.7%	22.4%	14.6%	17.8%
Very Willing	52.1%	53.8%	62.9%	56.3%

Q17. Where would you prefer to receive information about what you can do to protect our lakes and streams?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q17. Sources to receive information				
Lansing State Journal	40.9%	42.7%	46.1%	43.2%
Community newspaper	37.3%	45.6%	41.1%	41.3%
Municipal newsletter	26.8%	35.4%	36.1%	32.7%
Municipal website	14.5%	19.4%	21.0%	18.3%
Government access TV	10.9%	5.8%	11.4%	9.4%
Television news	40.0%	32.5%	41.6%	38.1%
Radio	28.6%	17.5%	26.0%	24.1%
Internet	35.5%	33.5%	43.8%	37.6%
Billboards	17.3%	9.7%	17.4%	14.9%

Q17. Where would you prefer to receive information about what you can do to protect our lakes and streams?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q17. Sources to receive information (Cont.)				
MSU Extension Office	23.2%	20.9%	20.1%	21.4%
Environmental groups	15.0%	12.1%	15.1%	14.1%
Materials from colleges or universities	16.8%	15.0%	16.4%	16.1%
Other	10.5%	9.2%	8.2%	9.4%
None chosen	2.3%	1.9%	0.9%	1.7%

Q18. Which of the following road signs have you seen in your community?

N=646	Region			Total
	Grand River	Looking Glass	Red Cedar	
Q18. Road signs in your community				
Signs identifying rivers	50.0%	68.0%	57.1%	58.0%
Signs indicating you are entering a watershed	35.9%	73.8%	53.9%	54.0%
I haven't seen either of these signs in my community	43.2%	17.0%	29.2%	30.2%
Don't know	1.4%	0.5%	0.9%	0.9%

Survey Instrument

2012 Greater Lansing Regional Water Quality Survey

1. Do you think the quality of water in lakes, rivers, and streams in the community where you live is:

____(1) Getting much worse
____(2) Getting somewhat worse
____(3) Staying the same
____(4) Getting somewhat better
____(5) Getting much better
____(9) Don't know

2. How much do you think the way you maintain your home (e.g., lawn care, trash disposal, pet care) affects the quality of water in lakes and streams in the community where you live?

____(1) Great effect
____(2) Moderate effect
____(3) Little effect
____(4) No effect
____(9) Don't know

3. During the past 5 years, have you or someone in your household taken action at your home or in your community to protect water resources?

____(1) Yes – answer 3a ____(2) No ____(9) Don't know

3a. If YES: what action(s) have you or others in your household taken?

_____

4. During the past year, which ONE of the following do you think contributed the MOST pollution to lakes, rivers and streams in the community where you live?

___(1) Wastewater treatment plant discharges
___(2) Factories / industrial discharges
___(3) Stormwater (rain water) runoff into storm drains and roadside ditches
___(4) Sewage overflow
___(5) Animal waste
___(6) Construction sites and new development
___(7) Agricultural operations

5. Please indicate your level of agreement with the following statement: "The quality of local streams and rivers where I live affects the Great Lakes."

___(1) Strongly agree
___(2) Agree
___(3) Neither agree nor disagree
___(4) Disagree
___(5) Strongly disagree
___(9) Don't know

6. Where do you think stormwater (rain water) goes after it enters a storm drain or roadside ditch in your community?

____(1) Directly to lakes and streams without treatment
____(2) To lakes and streams after receiving some treatment
____(3) To a wastewater treatment plant
____(9) Don't know

7. Which ONE of the following BEST describes the location where you live? (check one)

____(1) I live near a watershed
____(2) I live in a watershed
____(3) I don't live in a watershed
____(9) Don't know/I'm not familiar with the term "watershed"

8. Where does your household typically wash your vehicle(s) during the summer?

___(1) At home in the driveway
___(2) At home on the grass
___(3) At a carwash
___(4) Other place: _____
___(5) Don't wash a vehicle

9. Do you have a septic system at your home?
___(1) Yes – answer 9a ___(2) No - go to 10 ___(9) Don't know

9a. [If YES] **Has your household had your septic system checked or serviced during the past five years?**
___(1) Yes ___(2) No ___(9) Don't know

10. Do you or other members of your household usually change motor oil, transmission fluid, or radiator fluid for vehicles at your home?
___(1) Yes ___(2) No

11. Where does your household typically dispose of materials, such as old oil/fluids from your vehicle, batteries, pesticides, paints, and other household hazardous wastes? (check all that apply)
___(1) On the ground – answer 11a
___(2) With my regular trash - answer 11a
___(3) At a scheduled community collection site or facility that accepts these materials – go to 12
___(4) I keep it in a container at my home – answer 11a
___(5) Down a storm drain or roadside ditch – answer 11a
___(6) Other: _____

11a. Why doesn't your household typically dispose of your household hazardous waste at a community collection site?
___(1) Don't know where one is located
___(2) Don't have time
___(3) No sites are located near my home
___(4) I don't think household hazardous waste facilities are necessary
___(5) Other: _____

12. Do you or other members of your household typically pick up your dog's waste when you go for a walk?
___(1) Yes – go to 12a
___(2) No, but we HAVE a dog - go to 12a
___(3) No, because we DO NOT have a dog – go to 13

12a. [If you have a dog] **How does your household typically dispose of your dog's waste?**
___(1) Throw it in the ditch
___(2) Dispose with my regular trash
___(3) Bury it in the ground
___(4) Flush it down toilet
___(5) Put it in the street or down a storm drain
___(6) Do not pick up dog waste
___(7) Other: _____

13. Does your household use a lawn service for mowing, fertilizer and/or pesticide applications?
___(1) Yes – answer 13a ___(2) No – go to 14

13a. [If YES] **Does your household ask your lawn service to use environmentally friendly/organic products and practices?**
___(1) Yes. The lawn service uses environmentally friendly products and practices on my lawn.
___(2) Yes. I asked, but the lawn service doesn't offer these services.
___(3) No. I haven't asked, but will in the future.
___(4) No. I don't think using environmentally friendly products matters.
___(9) Don't know.

14. What does your household (or your lawn service) typically do with your grass clippings and/or leaves? (check all that apply)

___(1) Leave them on the lawn/Mulch into lawn
___(2) Compost them in your yard
___(3) Sweep them into the street or into a roadside ditch/stream/wetland
___(4) Curbside pickup by community
___(5) Other: _____
___(6) Do not have a yard

15. Which of the following BEST describes how often your household fertilizes your lawn?

___(1) 5 or more times per year
___(2) 3-4 times per year
___(3) 1-2 times per year
___(4) Seldom or never, but I have a lawn
___(5) Not applicable – I don't have a lawn

15a. [If Your Household Fertilizes Your Lawn] Have you had your soil tested to determine how much and what kind of nutrients your lawn needs?

___(1) Yes ___(2) No

15b. [If You Use Fertilizer] **Which of the following reasons influence the type of fertilizer or pesticide your household uses most?** (check all that apply)

___(1) Previous experience with product
___(2) Price
___(3) Commercials/product displays
___(4) Recommendations from friends
___(5) Articles in newspapers/magazines
___(6) Recommendations from store employees
___(7) How safe it is for the environment
___(8) Other: _____
___(9) Don't know

16. Several ways that residents can help reduce pollution of streams and lakes in their community are listed below. Using a 5-point scale where "1" means "<u>not willing</u>" and "5" means "<u>very willing</u>," please indicate how willing you would be to do each of the following by circling the corresponding number below.

	Not Willing				Very Willing	Not Applicable
(A) Changing your car washing practices (using a car wash, washing your car on the grass, or using less soap).	1	2	3	4	5	9
(B) Promptly picking up & disposing of your pet's waste.	1	2	3	4	5	9
(C) Having your septic tank serviced every 3-5 years	1	2	3	4	5	9
(D) Sweeping excess fertilizer and grass clippings from paved surfaces back onto lawn	1	2	3	4	5	9
(E) Having your soil tested	1	2	3	4	5	9
(F) Using a low phosphorus or slow release nitrogen fertilizer on your lawn	1	2	3	4	5	9
(G) Only using lawn service companies that use environmentally friendly products	1	2	3	4	5	9
(H) Disposing of household hazardous waste, such as motor oil or pesticides, at a community collection day	1	2	3	4	5	9
(I) Landscaping your yard with plants native to Michigan	1	2	3	4	5	9
(J) Changing your lawn watering practices	1	2	3	4	5	9

17. Where would you prefer to receive information about what you can do to protect our lakes and streams? (check all that apply)

___(01) Lansing State Journal
___(02) Community newspaper
___(03) Municipal newsletter
___(04) Municipal website
___(05) Government access TV
___(06) Television news
___(07) Radio
___(08) Internet
___(09) Billboards
___(10) MSU Extension Office
___(11) Environmental groups
___(12) Materials from colleges or universities
___(13) Other: _____

18. Which of the following road signs have you seen in your community? (check all that apply)

___(1) signs identifying rivers
___(2) signs indicating you are entering a watershed
___(3) I haven't seen either of these signs in my community

19. How many people in your household, <u>counting yourself</u>, are?

Under age 10: _____ Ages 20-44: _____ Ages 65+: _____
Ages 10-19: _____ Ages 45-64: _____

20. Which person in your household MOST frequently does the activities listed below.

		Adult MALE	Adult FEMALE	Child Age 12-17	Child Under 12	Not Applicable Nobody
(A)	Picks up after your dog.	1	2	3	4	9
(B)	Washes the car	1	2	3	4	9
(C)	Fertilizes the lawn	1	2	3	4	9
(D)	Landscaping/gardening	1	2	3	4	9
(E)	Mows the lawn	1	2	3	4	9
(F)	Vehicle maintenance	1	2	3	4	9
(G)	Disposes of household hazardous waste (oil, pesticides, batteries, paint)	1	2	3	4	9
(H)	Scheduling septic tank maintenance	1	2	3	4	9

21. Which of the following best describes your race/ethnicity (check all that apply)?

____(1) Asian/Pacific Islander
____(2) Black/African American
____(3) White
____(4) American Indian/Eskimo
____(5) Other: _____

22. What is your age? _____years

23. Would you say your total annual household income is:

____(1) Under $35,000
____(2) $35,000 to $59,999
____(3) $60,000 to $99,999
____(4) $100,000-$199,000
____(5) more than $200,000

24. Your gender?

___(1) Male ___(2) Female

<u>Optional</u>: Would you like the Greater Lansing Regional Committee to keep you informed about environmental and other planning issues in the region?

___(1) Yes: ___(2) No

If Yes, Your e-mail address: _____

If Yes, Your phone number: _____

Thank you for participating in this survey. For more information about water quality issues in the Lansing area please visit <u>www.mywatersheds.org.</u>

Please Return Your Survey in the Envelope Provided to: ETC Institute, 725 W. Frontier Circle, Olathe, KS 66061

Your responses will remain <u>Completely Confidential</u>. The information printed on the sticker to the right will ONLY be used to help identify which areas of the region have concerns about water quality issues. If your address is not correct, please provide the correct information. Thanks.