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# ***2011 Stormwater Runoff and Water Quality Survey***

## **Final Report**

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Submitted to:  
***The City of Lakeland, Tennessee***



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June, 2011

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# *2011 Lakeland Stormwater Survey*

## Executive Summary

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### **Purpose and Methodology**

**Purpose.** The City of Lakeland conducted a stormwater management survey during May of 2011. The purpose of the survey was to identify stormwater issues affecting Lakeland as part of the City's ongoing effort to involve citizens in the issues and solutions for stormwater management.

**Method of Administration.** A four-page survey was administered over the telephone to a random sample of 416 households in Lakeland. The overall results for Lakeland have a precision of at least  $\pm 4.7\%$  at the 95% level of confidence.

### **Major Findings**

#### **Relative Importance of Water Quality to Other Issues Affecting Residents In Lakeland**

Residents were asked to rate the level of importance of several issues affecting residents of the City. The findings are described below:

- Of the issues assessed on the survey, 99% of residents felt the quality of life for children and families was “very” or “somewhat important”; 98% felt that safety from crime in neighborhoods was important, and 97% felt that maintaining property value was important.
- The top three issues that residents felt should receive the most emphasis by City leaders were 1) safety from crime in neighborhoods, 2) quality of education (K-12), and 3) quality of life for children and families.
- Compared to other City priorities 59% (up from 56% in 2008) of those surveyed thought it was “very important” to maintain and protect streams and stream corridors in Lakeland, 36% felt it was “somewhat important”, 4% felt it was not important, and 2% were not sure.

#### **Perception of Water Resources**

Residents were asked various questions regarding the water quality in the area where they lived. Some of the findings are listed below:

- Residents were asked to rate the level of concern about pollution in streams and rivers in the Lakeland area. Forty percent (40%) of those surveyed were “very concerned”, 36% were “somewhat concerned” and 20% were “not concerned”. Four Percent (4%) were “not sure”.

- When residents were asked where stormwater goes after it enters a storm drain, over one-third (35%) of residents thought it went directly into creeks and rivers without treatment, 3% thought it went into the creeks and rivers after treatment, 11% thought it went to a treatment plant and 51% did not know.
- When asked about the location of their property relative to a watershed, 15% said they lived inside a watershed, 16% live near a watershed, 25% said they lived outside of a watershed, and 44% did not know.

### **Taking Personal Responsibility for Issues that Affect Water Quality and the Environment**

Respondents were asked several questions that addressed personal responsibility for issues affecting stormwater and water quality. The findings are described below:

- Over half (54%) of residents indicated they could affect the quality of water in streams and rivers; 30% did not feel that their actions could affect water quality and 16% did not know.
- Of those residents who currently participate in activities to help the environment, 75% took hazardous waste to the Waste site, 70% landscaped their yard with native plants, and 69% washed their car on the lawn/grass instead of the street or driveway.
- For those residents who did not currently participate in activities to help the environment, 71% were willing to take hazardous waste to a Waste site, 53% were willing to pick up trash along rivers and streams, and 50% were willing to wash their cars on the lawn/grass instead of the street or driveway.

### **Stormwater and Water Quality Information**

Participants were asked several questions that addressed the stormwater and water quality information they currently receive. The findings are described below:

- Twenty-one percent (21%) of residents indicated they received information about water quality and stormwater from newspapers, magazines or print media during the past year, 12% indicated they received information from television stories/ads, 6% received information from the Internet or City website, and 6% received information from brochures. **Trends** The information about water quality showed a significant decrease from 2008 in all six categories. Areas that showed the most significant decrease were newspaper, magazines, and print media (-14%), brochures (-9%), and internet and City website (-5%).
- The top four ways residents preferred to receive information about stormwater and water quality were from 1) newspapers, magazines or other print media (39%), 2) television stories/ads (28%), 3) Internet or City website (27%), and 4) Brochures (17%).
- Twenty-eight percent (28%) of those surveyed felt they were more aware of water quality issues compared to two years ago; 65% felt they had the same level of awareness, 4% were less aware, and 3% of residents indicated this question did not apply to them because they did not live in the area two years ago.

### **Perceived Impact of Various Activities on Water Quality**

Residents were asked to indicate how they felt various activities impacted water quality in the Lakeland area. The results are described below:

- Ninety-eight percent (98%) of residents felt dumping oil in the storm drain is “very” or “somewhat harmful” to water quality, 88% of residents felt throwing away paint in the regular trash is harmful, 83% felt washing paint brushes in the gutter is harmful, and 80% felt that disposing of leaves in the gutters and storm drains was harmful.
- Sixty percent (60%) of residents indicated they fertilize their yard on a regular basis. Forty-six percent (46%) of residents felt fertilizing the lawn with chemical fertilizers is harmful for water quality.

### **Perception of Various Problems Associated with Water Pollution**

Seventy-five (75%) of residents felt the runoff from construction sites and erosion of river and stream banks was a “major” or “minor problem” in the area, 70% felt water pollution from stormwater runoff was a problem, and 65% felt water pollution from raw sewage was a problem in the area.

### **Level of Agreement with Statements Concerning Water Quality**

Residents most strongly agreed on three issues concerning water quality; 1) the importance of making improvements to help prevent sewer overflows (87%); 2) the importance of governments working with other cities/counties to improve water quality (86%), and the importance of improving the quality of water in rivers and streams (83%).

### **Perception of Various Problems Associated with Stormwater and Water Pollution where Resident Property is Located.**

Forty-three percent (43%) of residents felt that trash and debris in streams and drainage itches was a “major” or “minor problem” in the area, 39% felt that pollution in streams, ponds, and lakes was a problem, and 38% of residents felt soil and stream bank erosion was a problem in the area.

## **Implications of Results**

The 2011 results mirror the 2008 results in overall concern of residents about pollution in streams and rivers in Lakeland. When asked to rate the importance of protecting water quality with other issues affecting residents, it ranks fifth this year, as opposed to third in 2008. Though the percentages of residents who currently participate in activities to help the environment has decreased, those who indicate a willingness to participate has increased or stayed the same in most areas. That shift is evident in other environmental studies as well.

Residents continue to have an awareness of the negative impact of many daily activities on water quality in local waterways, confirming that education efforts continue to be effective.

*Section 1:*  
***Charts and Graphs***

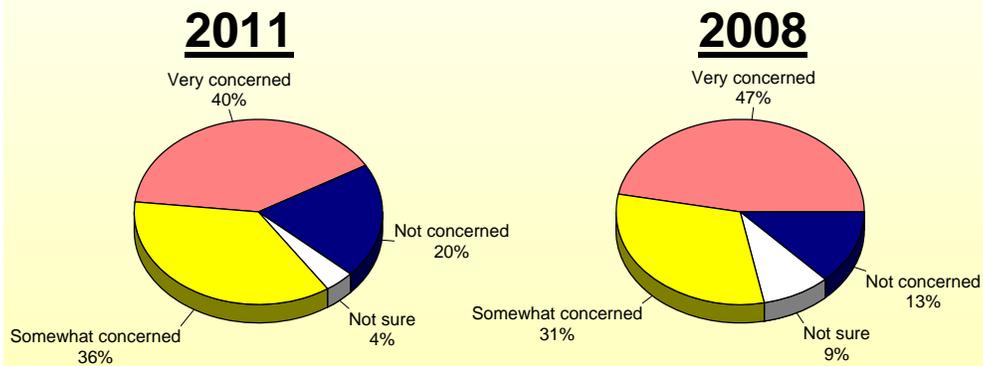
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# 2011 Stormwater Survey

City of Lakeland, Tennessee

## Q1. Level of Concern About Pollution In Streams and Rivers in the Lakeland Area

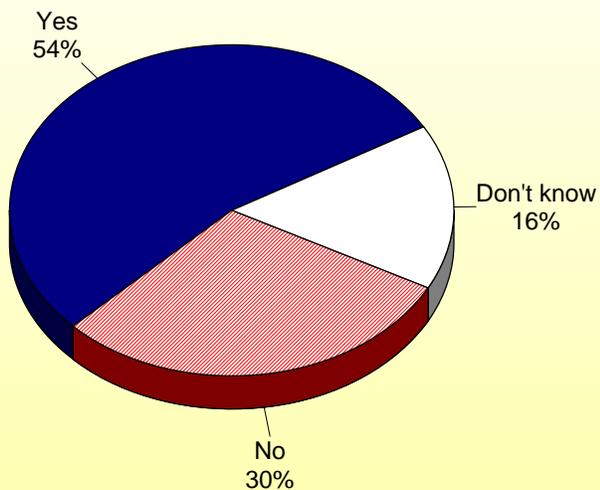
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

Q2. Do you think you can personally do anything to help improve water quality in streams and rivers in the Lakeland area?

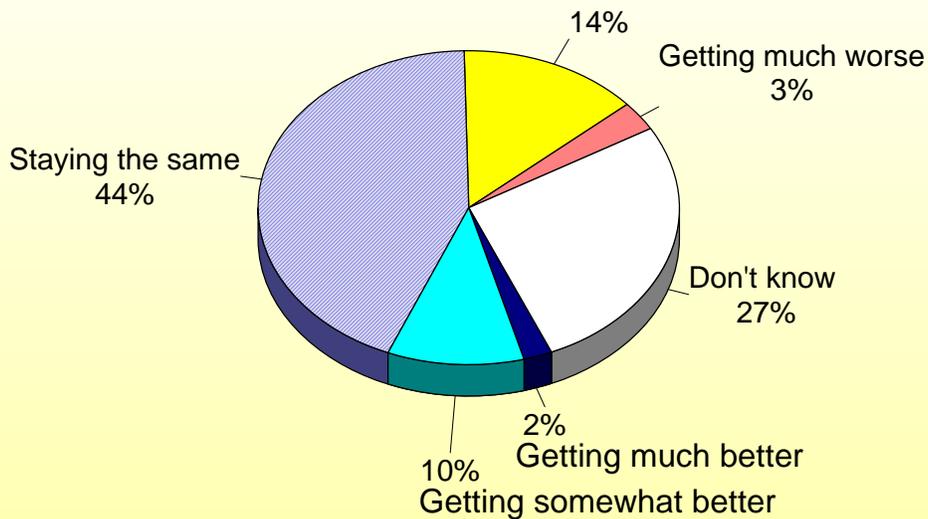
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

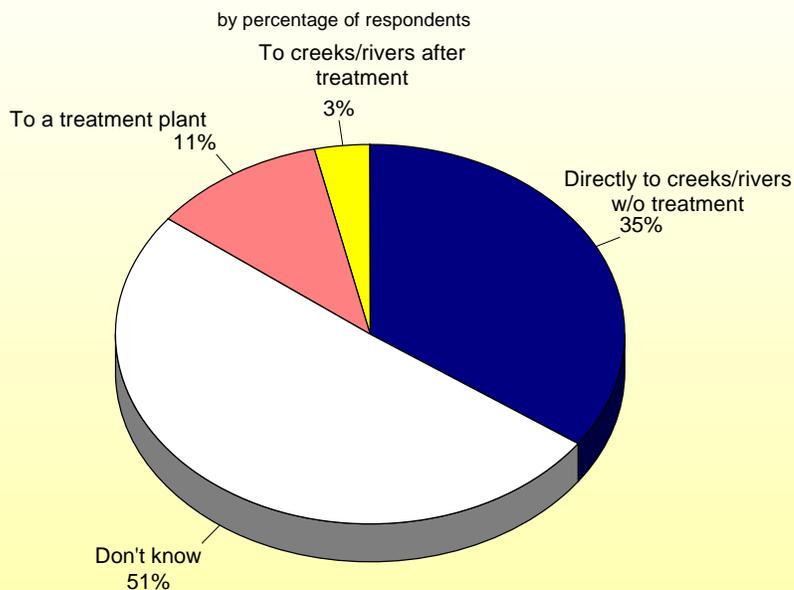
Q3. Do you think the quality of water in lakes and streams in the area where you live is:

by percentage of respondents



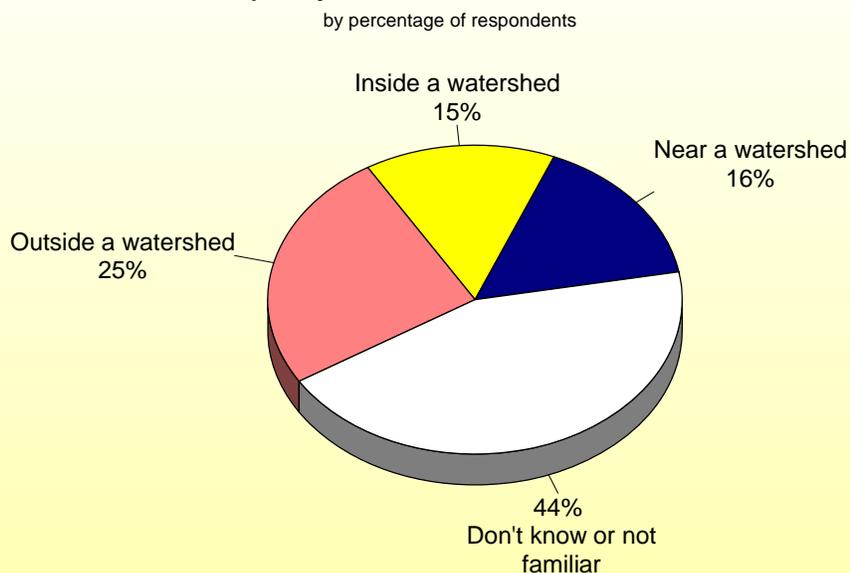
Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q4. Where does stormwater (rain water) go after it enters a storm drain in your community?



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

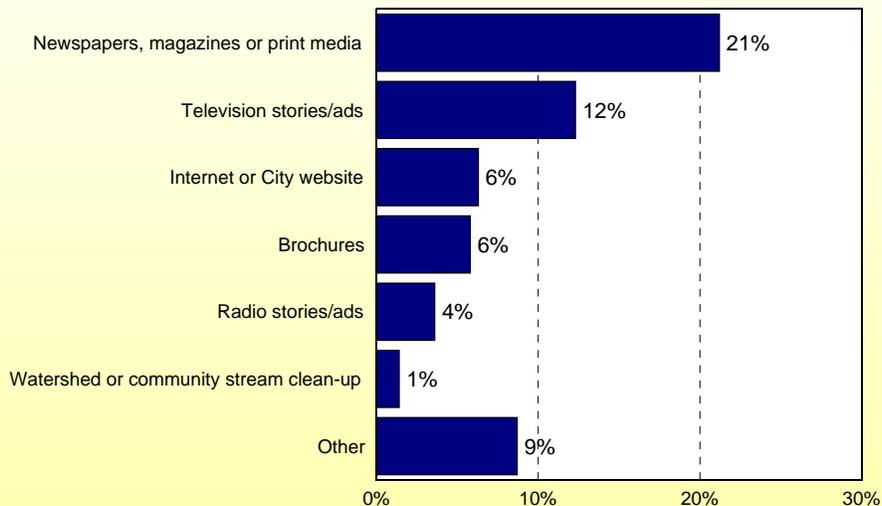
### Q5. Best Description of the Location of Respondent Property In the Lakeland Area



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

**Q6. Have you seen or heard any information about water quality or stormwater from the following sources during the past year?**

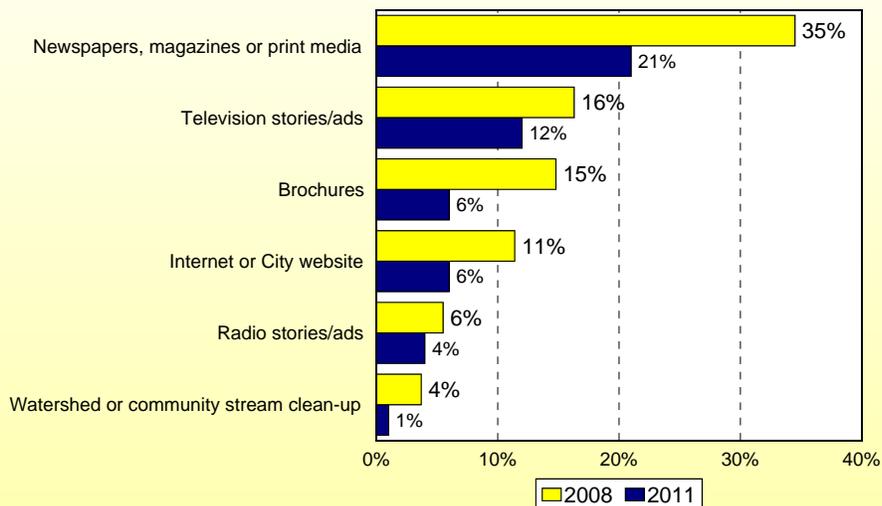
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

**Q6. TRENDS: Have you seen or heard any information about water quality or stormwater from the following sources during the past year?**

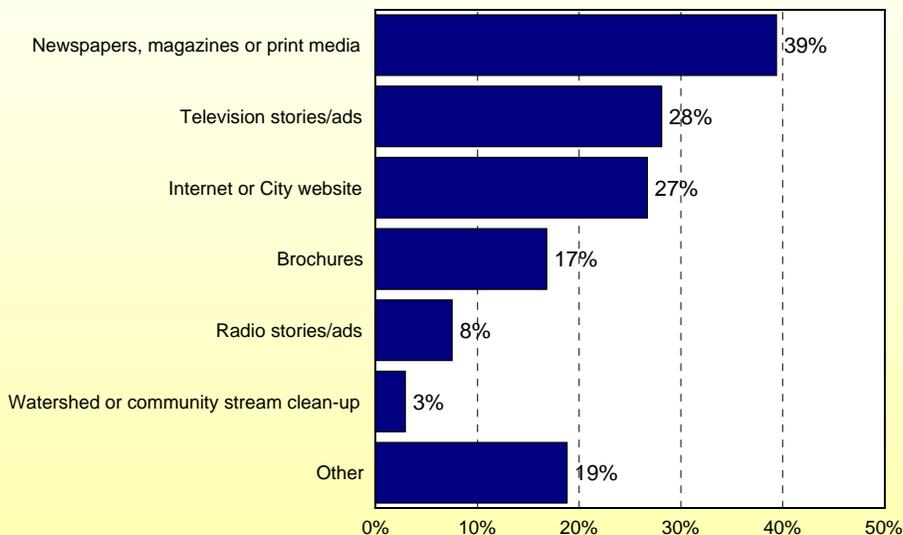
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q7. How would you like to receive information about stormwater and water quality?

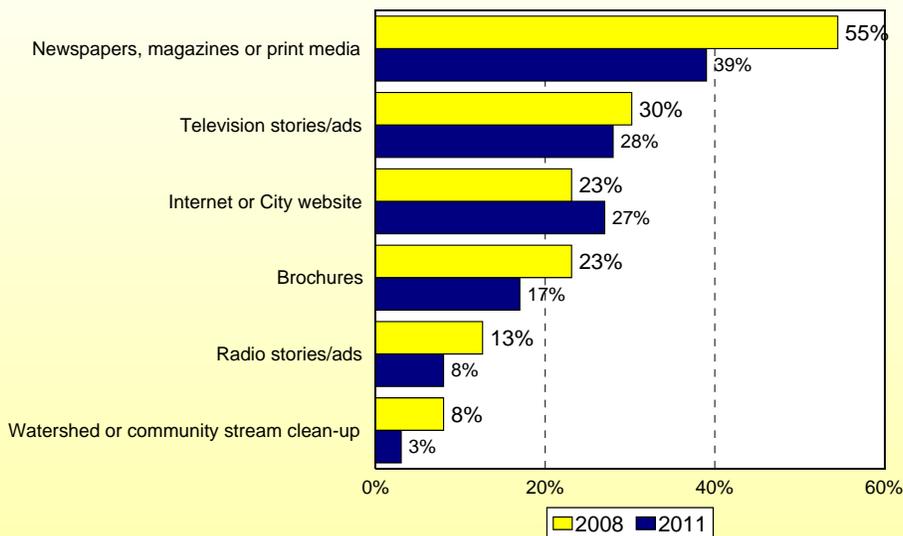
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q6. TRENDS: How would you like to receive information about stormwater and water quality?

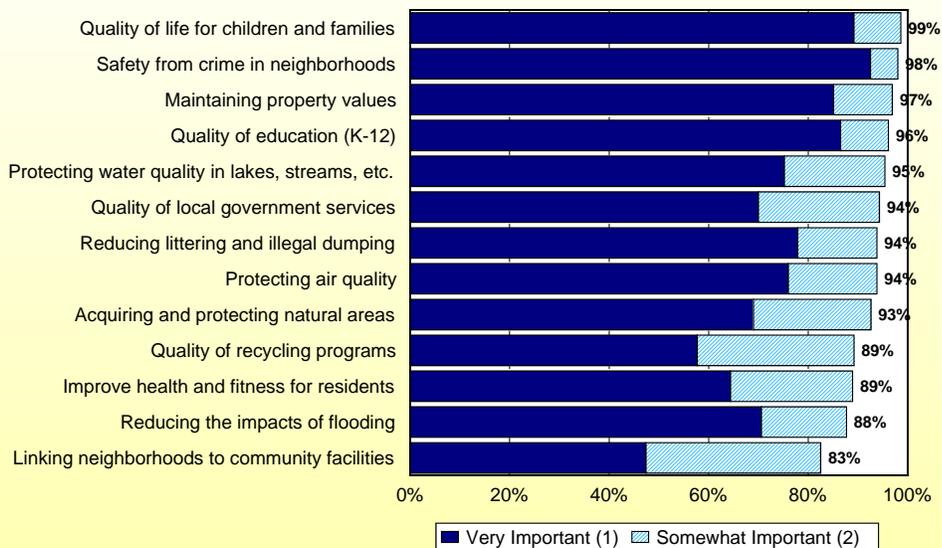
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q8. Perceived Importance of Various Issues Affecting Residents In the Lakeland Area

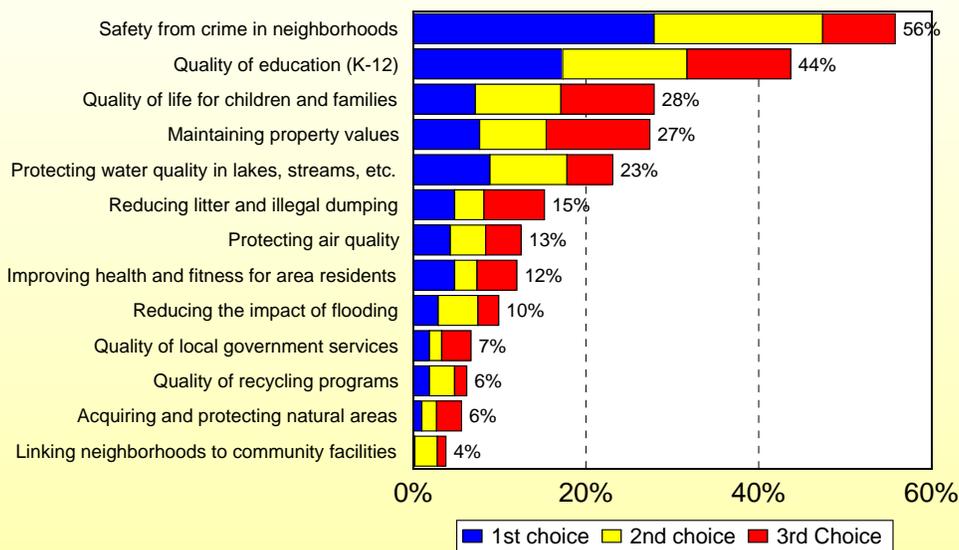
by percentage of respondents who rated the item as a 1 or 2 on a 5-point scale



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q9. Issues That Should Receive the Most Emphasis From City Leaders

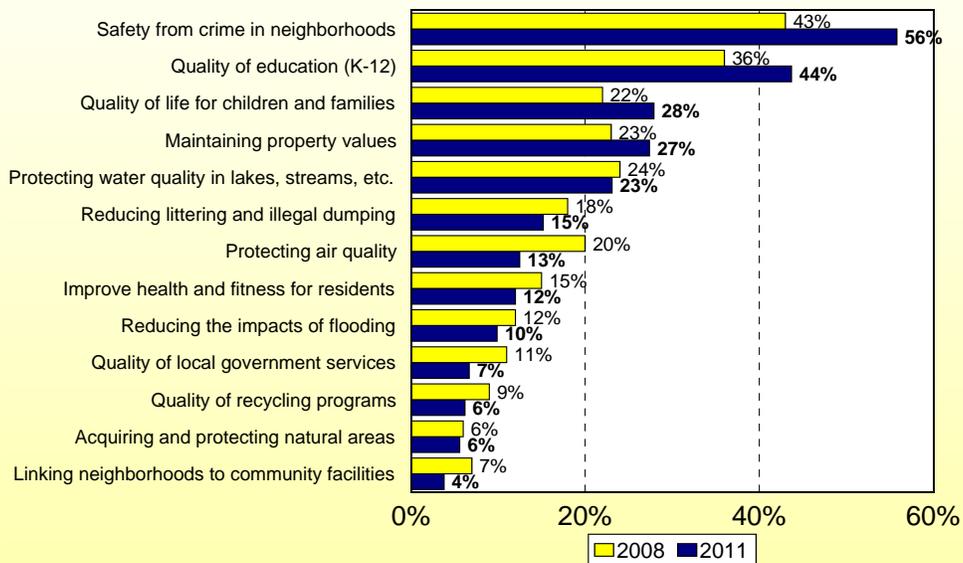
by percentage of residents surveyed who selected the item as one of their top three choices



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q9. TRENDS: Issues That Should Receive the Most Emphasis From City Leaders

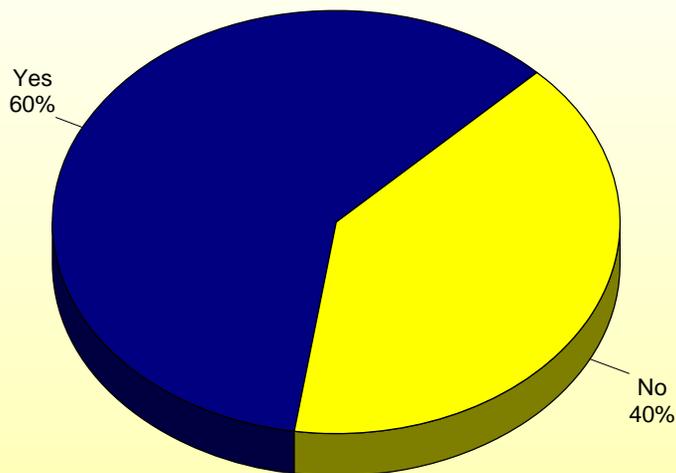
by percentage of residents surveyed who selected the item as one of their top three choices



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q10. Do you fertilize your yard on a regular basis?

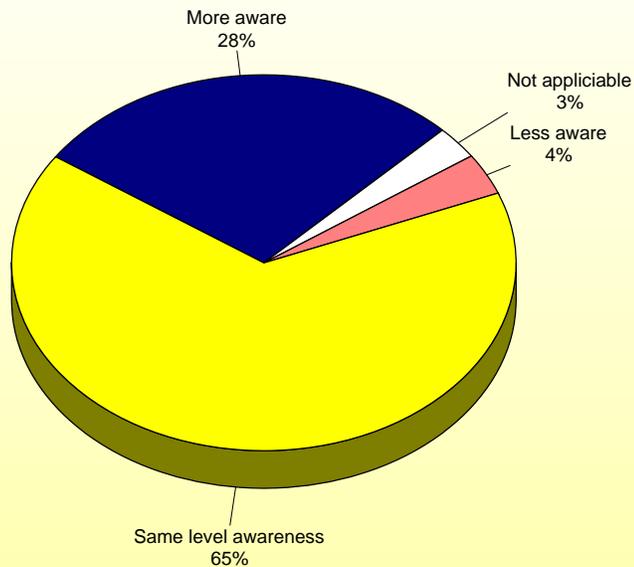
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

**Q11. Compared to two years ago, how aware are you of the water quality of creeks and rivers.**

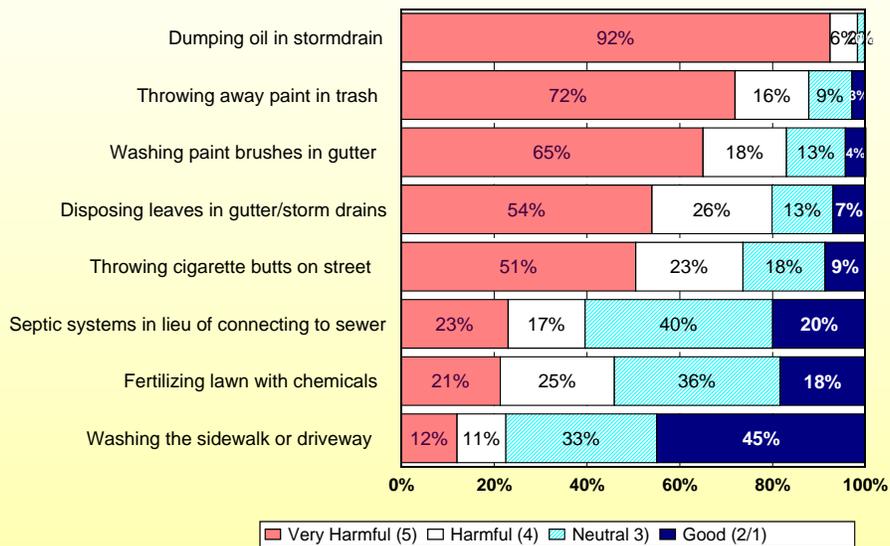
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

**Q12. Residents Perceptions Of How Various Activities Effect Water Quality In the Lakeland Area**

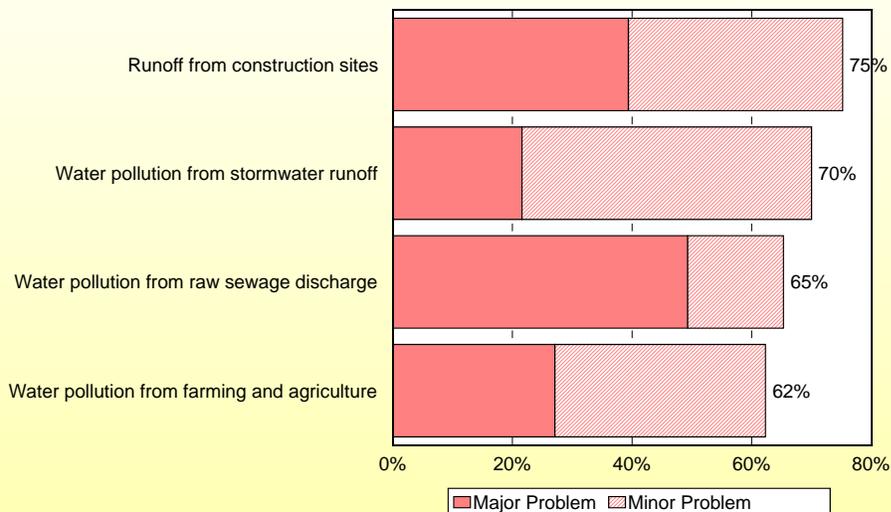
by percentage of respondents who rated the item as a 5 or 4 on a 5-point scale (excluding "not provided")



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q13. Perceptions of Various Problems Concerning Water Pollution In the Lakeland Area

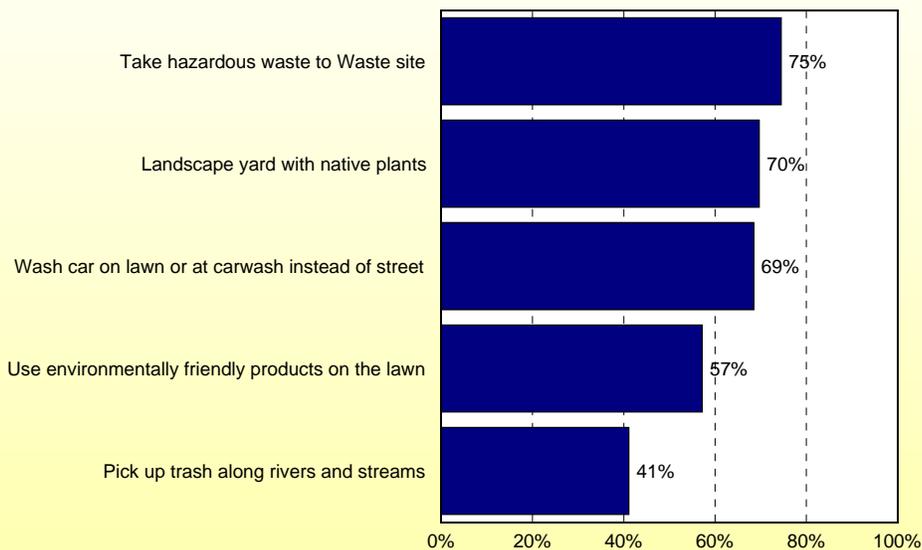
by percentage of respondents who rated the item as a 2 or 3 on a 4-point scale



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q14. Residents who Currently Participate in Various Activities to Help Protect the Environment

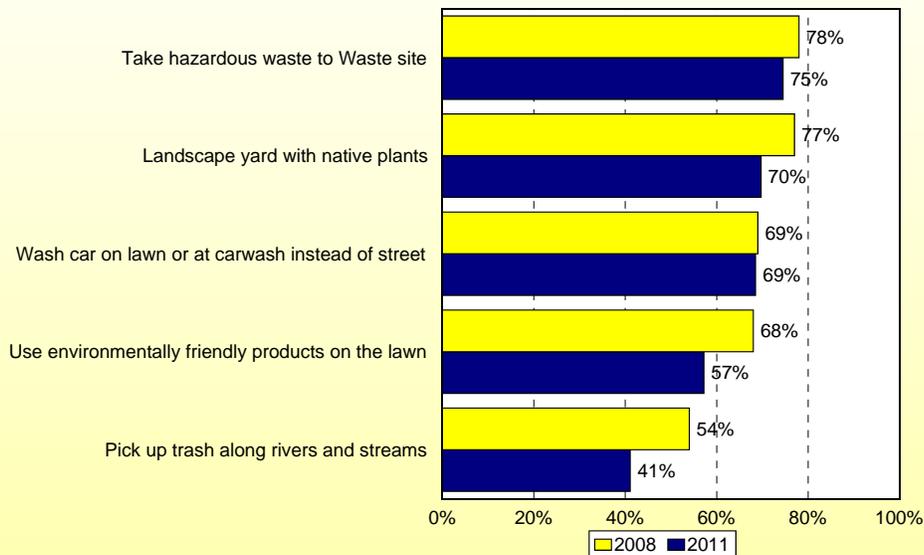
by percentage of respondents who responded "yes"



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q14. Residents who Currently Participate in Various Activities to Help Protect the Environment

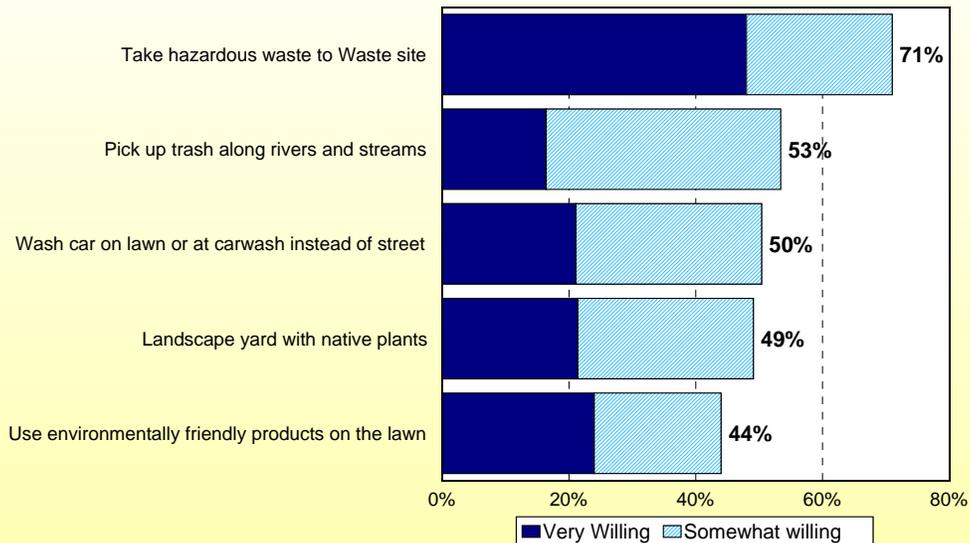
by percentage of respondents who responded "yes"



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q14A. Willingness of Residents to Participate in Various Activities to Help Protect the Environment

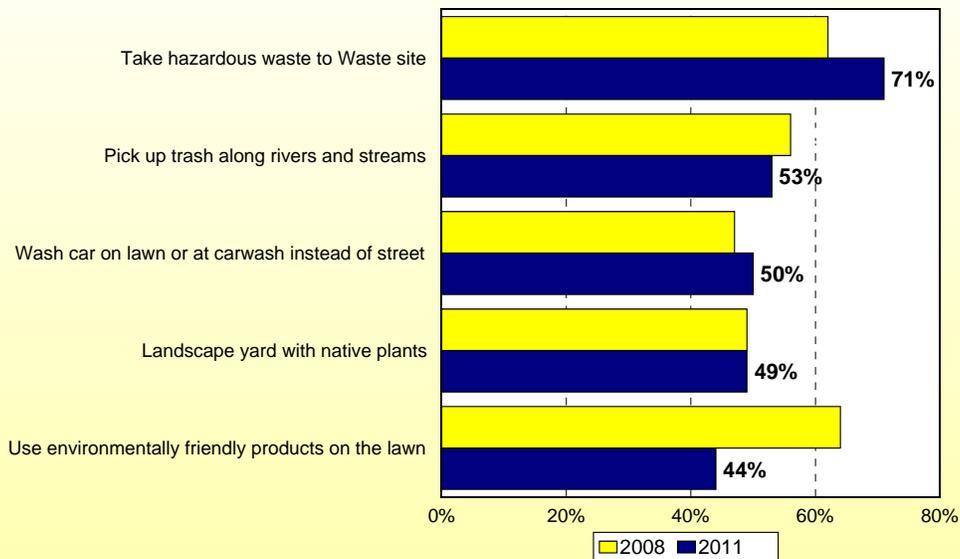
by percentage of respondents who responded "yes"



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q14A. TRENDS: Willingness of Residents to Participate in Various Activities to Help Protect the Environment

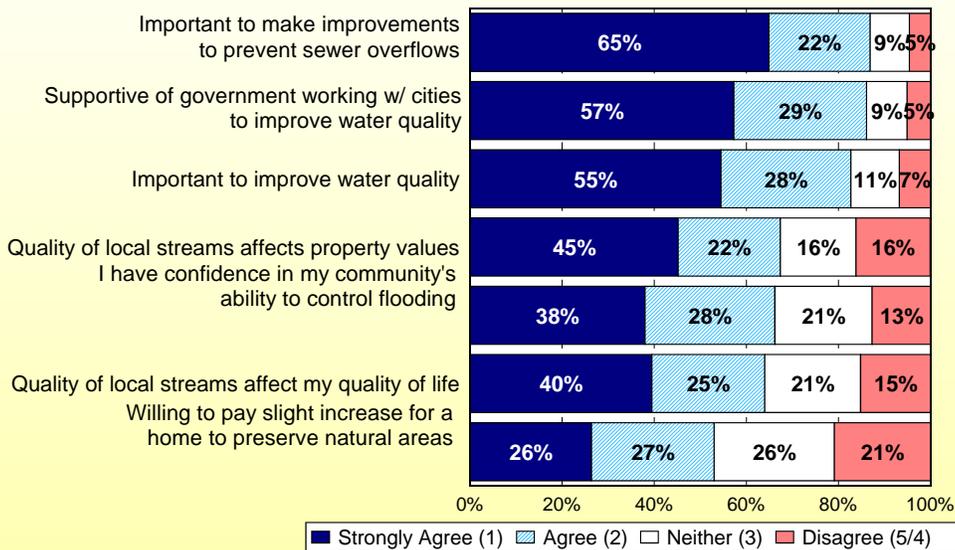
by percentage of respondents who responded "yes"



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q15. Level of Agreement With Various Statements Concerning Water Quality Issues

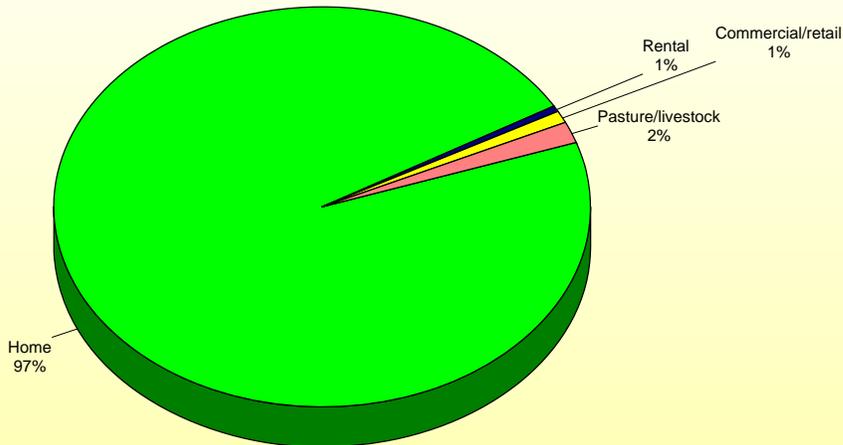
by percentage of respondents who rated the item as a 1 to 5 on a 5-point scale (excluding "not provided")



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

Q16. Which of the following BEST describes the primary use for your property?

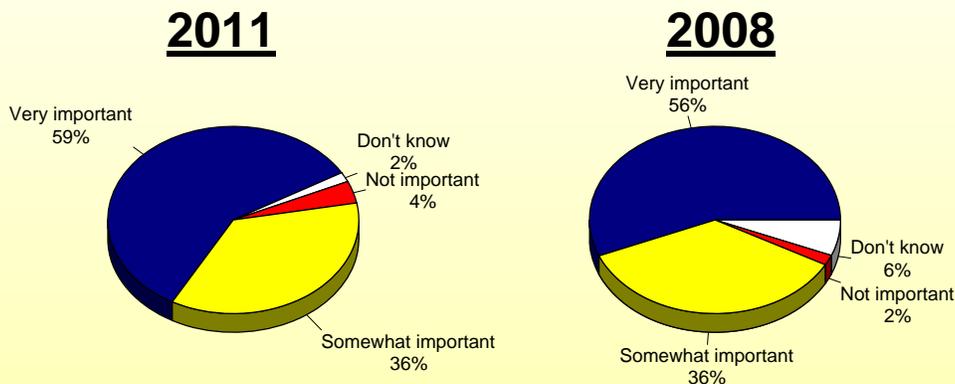
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

Q17. Compared to other City priorities, how important do you think it is for Lakeland to maintain and protect streams and stream corridors?

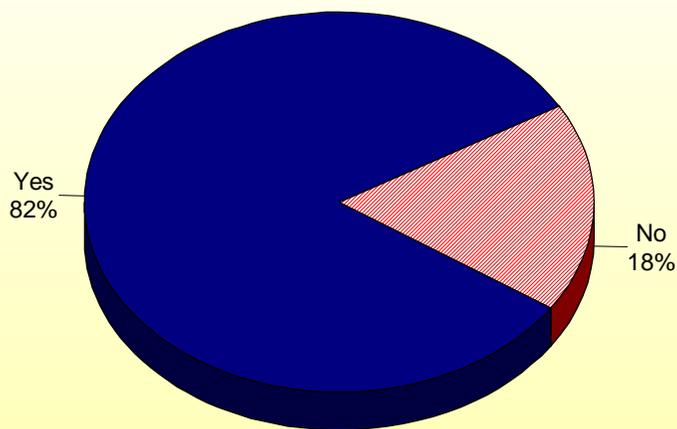
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q18. Do you have Broadband Internet service?

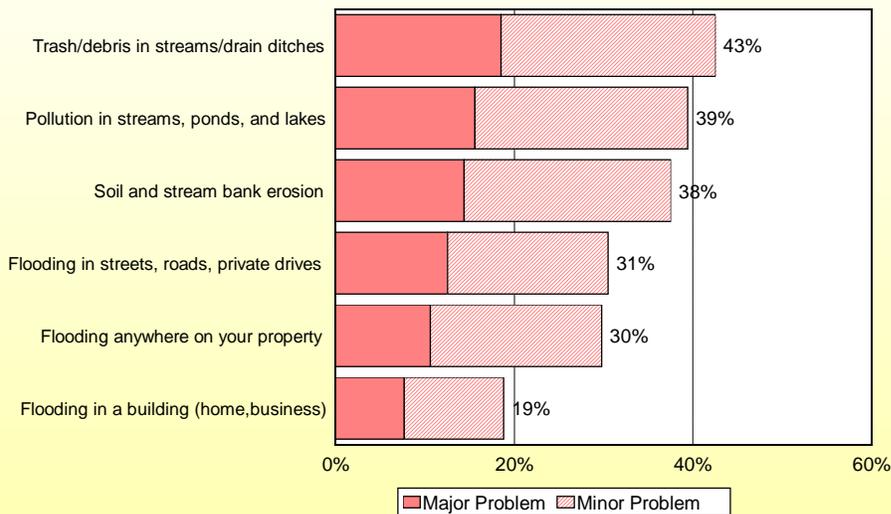
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q19. Perceptions of Various Problems Concerning Water Pollution In the Lakeland Area Where Your Property is Located

by percentage of respondents who rated the item as a 2 or 3 on a 5-point scale

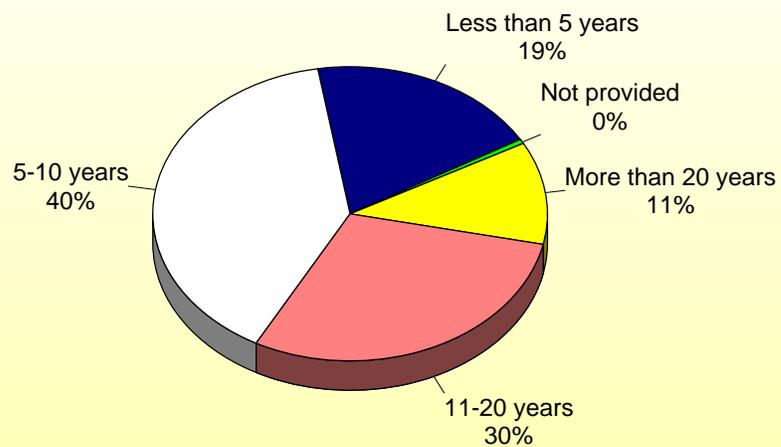


Source: ETC Institute (2011 - Lakeland Stormwater Survey)

## Demographics

### Q20. Demographics: How many years have you lived in the City of Lakeland?

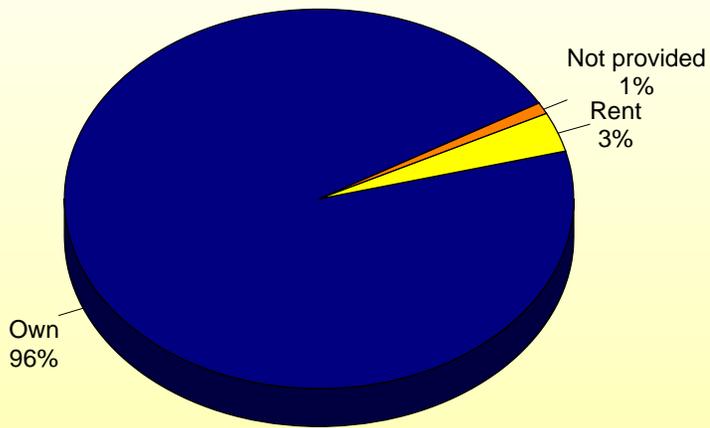
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q21. Demographics: Do you own or rent your current residence?

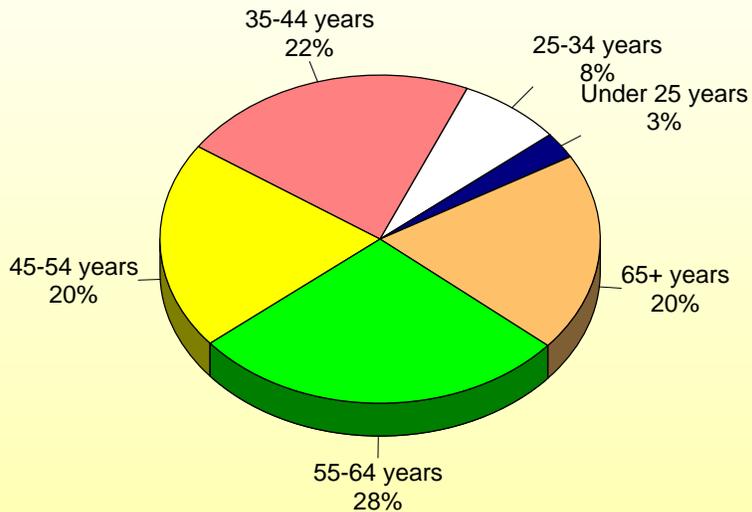
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q22. Demographics: What is your age?

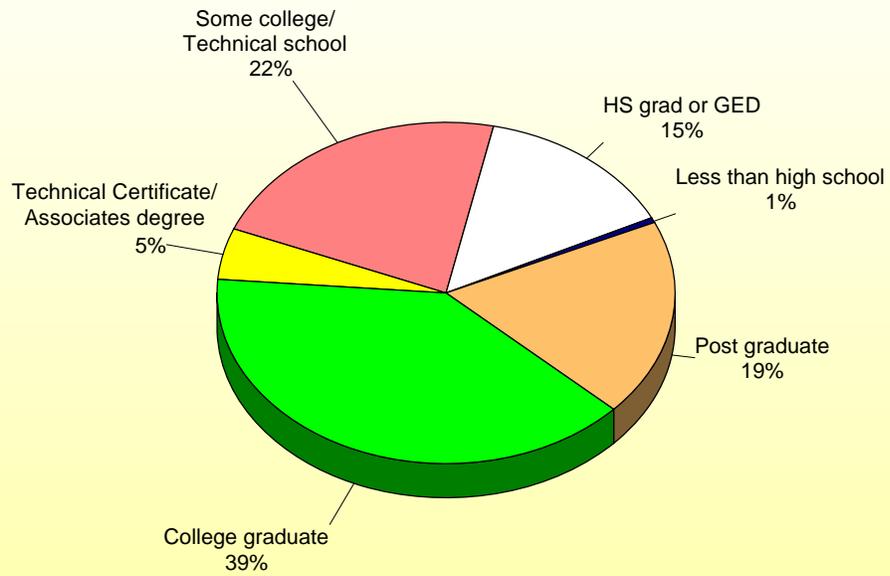
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q23. Demographics: What is your level of education?

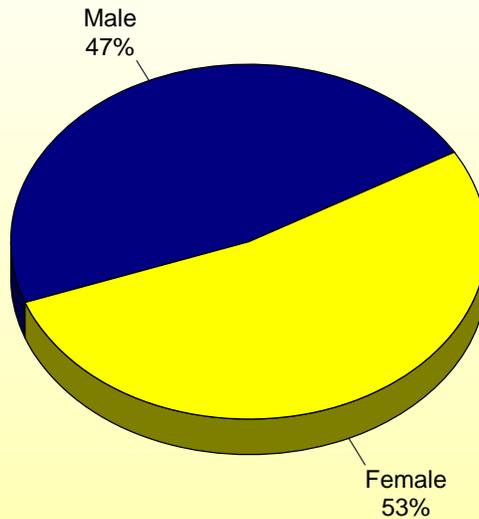
by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

### Q24. Demographics: Gender?

by percentage of respondents



Source: ETC Institute (2011 - Lakeland Stormwater Survey)

*Section 2:*  
***Tabular Data***

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# 2011 Lakeland, TN Stormwater Survey Results

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## **Q1. How concerned are you about pollution in our streams and rivers**

Q1. How concerned are you about pollution in our streams and rivers?	Number	Percent
Very concerned	167	40.1 %
Somewhat concerned	151	36.3 %
Not sure	15	3.6 %
Not concerned	83	20.0 %
Total	416	100.0 %

## **Q2. Do you think you can personally do anything to help improve water quality in streams and rivers?**

Q2. Can you help improve water quality?	Number	Percent
Yes	226	54.3 %
No	123	29.6 %
Don't know	67	16.1 %
Total	416	100.0 %

## **Q2. Do you think you can personally do anything to help improve water quality in streams and rivers? (without "don't know")**

Q2. Can you help improve water quality?	Number	Percent
Yes	226	64.8 %
No	123	35.2 %
Total	349	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q3. Do you think the quality of water in lakes and streams in the area where you live is:**

Q3. Do you think the quality of water in lakes and streams where you live is:	Number	Percent
Getting much worse	13	3.1 %
Getting somewhat worse	56	13.5 %
Staying the same	182	43.8 %
Getting somewhat better	43	10.3 %
Getting much better	9	2.2 %
Don't know	113	27.2 %
Total	416	100.0 %

### **Q3. Do you think the quality of water in lakes and streams in the area where you live is: (without "don't know")**

Q3. Do you think the quality of water in lakes and streams where you live is:	Number	Percent
Getting much worse	13	4.3 %
Getting somewhat worse	56	18.5 %
Staying the same	182	60.1 %
Getting somewhat better	43	14.2 %
Getting much better	9	3.0 %
Total	303	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q4. Where does stormwater (rain water) go after it enters a storm drain in your community?**

<u>Q4. Where does stormwater go after it enters a storm drain?</u>	<u>Number</u>	<u>Percent</u>
Directly to our creeks and rivers without treatment	143	34.4 %
To creeks and river after receiving some treatment	14	3.4 %
To a wastewater treatment plant	47	11.3 %
Don't know	212	51.0 %
Total	416	100.0 %

### **Q4. Where does stormwater (rain water) go after it enters a storm drain in your community? (without "don't know")**

<u>Q4. Where does stormwater go after it enters a storm drain?</u>	<u>Number</u>	<u>Percent</u>
Directly to our creeks and rivers without treatment	143	70.1 %
To creeks and river after receiving some treatment	14	6.9 %
To a wastewater treatment plant	47	23.0 %
Total	204	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q5. Which ONE of the following BEST describes the location where you live?**

<u>Q5. Best describes the location where you live</u>	<u>Number</u>	<u>Percent</u>
I live near a watershed	67	16.1 %
I live In a watershed	61	14.7 %
I don't live in a watershed	105	25.2 %
Don't know/I'm not familiar with the term "watershed"	183	44.0 %
Total	416	100.0 %

### **Q6. Have you seen or heard any information about water quality during the past year?**

<u>Q6. What types of information have you seen or heard about water quality in past year</u>	<u>Number</u>	<u>Percent</u>
Newspapers, magazines or other print media	88	21.2 %
Brochures	24	5.8 %
Television stories/ads	51	12.3 %
Radio stories/ads	15	3.6 %
Internet or City website	26	6.3 %
Watershed or community clean-up	6	1.4 %
Other	36	8.7 %
No response	244	58.7 %
Total	490	

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q6. Have you seen or heard any information about water quality during the past year? (without "no response")**

Q6. What types of information have you seen or heard about water quality in past year	Number	Percent
Newspapers, magazines or other print media	88	21.2 %
Brochures	24	5.8 %
Television stories/ads	51	12.3 %
Radio stories/ads	15	3.6 %
Internet or City website	26	6.3 %
Watershed or community clean-up	6	1.4 %
Other	36	8.7 %
Total	246	

# 2011 Lakeland, TN Stormwater Survey Results

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## **Q6. Other**

### Q7 Other

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BILL INSERTS  
BULLETIN BOARD  
BY MAIL  
BY MAIL  
BY MAIL  
BY MAIL  
CHEAPEST WAY  
CITY BULLETIN  
CITY HALL  
CITY HALL  
CITY HALL  
CITY MEETINGS  
CITY NEWSLETTER  
CITYWATCH  
COMMUNITY NEWSLETTER  
COMMUNITY OF LAKELAND  
COMMUNITY WATCH NEWS LETT  
DIRECT MAIL  
DIRECT MAIL  
DIRECT MAIL  
E-MAIL  
E-MAIL  
E-MAIL  
E-MAIL  
E-MAIL  
E-MAIL  
E-MAIL AND DIRECT MAIL  
E-MAIL DIRECT MAIL  
EMAIL  
EMAIL  
EMAIL - FLYER  
EMAIL AND MAIL  
EMAILS OR FACEBOOK  
GOVERNMENT  
LAKELAND BULLETIN  
LAKELAND CITY WATCH  
LAKELAND E-NEWSLETTER  
LAKELAND NEWSLETTER  
MAIL

# 2011 Lakeland, TN Stormwater Survey Results

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## **Q6. Other**

### Q7 Other

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MAIL

MAIL OR PHONE CALL

MAILING

MAILINGS

MAYORS OFFICE

MGW

MGW MONTHLY BILL

NEWSLETTER

NEWSLETTER

NEWSLETTER

NEWSLETTER

NEWSLETTER

NEWSLETTER

NEWSLETTER

REPORTS FOR MGLW & COUNCI

SARA CLUB

WATER BILL

WATERBILL

WORD OF MOUTH

WORD OF MOUTH

WORK, NEWSLETTER

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q7. How would you like to receive information about stormwater runoff and water quality issues?**

Q7. How would you like to receive information about water quality?	Number	Percent
Newspapers, magazines or other print media	164	39.4 %
Brochures	70	16.8 %
Television stories/ads	117	28.1 %
Radio stories/ads	31	7.5 %
Internet or City website	111	26.7 %
Watershed or community clean-up	12	2.9 %
Other	78	18.8 %
No response	24	5.8 %
Total	607	

### **Q7. How would you like to receive information about stormwater runoff and water quality issues? (without "no response")**

Q7. How would you like to receive information about water quality?	Number	Percent
Newspapers, magazines or other print media	164	39.4 %
Brochures	70	16.8 %
Television stories/ads	117	28.1 %
Radio stories/ads	31	7.5 %
Internet or City website	111	26.7 %
Watershed or community clean-up	12	2.9 %
Other	78	18.8 %
Total	583	

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q8. Please rate each of the following issues:**

(N=416)

	Very important	Somewhat important	Not sure	Not important	Don't know
Q8a. Protecting water quality in lakes, streams, and rivers	75.2%	20.2%	2.2%	2.4%	0.0%
Q8b. Reducing the impact of flooding	70.6%	17.1%	5.8%	6.3%	0.2%
Q8c. Improving health and fitness for area residents	64.4%	24.5%	5.3%	5.5%	0.2%
Q8d. Protecting air quality	76.0%	17.8%	2.4%	3.6%	0.2%
Q8e. Safety from crime in neighborhoods	92.5%	5.5%	1.0%	0.7%	0.2%
Q8f. Quality of life for children and families	89.2%	9.4%	1.0%	0.5%	0.0%
Q8g. Quality of education (K-12)	86.5%	9.6%	2.6%	1.2%	0.0%
Q8h. Quality of recycling programs	57.7%	31.5%	6.0%	4.6%	0.2%
Q8i. Maintain property values	85.1%	11.8%	1.2%	1.7%	0.2%
Q8j. Acquiring and protecting natural areas	69.0%	23.6%	3.8%	3.4%	0.2%
Q8k. Quality of local government services	70.0%	24.3%	3.6%	1.9%	0.2%
Q8l. Linking neighborhoods to community facilities	47.4%	35.1%	11.1%	6.0%	0.5%
Q8m. Reducing litter and illegal dumping	77.9%	15.9%	3.8%	2.4%	0.0%

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q9. Select THREE of these issues that you consider to be the most important.**

<u>Q9. Top choice</u>	<u>Number</u>	<u>Percent</u>
Protecting water quality in lakes, streams, and rivers	37	8.9 %
Reducing the impact of flooding	12	2.9 %
Improving health and fitness for area residents	20	4.8 %
Protecting air quality	18	4.3 %
Safety from crime in neighborhoods	116	27.9 %
Quality of life for children and families	30	7.2 %
Quality of education (K-12)	72	17.3 %
Quality of recycling programs	8	1.9 %
Maintaining property values	32	7.7 %
Acquiring and protecting natural areas	4	1.0 %
Quality of local government services	8	1.9 %
Linking neighborhoods to community facilities	1	0.2 %
Reducing litter and illegal dumping	20	4.8 %
<u>None chosen</u>	<u>38</u>	<u>9.1 %</u>
Total	416	100.0 %

### **Q9. Select THREE of these issues that you consider to be the most important.**

<u>Q9. 2nd choice</u>	<u>Number</u>	<u>Percent</u>
Protecting water quality in lakes, streams, and rivers	37	8.9 %
Reducing the impact of flooding	19	4.6 %
Improving health and fitness for area residents	11	2.6 %
Protecting air quality	17	4.1 %
Safety from crime in neighborhoods	81	19.5 %
Quality of life for children and families	41	9.9 %
Quality of education (K-12)	60	14.4 %
Quality of recycling programs	12	2.9 %
Maintaining property values	32	7.7 %
Acquiring and protecting natural areas	7	1.7 %
Quality of local government services	6	1.4 %
Linking neighborhoods to community facilities	11	2.6 %
Reducing litter and illegal dumping	14	3.4 %
<u>None chosen</u>	<u>68</u>	<u>16.3 %</u>
Total	416	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q9. Select THREE of these issues that you consider to be the most important.**

<u>Q9. 3rd choice</u>	<u>Number</u>	<u>Percent</u>
Protecting water quality in lakes, streams, and rivers	22	5.3 %
Reducing the impact of flooding	10	2.4 %
Improving health and fitness for area residents	19	4.6 %
Protecting air quality	17	4.1 %
Safety from crime in neighborhoods	35	8.4 %
Quality of life for children and families	45	10.8 %
Quality of education (K-12)	50	12.0 %
Quality of recycling programs	6	1.4 %
Maintaining property values	50	12.0 %
Acquiring and protecting natural areas	12	2.9 %
Quality of local government services	14	3.4 %
Linking neighborhoods to community facilities	4	1.0 %
Reducing litter and illegal dumping	29	7.0 %
<u>None chosen</u>	<u>103</u>	<u>24.8 %</u>
Total	416	100.0 %

### **Q9. Select THREE of these issues that you consider to be the most important. (Top three)**

<u>Q9. Top choice</u>	<u>Number</u>	<u>Percent</u>
Protecting water quality in lakes, streams, and rivers	96	23.1 %
Reducing the impact of flooding	41	9.9 %
Improving health and fitness for area residents	50	12.0 %
Protecting air quality	52	12.5 %
Safety from crime in neighborhoods	232	55.8 %
Quality of life for children and families	116	27.9 %
Quality of education (K-12)	182	43.8 %
Quality of recycling programs	26	6.3 %
Maintaining property values	114	27.4 %
Acquiring and protecting natural areas	23	5.5 %
Quality of local government services	28	6.7 %
Linking neighborhoods to community facilities	16	3.8 %
Reducing litter and illegal dumping	63	15.1 %
<u>None chosen</u>	<u>38</u>	<u>9.1 %</u>
Total	1077	

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q10. Do you fertilize your yard on a regular basis?**

Q10. Do you fertilize your yard on a regular basis?	Number	Percent
Yes	248	59.8 %
No	164	39.5 %
Don't know	3	0.7 %
Total	415	100.0 %

### **Q11. Compared to two years ago, would you say you:**

Q11. Compared to two years ago, would you say you:	Number	Percent
Are more aware of the water quality of creeks and rivers	116	27.9 %
Have about the same level of awareness about water quality issues	271	65.1 %
Are less aware of the water quality of streams and rivers	15	3.6 %
N/A (did not live in Lakeland two years ago)	12	2.9 %
No response	2	0.5 %
Total	416	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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**Q12. Please rate the following activities on a scale of 1 to 5, where 1 is "Very Good" and 5 is "Very Harmful" for the water quality.**

(N=416)

	Very good	Rather good	Neutral	Harmful	Very harmful	Don't know
Q12a. Dumping oil in the storm drain	0.0%	0.2%	1.4%	5.8%	91.1%	1.4%
Q12b. Throwing away paint in your regular trash	0.7%	2.2%	9.1%	15.6%	70.7%	1.7%
Q12c. Washing paint brushes in the street gutter	1.4%	2.9%	12.5%	17.8%	64.2%	1.2%
Q12d. Washing the sidewalk and driveway	16.8%	27.4%	32.0%	10.3%	11.8%	1.7%
Q12e. Use of septic systems in lieu of connecting to public sewer	7.9%	10.1%	36.3%	14.9%	20.7%	10.1%
Q12f. Fertilizing the lawn with chemical fertilizers	4.1%	13.7%	34.6%	23.8%	20.7%	3.1%
Q12g. Throwing cigarette butts on the street	2.4%	6.3%	17.5%	22.8%	50.0%	1.0%
Q12h. Disposing of leaves or grass clippings in the street or in storm drains	2.4%	4.6%	13.0%	25.7%	53.6%	0.7%

## 2011 Lakeland, TN Stormwater Survey Results

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**Q12. Please rate the following activities on a scale of 1 to 5, where 1 is "Very Good" and 5 is "Very Harmful" for the water quality. (without "don't know")**

(N=416)

	Very good	Rather good	Neutral	Harmful	Very harmful
Q12a. Dumping oil in the storm drain	0.0%	0.2%	1.5%	5.9%	92.4%
Q12b. Throwing away paint in your regular trash	0.7%	2.2%	9.3%	15.9%	71.9%
Q12c. Washing paint brushes in the street gutter	1.5%	2.9%	12.7%	18.0%	65.0%
Q12d. Washing the sidewalk and driveway	17.1%	27.9%	32.5%	10.5%	12.0%
Q12e. Use of septic systems in lieu of connecting to public sewer	8.8%	11.2%	40.4%	16.6%	23.0%
Q12f. Fertilizing the lawn with chemical fertilizers	4.2%	14.1%	35.7%	24.6%	21.3%
Q12g. Throwing cigarette butts on the street	2.4%	6.3%	17.7%	23.1%	50.5%
Q12h. Disposing of leaves or grass clippings in the street or in storm drains	2.4%	4.6%	13.1%	25.9%	54.0%

## 2011 Lakeland, TN Stormwater Survey Results

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**Q13. Please indicate whether each of the following is "Not a Problem," a "Minor Problem" or a "Major Problem".**

(N=416)

	Not a problem	Minor problem	Major problem	Don't know
Q13a. Water pollution from stormwater running off streets, parking lots, lawns, etc.	27.4%	44.2%	19.7%	8.7%
Q13b. Water pollution from raw sewage discharge from sewer systems	30.3%	13.9%	43.0%	12.7%
Q13c. Water pollution from farming and agriculture	32.5%	30.3%	23.3%	13.9%
Q13d. Runoff from construction sites and erosion of river and stream banks	22.8%	32.9%	36.3%	7.9%

**Q13. Please indicate whether each of the following is "Not a Problem," a "Minor Problem" or a "Major Problem". (without "don't know")**

(N=416)

	Not a problem	Minor problem	Major problem
Q13a. Water pollution from stormwater running off streets, parking lots, lawns, etc.	30.0%	48.4%	21.6%
Q13b. Water pollution from raw sewage discharge from sewer systems	34.7%	16.0%	49.3%
Q13c. Water pollution from farming and agriculture	37.7%	35.2%	27.1%
Q13d. Runoff from construction sites and erosion of river and stream banks	24.8%	35.8%	39.4%

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q14. Do you currently participate in this activity?**

(N=416)

	Yes	No
Q14a. Use environmentally friendly products on your lawn	57.2%	42.8%
Q14b. Pick up trash along streams and the river in your community	41.1%	58.9%
Q14c. Take household hazardous waste to the Household Hazardous Waste site	74.5%	25.5%
Q14d. Wash your car on the lawn/grass instead of the street or driveway	68.5%	31.5%
Q14e. Landscape with native plants	69.7%	30.3%

### **Q14. Please indicate whether you would be "Very Willing," "Somewhat Willing," "Not Sure," or "Not Willing" to do each of the following:**

(N=416)

	Very willing	Somewhat willing	Not sure	Not willing	Don't know
Q14-a. Use environmentally friendly products on your lawn	21.2%	17.9%	31.3%	17.9%	11.7%
Q14-b. Pick up trash along streams and the river in your community	15.9%	35.9%	19.2%	26.1%	2.9%
Q14-c. Take household hazardous waste to the Household Hazardous Waste site	44.9%	21.5%	18.7%	8.4%	6.5%
Q14-d. Wash your car on the lawn/grass instead of the street or driveway	20.9%	29.1%	17.9%	31.3%	0.7%
Q14-e. Landscape with native plants	19.0%	24.6%	28.6%	16.7%	11.1%

## 2011 Lakeland, TN Stormwater Survey Results

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**Q14. Please indicate whether you would be "Very Willing," "Somewhat Willing," "Not Sure," or "Not Willing" to do each of the following: (without "don't know")**

(N=416)

	Very willing	Somewhat willing	Not sure	Not willing
Q14-a. Use environmentally friendly products on your lawn	24.1%	20.3%	35.4%	20.3%
Q14-b. Pick up trash along streams and the river in your community	16.4%	37.0%	19.7%	26.9%
Q14-c. Take household hazardous waste to the Household Hazardous Waste site	48.0%	23.0%	20.0%	9.0%
Q14-d. Wash your car on the lawn/grass instead of the street or driveway	21.1%	29.3%	18.0%	31.6%
Q14-e. Landscape with native plants	21.4%	27.7%	32.1%	18.8%

## 2011 Lakeland, TN Stormwater Survey Results

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**Q15. Using a scale of 1 to 5, where 1 means "Strongly Agree" and 5 means "Strongly Disagree," please indicate your level of agreement with each of the following statements.**

(N=416)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
Q15a. The quality of local streams where I live affects my quality of life	38.7%	24.0%	20.4%	7.0%	7.9%	1.9%
Q15b. The quality of local streams where I live affects property values	44.5%	21.9%	16.1%	7.0%	8.9%	1.7%
Q15c. It is important to improve the quality of water in rivers and streams	53.8%	27.9%	10.3%	3.1%	3.6%	1.2%
Q15d. It is important to make improvements to help prevent sewer overflows	64.4%	21.9%	8.4%	2.4%	2.2%	0.7%
Q15e. I have confidence in my community's ability to address flooding problems	37.3%	27.6%	20.7%	7.9%	4.6%	1.9%
Q15f. Willing to pay slightly more for a home to preserve natural areas	25.7%	26.0%	25.5%	7.2%	13.2%	2.4%
Q15g. I would support my local government working with other cities/counties	56.5%	28.4%	8.7%	2.2%	2.9%	1.4%

## 2011 Lakeland, TN Stormwater Survey Results

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**Q15. Using a scale of 1 to 5, where 1 means "Strongly Agree" and 5 means "Strongly Disagree," please indicate your level of agreement with each of the following statements. (without "don't know")**

(N=416)

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Q15a. The quality of local streams where I live affects my quality of life	39.5%	24.5%	20.8%	7.1%	8.1%
Q15b. The quality of local streams where I live affects property values	45.2%	22.2%	16.4%	7.1%	9.0%
Q15c. It is important to improve the quality of water in rivers and streams	54.5%	28.2%	10.5%	3.2%	3.6%
Q15d. It is important to make improvements to help prevent sewer overflows	64.9%	22.0%	8.5%	2.4%	2.2%
Q15e. I have confidence in my community's ability to address flooding problems	38.0%	28.2%	21.1%	8.1%	4.7%
Q15f. Willing to pay slightly more for a home to preserve natural areas	26.4%	26.6%	26.1%	7.4%	13.5%
Q15g. I would support my local government working with other cities/counties	57.3%	28.8%	8.8%	2.2%	2.9%

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q16. Which of the following BEST describes the primary use for your property?**

<u>Q16. What is the primary use for your property?</u>	<u>Number</u>	<u>Percent</u>
Home	398	95.7 %
Agricultural - pasture/livestock	7	1.7 %
Commercial/retail property	2	0.5 %
Rental	6	1.4 %
No response	3	0.7 %
Total	416	100.0 %

### **Q16. Which of the following BEST describes the primary use for your property?**

<u>Q16. 2nd</u>	<u>Number</u>	<u>Percent</u>
Home	1	0.2 %
Commercial/retail property	1	0.2 %
No response	414	99.5 %
Total	416	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q17. How important do you think it is for Lakeland to maintain and protect streams and stream corridors?**

Q17. How important is it for Lakeland to maintain and protect streams?	Number	Percent
Very important	244	58.7 %
Somewhat important	149	35.8 %
Not important	16	3.8 %
Don't know	7	1.7 %
Total	416	100.0 %

### **Q17. How important do you think it is for Lakeland to maintain and protect streams and stream corridors? (without "don't know")**

Q17. How important is it for Lakeland to maintain and protect streams?	Number	Percent
Very important	244	59.7 %
Somewhat important	149	36.4 %
Not important	16	3.9 %
Total	409	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q18. Do you have broadband Internet service?**

<u>Q18. Do you have broadband Internet service?</u>	<u>Number</u>	<u>Percent</u>
Yes	335	80.9 %
No	72	17.4 %
Don't know	7	1.7 %
Total	414	100.0 %

### **Q18. Do you have broadband Internet service? (without "don't know")**

<u>Q18. Do you have broadband Internet service?</u>	<u>Number</u>	<u>Percent</u>
Yes	335	82.3 %
No	72	17.7 %
Total	407	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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**Q19. Please indicate whether each of the following is a "Major Problem," a "Minor Problem" or "Not a Problem" in the area where your property is located.**

(N=416)

	Major problem	Minor problem	Not a problem	Don't know/Not Applicable
Q19a. Flooding anywhere on your property	10.6%	19.2%	68.5%	1.7%
Q19b. Flooding in a building (home, business, etc.) on your property	7.7%	11.1%	79.1%	2.2%
Q19c. Flooding in streets, roads, or private drives	12.5%	18.0%	67.5%	1.9%
Q19d. Soil and stream bank erosion	14.4%	23.1%	56.5%	6.0%
Q19e. Trash/debris in the streams & drainage ditches	18.5%	24.0%	52.4%	5.0%
Q19f. Pollution in streams, ponds, and lakes	15.6%	23.8%	51.2%	9.4%

**Q19. Please indicate whether each of the following is a "Major Problem," a "Minor Problem" or "Not a Problem" in the area where your property is located. (without "don't know/not applicable")**

(N=416)

	Major problem	Minor problem	Not a problem
Q19a. Flooding anywhere on your property	10.8%	19.6%	69.7%
Q19b. Flooding in a building (home, business, etc.) on your property	7.9%	11.3%	80.8%
Q19c. Flooding in streets, roads, or private drives	12.7%	18.4%	68.9%
Q19d. Soil and stream bank erosion	15.3%	24.6%	60.1%
Q19e. Trash/debris in the streams & drainage ditches	19.5%	25.3%	55.2%
Q19f. Pollution in streams, ponds, and lakes	17.2%	26.3%	56.5%

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q20. Approximately how many years have you lived in the City of Lakeland?**

<u>Q20. How many years lived in Lakeland?</u>	<u>Number</u>	<u>Percent</u>
Less than 5 years	80	19.2 %
5-10 years	165	39.7 %
11-20 years	123	29.6 %
More than 20 years	46	11.1 %
Don't know	2	0.5 %
Total	416	100.0 %

### **Q21. Do you own or rent your current residence?**

<u>Q21. Do you own or rent your current residence?</u>	<u>Number</u>	<u>Percent</u>
Own	398	95.7 %
Rent	14	3.4 %
No response	4	1.0 %
Total	416	100.0 %

### **Q22. What is your age?**

<u>Q22. What is your age?</u>	<u>Number</u>	<u>Percent</u>
Under 25	11	2.6 %
25 to 34	32	7.7 %
35 to 44	91	21.9 %
45 to 54	85	20.4 %
55 to 64	116	27.9 %
65+	81	19.5 %
Total	416	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q23. What best describes your level of education?**

Q23. What best describes your level of education?	Number	Percent
Less than High School	2	0.5 %
High school or GED equivalent	58	13.9 %
Some college/technical school	88	21.2 %
Technical school certification/Associate's degree	19	4.6 %
College graduate	156	37.5 %
Post graduate	74	17.8 %
No response	19	4.6 %
Total	416	100.0 %

### **Q23. What best describes your level of education?**

Q23. What best describes your level of education?	Number	Percent
Less than High School	2	0.5 %
High school or GED equivalent	58	14.6 %
Some college/technical school	88	22.2 %
Technical school certification/Associate's degree	19	4.8 %
College graduate	156	39.3 %
Post graduate	74	18.6 %
Total	397	100.0 %

## 2011 Lakeland, TN Stormwater Survey Results

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### **Q24. Gender**

<u>Q24. Gender</u>	<u>Number</u>	<u>Percent</u>
Male	196	47.1 %
Female	220	52.9 %
Total	416	100.0 %

*Section 3:*  
***Survey Instrument***

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Using a scale of 1 to 5 where 5 means “not important” and 1 means “very important”, please rate each of the following issues:

	<u>Very Important</u>	<u>Somewhat Important</u>	<u>Not Sure</u>	<u>Not Important</u>
(A) Protecting water quality in lakes, streams, and rivers.....	1.....	2.....	3.....	4
(B) Reducing the impacts of flooding.....	1.....	2.....	3.....	4
(C) Improving health and fitness for area residents.....	1.....	2.....	3.....	4
(D) Protecting air quality .....	1.....	2.....	3.....	4
(E) Safety from crime in neighborhoods .....	1.....	2.....	3.....	4
(F) Quality of life for children and families .....	1.....	2.....	3.....	4
(G) Quality of education (K-12) .....	1.....	2.....	3.....	4
(H) Quality of recycling programs.....	1.....	2.....	3.....	4
(I) Maintaining property values .....	1.....	2.....	3.....	4
(J) Acquiring and protecting natural areas.....	1.....	2.....	3.....	4
(K) Quality of local government services.....	1.....	2.....	3.....	4
(L) Linking neighborhoods to community facilities.....	1.....	2.....	3.....	4
(M) Reducing litter and illegal dumping .....	1.....	2.....	3.....	4

8. Select the **THREE** issues that you consider to be the most important by from question 1 above to indicate your choices.

                      
1<sup>st</sup> choice
                      
2<sup>nd</sup> choice
                      
3<sup>rd</sup> choice

9. Compared to two years ago, would you say you:

- \_\_\_\_(1) are more aware of the water quality of creeks and rivers in the Lakeland area
- \_\_\_\_(2) have about the same level of awareness about water quality issues
- \_\_\_\_(3) are less aware of the water quality of streams and rivers in the Lakeland area
- \_\_\_\_(4) Not applicable (did not live in Lakeland two years ago)

10. Please rate the following activities on a scale of 1 to 5 where 1 is “very good” and 5 is “very harmful” for the water quality in the Lakeland area?

	<u>Very Good</u>	<u>Rather Good</u>	<u>Neutral</u>	<u>Harmful</u>	<u>Very Harmful</u>
(A) Fertilizing the lawn with chemical fertilizers.....	1 .....	2.....	3.....	4 .....	5
(B) Throwing away paint in your regular trash .....	1 .....	2.....	3.....	4 .....	5
(C) Washing paint brushes in the street gutter .....	1 .....	2.....	3.....	4 .....	5
(D) Washing the sidewalk and driveway .....	1 .....	2.....	3.....	4 .....	5
(E) Use of Septic systems in lieu of connecting to public sewer .....	1 .....	2.....	3.....	4 .....	5
(F) Throwing cigarette butts on the street.....	1 .....	2.....	3.....	4 .....	5
(G) Dumping oil in the storm drain .....	1 .....	2.....	3.....	4 .....	5
(H) Disposing of leaves in the street or in storm drains .....	1 .....	2.....	3.....	4 .....	5

11. Please indicate whether each of the following is “not a problem,” a “minor problem” or “a major problem” in the Lakeland area.

	<u>Not a Problem</u>	<u>Minor Problem</u>	<u>Major Problem</u>	<u>Don't Know</u>
(A) Water pollution from storm water running off streets, parking lots, lawns, etc.....	1 .....	2.....	3.....	9
(B) Water pollution from raw sewage discharge from sewer systems .....	1 .....	2.....	3.....	9
(C) Water pollution from farming and agriculture ....	1 .....	2.....	3.....	9

12. Next, I am going to read several ways that residents can help protect the environment in the

**Lakeland area. Please indicate if you currently participate in this activity, and if you DO NOT currently participate, please indicate whether you would be “very willing,” “somewhat willing,” “not sure,” or “not willing” to do each of the following:**

Do you currently do this activity?		If NO, How Willing Would You Be?				
		Very Willing	Somewhat Willing	Not Sure	Not Willing	
YES	NO	(A) Use environmentally friendly products on your lawn.....	1.....	2.....	3.....	4
YES	NO	(B) Pick up trash along streams and the river in your community.....	1.....	2.....	3.....	4
YES	NO	(C) Take household hazardous waste, such as paint and motor oil to the Household Hazardous Waste site.....	1.....	2.....	3.....	4
YES	NO	(D) Wash your car on the lawn/grass or carwash instead of the street or driveway.....	1.....	2.....	3.....	4
YES	NO	(E) Landscape with native plants .....	1.....	2.....	3.....	4

**13. Using a scale of 1 to 5 where “1” means “Strongly Agree” and “5” means “Strongly Disagree,” please indicate your level of agreement with each of the following statements**

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
(A) The quality of local streams where I live affects my quality of life.....	1.....	2.....	3.....	4.....	5
(B) The quality of local streams where I live affects property values.....	1.....	2.....	3.....	4.....	5
(C) I think it is important to improve the quality of water in rivers and streams in my community .....	1.....	2.....	3.....	4.....	5
(D) I think it is important to make improvements that will help prevent sewer overflows into creeks and streams during heavy rains.....	1.....	2.....	3.....	4.....	5
(E) I have confidence in my community’s ability to address flooding related problems .....	1.....	2.....	3.....	4.....	5
(F) I would be willing to pay a slight increase when buying a home to pay for preserving natural areas in my neighborhood.....	1.....	2.....	3.....	4.....	5
(G) I would be supportive of my local government working with other cities and counties to improve water quality .....	1.....	2.....	3.....	4.....	5

**14. Which of the following BEST describes the primary use for your property? (check one)**

- |   |   |
|---|---|
| <input type="checkbox"/> (1) Home                             | <input type="checkbox"/> (4) Commercial/retail property |
| <input type="checkbox"/> (2) Agricultural – farming/row crops | <input type="checkbox"/> (5) Rental                     |
| <input type="checkbox"/> (3) Agricultural – pasture/livestock | <input type="checkbox"/> (9) Other: _____               |

**15. Compared to other City priorities, such as road maintenance, parks and recreation, and public safety, how important do you think it is for Lakeland to maintain and protect streams and stream corridors (check one)**

- |   |  |
|---|--|
| <input type="checkbox"/> (1) Very important     | <input type="checkbox"/> (3) Not important |
| <input type="checkbox"/> (2) Somewhat important | <input type="checkbox"/> (9) Don’t know    |

**16. Do you have broadband Internet service?**

- (1) Yes       (2) No

17. Please indicate whether each of the following is a “major problem,” a “minor problem” or “not a problem” in the area where your property is located by circling the corresponding number below.

	Major Problem	Minor Problem	Not a Problem	Don't Know/ Not Applicable
(A) Flooding anywhere on your property .....	3	2	1	9
(B) Flooding in a building (home, business, etc) on your property .....	3	2	1	9
(C) Flooding in streets, roads, or private drives.....	3	2	1	9
(D) Soil and stream bank erosion.....	3	2	1	9
(E) Trash/debris in the streams & drainage ditches...	3	2	1	9
(F) Pollution in streams, ponds, and lakes.....	3	2	1	9

18. Improvements to the quality of stormwater management in Lakeland may require funding through an assessment on your monthly utility bill. As a resident of Lakeland, what range of monthly fees would you be willing to pay to solve drainage, flooding, and surface water pollution problems in Lakeland?

- |  |   |
|--|---|
| <input type="checkbox"/> (1) \$1 to \$5  | <input type="checkbox"/> (4) Other      |
| <input type="checkbox"/> (2) \$6 to \$10 | <input type="checkbox"/> (5) Don't know |
| <input type="checkbox"/> (3) No Fee      |   |

<b>DEMOGRAPHICS</b>
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19. Approximately how many years have you lived in the City of Lakeland?

- |  |   |
|--|---|
| <input type="checkbox"/> (1) Less than 5 years | <input type="checkbox"/> (4) More than 20 years       |
| <input type="checkbox"/> (2) 5-10 years        | <input type="checkbox"/> (9) [DO NOT READ] Don't know |
| <input type="checkbox"/> (3) 11-20 years       |   |

20. Do you own or rent your current residence?  (1) Own  (2) Rent

21. What is your age?

- |                                       |                                       |
|---------------------------------------|---------------------------------------|
| <input type="checkbox"/> (1) under 25 | <input type="checkbox"/> (4) 45 to 54 |
| <input type="checkbox"/> (2) 25 to 34 | <input type="checkbox"/> (5) 55 to 64 |
| <input type="checkbox"/> (3) 35 to 44 | <input type="checkbox"/> (6) 65+      |

22. What best describes your level of education?

- |  |  |
|--|--|
| <input type="checkbox"/> (1) Less than High School         | <input type="checkbox"/> (4) Technical school certification/Assoc degree |
| <input type="checkbox"/> (2) High School or GED equivalent | <input type="checkbox"/> (5) College Graduate                            |
| <input type="checkbox"/> (3) Some college/technical school | <input type="checkbox"/> (6) Post graduate                               |

23. Which of the following best describes your current employment status?

(1) employed outside the home

**Where do you work?**

- |  |   |
|--|---|
| <input type="checkbox"/> (1) In Lakeland | <input type="checkbox"/> (5) Memphis                    |
| <input type="checkbox"/> (2) Bartlett    | <input type="checkbox"/> (6) Elsewhere in Shelby County |
| <input type="checkbox"/> (3) Germantown  | <input type="checkbox"/> (4) Collierville               |

(2) employed in the home

(3) student

(4) retired

(5) not currently employed outside the home

24. Your gender:  (1) Male  (2) Female

**THANKS FOR YOUR HELP - THIS CONCLUDES THE SURVEY!**