

# Mississippi-Winona Watershed Resident Survey

## Summary of Results

### Introduction

The Whitewater Watershed Joint Powers Board conducted a survey of residents of the Mississippi-Winona Watershed (see map, Figure 1) in January 2013. The survey entailed mailing a six page questionnaire (see

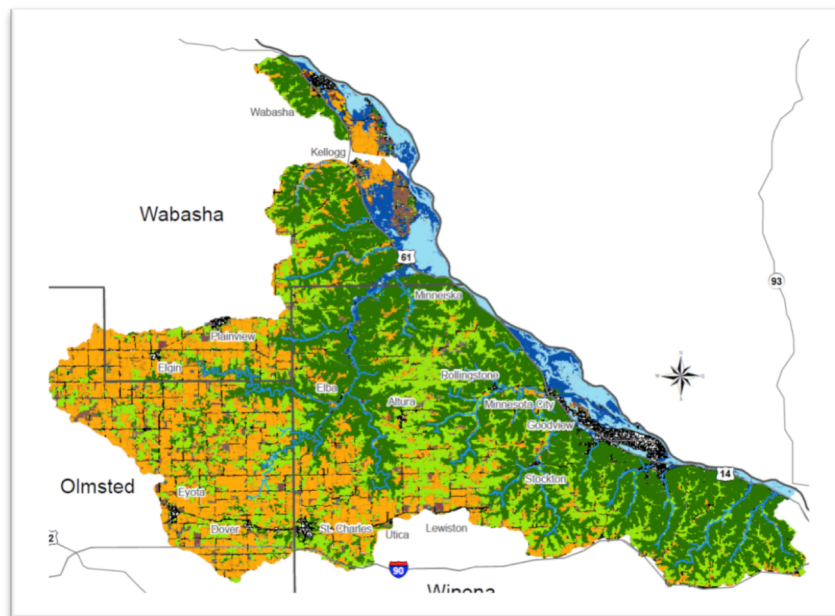


Figure 1

Appendix 1) to 2,816 residences in the Mississippi-Winona Watershed (excluding residents of the Logan Branch and the Middle Branch of the Whitewater River, who were surveyed in 2011). We received usable responses from 925 households, for a response rate of 33%, over the 30% threshold survey researchers consider to be representative.

The 925 survey results from the 2013 survey were combined with the 117 survey respondents from the 2011 resident survey of the Middle Branch Whitewater and Logan Creek watersheds.<sup>1</sup> Table 1 shows the breakdown of the sample and response rates for the combined surveys, based on an analysis of answers to questions about water

supply and land owned. Note that the categories that distinguish respondents overlap. For example, while 290 respondents reside in cities, 22 city residents own 120 acres or more in the watershed, and at least 48 other city residents are somehow engaged in farming (including retired farmers).

### Sample Construction

Subset	2011 Survey Population	2013 Survey Population	Combined Population	Combined Valid Sample	Valid Responses	Response Rate
Cities (municipal water)	0	13,084	13,084	1,126	290	25.8%
non-farm (other < 10 acres)	133	2,791	2,924	686	257	37.5%
small farm (10 < 120 ac.)	113	1,280	1,393	689	210	30.5%
large farm ( 120 ac. +)	312	709	1,021	873	285	32.6%
Total	558	17,864	18,422	3,374	1,042	30.8%

Table 1

<sup>1</sup> Described in "Whitewater Watershed Resident Survey Summary of Results," Whitewater Joint Powers Board, December 29, 2011

The combined surveys contacted a total of 3,374 households, of whom 1,042 responded with usable surveys, for an overall response rate of 31%.

The population size is small enough and the response level high enough that we can be 95% confident that, if a sample proportion is reported as 50%, the population proportion is within a range of plus or minus 4.3% (that is, from 45.4% to 54.6%). Where a sample proportion is very high or very low, the range is reduced (for example, if the sample proportion is 90%, the range is plus or minus 2.6%).

However, we know from the survey results that in some respects, the sample is not representative of the population. For example, the unweighted proportion of females among survey respondents is only 22%, whereas we would expect slightly over 50% based on Census data for Winona County, where the majority of the population live. However, 68% of owner-occupied households in Winona County are either married-couple families or single male-headed households, so making allowances for a tendency for households to assign the task of filling out surveys related to land use and water quality to males, we assume the survey represents the opinions of households with an interest in water and land use.

Similarly, the unweighted median age of respondents is 59, compared to a median age for Winona County home owners of 44.<sup>2</sup> However, the median age for household heads of owner households in the townships in the surveyed areas of the three counties is roughly 55,<sup>3</sup> so considering that the response rate was higher for townships than for city dwellers, the respondent median age is roughly representative of rural homeowners. Accordingly, we have not attempted to weight responses to achieve an age and gender balance representative of the population of the watersheds.

Making those allowances, the results appear to provide a sound basis for planning community education and other efforts to address water quality concerns in the watershed. This report reviews key findings from both surveys and explores some of the differences in responses among various respondent groups (operators of farms compared to others, for example).

## Key Findings

The survey reveals the following important findings about the respondents and, assuming the survey is representative, about the residents of the watershed:

- The respondents exhibit a strong commitment to water quality. An overwhelming majority of respondents rated as extremely or very important such water quality issues as clean rivers and streams, maintaining the water quality and flow of springs, and clean well water. This was true regardless of the background of the respondents.
- A high proportion (27%) of respondents who rely on private well water do not know whether their well is cased and grouted, do not know the aquifer their well relies on (63%), and do not have a source of information about the quality of their well water (25%).
- Relatively high proportions of respondents consider themselves very uninformed or somewhat uninformed about a number of specific water quality issues in the watershed. Given the level of commitment to water quality, the survey indicates an opportunity for awareness building in the watershed.

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<sup>2</sup> Analysis based on Table B25007 of the American Community Survey 2007-11 data.

<sup>3</sup> Analysis based on Table H17 of the 2010 Census for 26 townships in the surveyed area.

- Rural respondents list two sets of agencies as significant current sources of information, the county extension services and the soil and water conservation districts. Printed fact sheets are a clear preference as sources of information.
- Respondents favor education, grassroots action, neighbor interaction, and local government as ways to protect water quality. Respondents consider clean groundwater, streams as clean as their natural condition, and streams that are safe for fishing as matters of right to which they are entitled.
- While there were significant differences between the group of farmer-operators (defined as operators of farms or owners of 120 acres or more of land in the watershed) and others (every other survey respondent), for the most part there was widespread consensus on water quality issues.

## Weighting Responses by Land Ownership and Water Supply

Because both surveys included information about land ownership and drinking water supply, it is possible to weight survey responses in order to reflect the actual distribution of households in the watershed area.

Category	# of Households Each Survey Represents
large farms (120+ acres)*	3.6
mid-sized farms (10 - 120 acres)*	6.2
non-farms (< 10 acres)*	10.4
cities	53.4
Average	17.7

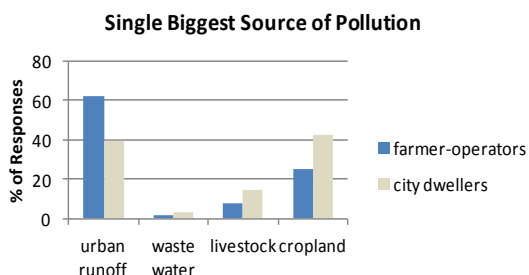
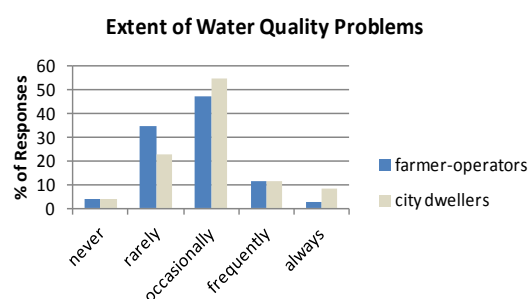
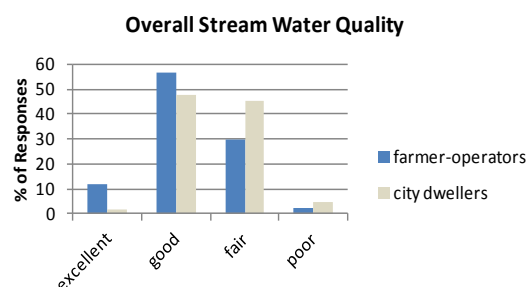
The weighted results represent the relative proportions of owner occupied households in cities and rural owner-occupied households with different ranges of land ownership. We grouped city residents owning 120 acres or more with rural land owners of 120 acres or more, rather than with city residents owning under an acre.

Table 2

## Survey Highlights

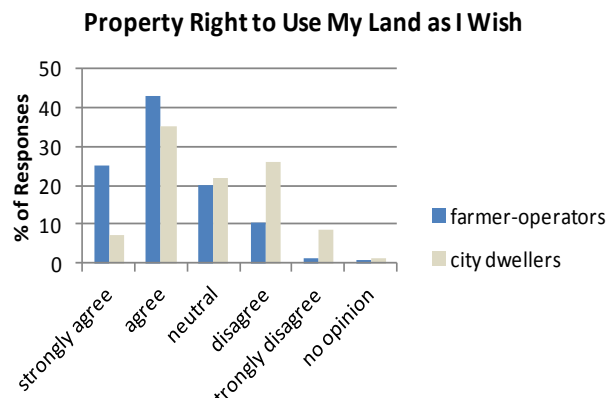
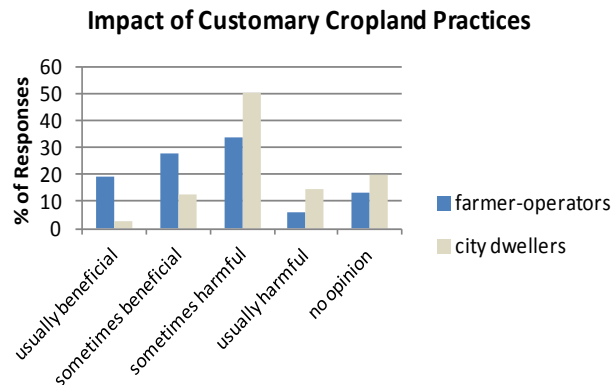
### Large farmer operators and city dwellers on small properties:

The survey results confirm that occupation, land ownership, and jurisdiction type are associated with differences of opinion. Figures 2 and 3 show the range of responses for two groups of sample respondents on questions of the extent of stream water quality problems, potential pollution sources, and basic governance philosophies. The two groups are “city dwellers,” comprised of those who own less than one acre of land AND who have never engaged in farming AND who rely on municipal water supplies (173 respondents); and “farmer operators,” comprised of those who are active farmer operators AND who own 120 acres or more (154 respondents). The comparisons show differences of opinion on several issues. Regarding stream water quality, over half of city respondents consider stream water quality to be fair or poor, compared to less than a third of farmer-operators, while 39% of farmer-operators consider stream water quality to be never or only rarely a problem, compared to 26% of city respondents. The groups also have differing opinions on the chief source of water quality problems, with 62% of farmer-



operators listing runoff from streets, lawns, and urban lands (vs. 40% for city respondents) and with 42% of city dwellers listing cropland (vs. 25% of farmer-operator respondents).

Similarly, the two groups had differing opinions on the impact of “cropland practices customary in the watershed,” with 47% of farmer respondents considering them usually or sometimes beneficial compared to only 15% of city respondents, while 65% of city respondents consider customary cropland practices to be sometimes or usually harmful.



There were significant differences between the two groups on questions related to governance. While 25% of farmer-operators strongly agreed with the statement, “If I own property, I have a right to use my land as I wish,” the proportion among city respondents was only 7%. Only 11% of farmer-operator respondents disagreed or strongly disagreed with that statement, compared to 35% of city dwellers.

While there were areas of difference, many of the governance questions had high levels of agreement, as did many of the questions about the importance of several water issues. For example, overwhelming proportions of both farmer-operators and city residents agree or strongly agree with the statements “if I own a well, I have a right to clean drinking water” (89% of farmer-operators and 84% of city dwellers); “the public has a right to streams that are as clean as their natural condition” (80% farmer-operators, 91% city dwellers); and “in public waters, I have a right to catch fish that are safe to eat” (78% farmer-operators, 93% city dwellers). Farmer-operators and city-dwellers represent the most divergent subsets in the survey.

## Engagement in Farming:

Since 94.4% of survey respondents answered the question “Are you currently engaged in farming?” we can use those respondents to determine issues where differences or similarities of opinion, levels of awareness, information needs, and so on, make a difference for planning and educational development purposes.

Appendix 2 analyzes the differences (for every question in the survey) between the 513 respondents who answered “no” to the engagement in farming question and the 471 respondents who checked any of the responses other than “no.” Appendix 2 includes both weighted and unweighted responses depending on the type of question. In examining the differences among the responses from different mixes of land ownership and jurisdiction, the weighted average proportions provide the most representative values for the watershed community as a whole. The differences and similarities between the two groups mirror the differences and similarities identified in the smaller farmer-operators and city-dweller comparisons.

Many respondents (471 out of 984 valid (non-missing) responses) have had at least some involvement in farming.

<b>Are you currently engaged in farming? (Check the description that best applies.)</b>	<b>Count</b>	<b>% of Valid</b>
Yes, as an operator or spouse of an operator of land that I/we own or rent	232	23.6%
Yes, as an owner or spouse of an owner of land that we rent to others ...	175	17.8%
Yes, as an employee of a farmer or on-farm service business	20	2.0%
Yes, in another way (please specify: help family, minor farming, CRP)	10	1.0%
No, I am a retired farmer	34	3.5%
No	513	52.1%
Total Responses	984	
Missing (left blank: 5.6%)	58	

Table 3

### Importance of Water Quality Issues

There is consensus among respondents on the importance of various issues regarding groundwater and surface water. Even where differences in sub-groups are statistically significant (shaded cells in Table 4), the differences are inconsequential; majorities of both sub-groups are clearly on the same side of these issues.

Table 4

Issue (Weighted Responses)		% Extremely or Very Important	
		not engaged in farming	any involvement in farming
Clean well water for existing homes	92.6%	92.5%	92.7%
Clean rivers and streams	91.8%	93.5%	83.0%
Water quality of springs	83.8%	83.7%	81.4%
Stream habitat	81.9%	84.5%	68.4%
Avoiding threats to shallow wells	81.7%	82.3%	77.9%
Minimizing flood damages	80.9%	81.1%	78.3%
Clean well water for livestock	80.5%	79.1%	85.7%
Habitat around springs	80.2%	81.5%	70.3%
Preserving wetlands	77.6%	79.7%	65.7%
Habitat for fish & ducks	77.3%	80.2%	66.2%
Flow quantity of springs	76.0%	76.4%	71.5%
Accommodating industries	33.0%	30.1%	36.8%
Accommodating residential growth	32.6%	32.0%	33.1%
Irrigation for lawns	16.6%	15.9%	15.2%

## Opinions on Governance

There is also general consensus among respondents on issues relating to governance and general approaches to addressing water quality issues. While there are statistically significant differences between the farmer and non-farmer subgroups (shaded cells in Table 5), there are only two questions for which the differences are such as to put a majority of one group on a different side of the issue than the majority of the other group (**bold** cells). Those two are reliance on federal regulations as a means of addressing water quality and property ownership entailing a right to use land as the owner wishes.

Table 5

How Much Do You Agree or Disagree with the Following Statements? (Weighted Responses)	% Strongly Agree or Agree		
	full sample	not engaged in farming	any involvement in farming
A good way to protect water quality is through education	93.40%	94.20%	89.90%
Whether or not I own a well, I have a right to clean groundwater	92.30%	93.30%	89.40%
In public waters, I have a right to catch fish that are safe to eat	91.40%	92.90%	86.80%
The public has a right to streams that are as clean as their natural condition	87.60%	91.00%	76.90%
If I own a well, I have a right to clean drinking water	86.50%	86.00%	90.50%
Local regulations are a good way to protect streams and groundwater	76.70%	78.70%	67.60%
Effective watershed management is best done at the grassroots level	73.30%	72.30%	79.10%
State regulations are a good way to protect streams and groundwater	69.90%	72.80%	54.00%
A good way to protect water quality is by neighbors talking to neighbors	56.40%	55.70%	58.00%
The government should provide incentives for water quality protection	55.40%	54.60%	58.80%
Federal regulations are a good way to protect streams and groundwater	54.80%	<b>57.00%</b>	<b>43.40%</b>
If I own property, I have a right to use my land as I wish	47.30%	<b>45.10%</b>	<b>57.40%</b>
Most people will voluntarily give up profits to protect water quality	19.50%	18.50%	22.30%
Most people will voluntarily give up profits to protect natural habitats	17.80%	17.80%	16.20%
If I own property, I should be paid to prevent erosion	15.90%	11.40%	32.50%
Free market forces adequately protect water resources	10.30%	9.00%	16.90%

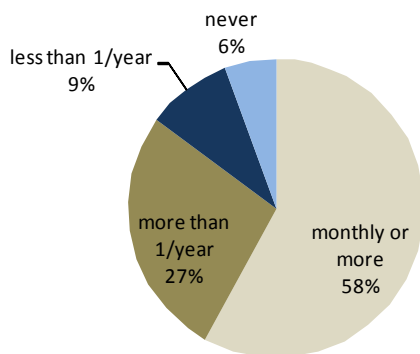
## Other Questions and Background

**Water Supply:** All but 17 respondents answered the question about water supply. Two-thirds of respondents rely on private wells (representing 26% of households in the watershed) and 28% rely on municipal water supply (representing 81% of the watershed households). Almost two-thirds of respondent treat their water by softening and over 75% of respondents use at least one water treatment. Municipal utilities could provide an avenue for education for city dwellers, and water treatment companies could provide an avenue for education for all residents.

**Recreation:** A high proportion of all respondents recreate in the area monthly or more frequently (44% unweighted and 49% weighting by land ownership and water supply). Non-farmers recreate more frequently than farmers: 54% of non-farmers and 28% of those with any involvement in farming recreate at least monthly. For questions about recreation, the respondents' age and sex may influence responses.

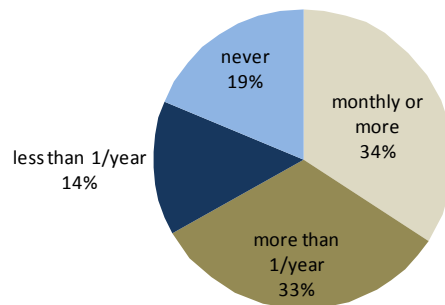
### *Non-farmers*

**How often do you use the area around the Mississippi River-Winona Watershed for a recreational purpose?**



### *Any involvement in farming*

**How often do you use the area around the Mississippi River-Winona Watershed for a recreational purpose?**



In order of activity, weighted by respondent characteristics, the most prevalent were walking or hiking, fishing, and swimming/wading/watercraft among non-farmers, and walking or hiking, fishing and, hunting among those with any involvement in farming. Women of all ages recreate less frequently than men and older respondents recreate less frequently than younger respondents.

**Gender:** As mentioned above, 21% of respondents are females (30%, weighted by ownership and water source). Of the 830 respondents who answered questions about age, sex, and occupation, only 9.9% of farm owner-operators are female.

**Watershed Residence:** Slightly over 90% reside in the watershed. The survey was intended for homeowners, so the address that the survey was mailed to was the taxpayer's address from the property records of the three counties. The respondents indicating they live outside the watershed should include chiefly (1) people who have recently moved from their properties; (2) people who misunderstood the term "Mississippi River/ Winona Watershed;" or (3) people own property within the watershed, but whose residence is outside the borders of the watershed.

**Age:** Of 1,042 respondents, 169 left the question about age unanswered. The median age of those who did respond is 59 (unweighted). Those with current or past engagement in farming (including retired farmers) had a median age of roughly 62.5, compared to 57.5 for those not engaged in farming. Excluding retired farmers, the average age of those involved in farming was roughly 60.3.

## **Potential Action Steps**

The survey used a stratified sample approach in order to reach meaningful about the sub-groups in the watershed. Because the land area of the watershed is mostly rural, the group with the most influence on the water quality of the watershed are the owners of rural land. It will be important to tailor educational offerings to farmers in ways that reflect the survey findings about what information farmer-operators need, and their preferred means of obtaining information. Education efforts should perhaps rely on trusted agencies such as the Soil and Water Conservation Districts (SWCDs) and the Extension Services, and on peer (“neighbors talking to neighbors”) interactions.

Because most of the residents of the watershed are urban dwellers, they are also an important group to address with educational efforts. A majority of non-farm respondents rely on local television and radio as a very significant or major source of information about water quality issues, and do not rely to as significant an extent on the SWCDs and Extension Services. Agencies involved in informing the public about water quality issues should adopt a range of strategies addressing these differences.

While there are differences among sub-groups, it cannot be overemphasized that there is widespread consensus among respondents on most matters covered in the survey.



## APPENDIX 1: Mississippi River – Winona Watershed Resident Survey text

*Following is the text of the 2013 survey, with minor changes in formatting. The 2011 survey is virtually identical, with only a few changes in the order of questions and some minor changes in questions and responses, for example, including municipal water supply as an option in question 1. The full text of that survey can be found in the appendix of the report on the 2011 survey.*

Thank you for taking time to complete this survey. We are conducting this anonymous survey to learn more about how residents and landowners in the Mississippi River – Winona Watershed value our water resources, how we use our watershed, and how we view and appreciate the watershed. **Thank you for participating.**

**You may complete the survey online by going to <http://www.surveymonkey.com/s/XPQ8KTZ> or by mailing your completed survey in the postage-paid envelope that has been provided.**

### DRINKING WATER

1. What is the primary source of drinking water in your home? (Check **one** box.)

- |  |  |
|--|--|
| <input type="checkbox"/> Private well or shared well | <input type="checkbox"/> Municipal Water [skip to 4]     |
| <input type="checkbox"/> Bottled water [skip to 4]   | <input type="checkbox"/> Don't know [skip to 4]          |
| <input type="checkbox"/> Natural spring [skip to 4]  | <input type="checkbox"/> Other (please list) [skip to 4] |
- 

2. Is your well cased and grouted?

- |                              |                             |                                     |
|------------------------------|-----------------------------|-------------------------------------|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Don't know |
|------------------------------|-----------------------------|-------------------------------------|

3. What aquifer does your well draw from? (Check **one** box.)

- |   |  |
|---|--|
| <input type="checkbox"/> Jordan Aquifer or deeper | <input type="checkbox"/> Galena formation or shallower aquifer |
| <input type="checkbox"/> Prairie du Chien         | <input type="checkbox"/> Other (please list)                   |
| <input type="checkbox"/> St. Peter                |  |
| <input type="checkbox"/> Multiple aquifers        | <input type="checkbox"/> Don't know                            |
- 

4. What types of water treatment do you use in your home, if any? (Check **all** that apply.)

- |  |  |
|--|--|
| <input type="checkbox"/> Water softener                  | <input type="checkbox"/> Ultraviolet (UV) system         |
| <input type="checkbox"/> Water softener with iron filter | <input type="checkbox"/> Carbon filter                   |
| <input type="checkbox"/> Reverse osmosis                 | <input type="checkbox"/> Other (please list)             |
| <input type="checkbox"/> Sediment filter                 |  |
| <input type="checkbox"/> Chlorination                    | <input type="checkbox"/> Don't know/ Don't use treatment |
- 

5. What is your **chief** source of information as to the quality of your drinking water? (Check **one** box.)

- |  |   |
|--|---|
| <input type="checkbox"/> Test results from a laboratory                  | <input type="checkbox"/> Other (please list)            |
| <input type="checkbox"/> Municipal water quality report                  |   |
| <input type="checkbox"/> Don't recall the source but did get information | <input type="checkbox"/> I do not have such information |
-

6. How would you rate the overall quality of your **drinking** water? (Check **one** box in each row.)

Attribute	Excellent	Good	Fair	Poor	No Opinion
Taste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Safety prior to treatment (level of pollutants)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## **WATER QUALITY**

1. How would you rate overall stream water quality in the Mississippi River-Winona Watershed area? (Check **one** box.)

☐ Excellent                      ☐ Good                      ☐ Fair                      ☐ Poor

2. If stream water quality were to become significantly worse than it is now, how would this affect the likelihood of your using the area for recreation? (Check **one** box.)

I would use streams for recreation                      ☐ less often                      ☐ more often                      ☐ the same.

3. If stream water quality were to become significantly better than it is now, how would this affect the likelihood of your using the area for recreation? (Check **one** box.)

I would use streams for recreation                      ☐ less often                      ☐ more often                      ☐ the same.

4. To what extent do you consider the water quality of streams to be a problem in the Mississippi River-Winona Watershed area? (Check **one** box.)

☐ Never a problem                      ☐ Frequently a problem  
☐ Rarely a problem                      ☐ Always a problem  
☐ Occasionally a problem

5. What do you think is the **single** most common source of water pollution in the Mississippi River-Winona Watershed area? (Check **one** box.)

☐ Runoff from streets, lawns, & urban lands                      ☐ Cropland operations  
☐ Household wastewater (septic systems)                      ☐ Other \_\_\_\_\_  
☐ Livestock operations

6. In your opinion, how do these land uses/practices affect water quality? (Check **one** box in each row.)

Water Quality Practice	Usually beneficial	Sometimes beneficial	Sometimes harmful	Usually harmful	No opinion
Amount of land area in forest or grassland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amount of land area in cropland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amount of land area in pasture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amount of land area in urban or suburban development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Application of manure or fertilizer at customary rates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Application of pesticides at customary rates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Row crops within 50 feet of streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact of cropland practices customary in the watershed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact of feedlot (livestock confinement) practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact of livestock pasturing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. In your opinion, how do these land uses/practices affect water quality? (Check **one** box in each row.)

Water Quality Practice	Usually beneficial	Sometimes beneficial	Sometimes harmful	Usually harmful	No opinion
Impact of residential and commercial lawn practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact of septic systems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact of road runoff (road salt and sand)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage of wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Installing drainage tile in farm fields that are not wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage tile outlets to streams or sinkholes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Farm runoff to streams or sinkholes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Urban runoff to streams or sinkholes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Do you know of or suspect that any of the following conditions (whether naturally occurring or manmade) affect **groundwater** quality in the Mississippi River-Winona Watershed? (Check **one** box in each row.)

Pollutant	Certain it is <b>NOT</b> a problem	Suspect it is <b>NOT</b> a problem	Don't know	Suspect it <b>IS</b> a problem	Certain it <b>IS</b> a problem
High levels of bacteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High levels of nitrates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heavy metals (lead, arsenic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minerals (calcium, iron)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High levels of pesticides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High levels of radioactivity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Do you know of or suspect that any of the following conditions affect **stream water** quality in the Mississippi River-Winona Watershed? (Check **one** box in each row.)

Pollutant	Certain it is <b>NOT</b> a problem	Suspect it is <b>NOT</b> a problem	Don't know	Suspect it <b>IS</b> a problem	Certain it <b>IS</b> a problem
High levels of bacteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High levels of nitrates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heavy metals (lead, arsenic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minerals (calcium, iron)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High levels of pesticides	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High levels of sediment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High levels of salts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. How important are each of the following water issues to you? (Check **one** box in each row.)

Issue	Extremely important	Very important	Somewhat important	Not important	No opinion
Clean rivers and streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintaining flow quantity of springs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintaining water quality of springs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintaining habitat around springs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean well water for existing homes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Clean well water for livestock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preserving wetlands	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimizing flood damages	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat for game fish and ducks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accommodating new or growing water-using industries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Accommodating residential growth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Irrigation for lawns, golf courses, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preserving stream habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Issue	Extremely important	Very important	Somewhat important	Not important	No opinion
Avoiding threats to water supply or water quality of shallow wells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Which of the following best describes your level of awareness of the following water quality issues in the Mississippi River-Winona Watershed? (Check **one** box in each row.)

Issue	Very informed	Somewhat informed	Somewhat uninformed	Very uninformed
Quality of drinking water from wells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trends in levels of nitrates in area wells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trends in levels of pesticides in area wells	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trends in levels of sediment in area streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trends in levels of bacteria in area streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trends in levels of nitrates in area streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact of nitrates on fish in area streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact of sediments on fish in area streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My general awareness of water quality issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The process of identifying "impaired waters" (streams that do not meet water quality standards) <sup>4</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The impaired or unimpaired status of area streams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ways to reduce sediment in streams that are designated as impaired for turbidity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ways to reduce bacteria levels in streams that are designated as impaired for bacteria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ways to reduce nitrates in streams that are designated as impaired for nitrates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### INFORMATION SOURCES AND PRACTICES

1. How much do you rely on the following sources for information about local water quality issues? (Check **one** box in each row.)

Sources of Information	Very significant source	Major source	Minor source	Not a source
State agency staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
County extension service staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
County soil and water district staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local radio or television	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Newspaper or weekly to monthly magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
National radio or television (NBC, PBS, NPR, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor interest groups (Trout Unlimited, Ducks Unlimited, sportsmen's groups, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Farm advocacy groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Books or journals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Public meetings or public hearings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Field demonstrations of conservation practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Classes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please list: _____)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<sup>4</sup> This is referred to as the "total maximum daily load," or TMDL process.

2. Have you ever served on or participated in any of the following organizations? (Check **all** that apply.)
- |  |  |
|--|--|
| <input type="checkbox"/> Master gardener program           | <input type="checkbox"/> Local boards and commissions  |
| <input type="checkbox"/> Citizen stream monitoring program | <input type="checkbox"/> Outdoor interest groups (Trout Unlimited, Ducks Unlimited, Sportsmen's Clubs, etc.) |
| <input type="checkbox"/> Environmental groups              | <input type="checkbox"/> Other _____   |
| <input type="checkbox"/> Farm advocacy groups              |  |
3. If the following kinds of learning opportunities were available, which would you be most likely to take advantage of to learn about water quality issues? (Check **all** that you would be likely to use.)
- |  |   |
|--|---|
| <input type="checkbox"/> Printed fact sheets                       | <input type="checkbox"/> Take part in a volunteer program (for example, stream monitoring or stream bank restoration) |
| <input type="checkbox"/> Visit a website                           | <input type="checkbox"/> Train for a regular volunteer position   |
| <input type="checkbox"/> Attend a weekend or evening class         | <input type="checkbox"/> Get an expert to assess your water-related practices   |
| <input type="checkbox"/> Look at a demonstration or display        | <input type="checkbox"/> Attend a fair or festival  |
| <input type="checkbox"/> Read a newspaper article or series        | <input type="checkbox"/> Other (please list) _____  |
| <input type="checkbox"/> Watch a video or DVD                      |   |
| <input type="checkbox"/> Take a course for certification or credit |   |
| <input type="checkbox"/> Watch a television program                |   |
4. Have you or someone in your household done any of the following to conserve water or preserve water quality? (Check **all** that apply.)
- |   |   |
|---|---|
| <input type="checkbox"/> Replaced or repaired your septic system          | <input type="checkbox"/> Reduced or eliminated farm chemical applications |
| <input type="checkbox"/> Pumped your septic system                        | <input type="checkbox"/> Installed water saving fixtures in your home     |
| <input type="checkbox"/> Tested your drinking water                       | <input type="checkbox"/> Improved management of livestock waste           |
| <input type="checkbox"/> Reduced or eliminated lawn watering              | <input type="checkbox"/> Installed erosion control practices              |
| <input type="checkbox"/> Changed the landscaping in your yard             | <input type="checkbox"/> Other (please list) _____                        |
| <input type="checkbox"/> Reduced or eliminated lawn chemical applications |   |

#### Governance

1. How much do you agree or disagree with the following statements? (Check **one** box in each row.)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
If I own property, I have a right to use my land as I wish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I own a well, I have a right to clean drinking water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The public has a right to streams that are as clean as their natural condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If I own property, I should be paid to prevent erosion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In public waters, I have a right to catch fish that are safe to eat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Whether or not I own a well, I have a right to clean groundwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Most people will voluntarily give up profits to protect water quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Most people will voluntarily give up profits to protect natural habitats	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Federal regulations are a good way to protect streams and groundwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
State regulations are a good way to protect streams and groundwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Local regulations are a good way to protect streams and groundwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The government should provide incentives for water quality protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### **Governance**

1. How much do you agree or disagree with the following statements? (Check **one** box in each row.)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree	No opinion
Effective watershed management is best done at the grassroots level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Free market forces adequately protect water resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A good way to protect water quality is by neighbors talking to neighbors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A good way to protect water quality is through education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### **RECREATION**

1. How often do you use the area around the Mississippi River-Winona Watershed for a recreational purpose? (Check **one** box.)

- ☐ Monthly or more frequently
 ☐ Less than once per year  
☐ More than once per year
 ☐ Never [skip next question]

2. Which of the following activities do you do in the area around the Mississippi River-Winona Watershed? (Check **all** that apply.)

- ☐ Walking, hiking, or skiing
 ☐ Fishing  
☐ Bird-watching, photography, wildflower identification, or similar activities
 ☐ Camping  
☐ Swimming, wading, or watercraft in streams
 ☐ Hunting

### **BACKGROUND**

1. Are you currently engaged in farming? (Check the description that best applies.)

- ☐ Yes, as an operator or spouse of an operator of land that I/we own or rent  
☐ Yes, as an owner or spouse of an owner of land that we rent to others to operate  
☐ Yes, as an employee of a farmer or on-farm service business  
☐ Yes, in another way (please specify \_\_\_\_\_)  
☐ No, I am a retired farmer  
☐ No

2. How many acres of land do you own in the watershed? \_\_\_\_\_ acres ☐ none

3. Do you reside in the Mississippi River-Winona Watershed? (see map on the back of the cover letter) ☐ yes ☐ no

4. What is your age? \_\_\_\_\_

5. What is your gender? ☐ Male ☐ Female

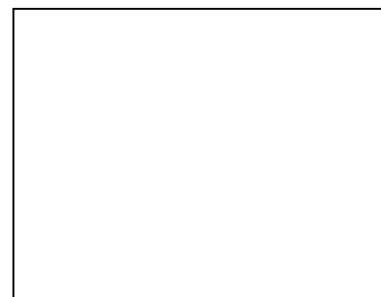
**THANK YOU**

# dwellers of water quality apply only to respondents with wells. The high proportion of respondents who do not know the aquifer water utilities. then were holes and air ground is a concern.

## APPENDIX 2: Complete Weighted Survey Results by Farm Engagement

Shaded cells indicate statistically significant differences (with the exceptions that (1) cells for “NA” and “No Opinion” are shaded only if the absence of an opinion is of interest and (2) cells with both groups under 5% are not shaded). **Bold** cells indicate findings that may be of particular interest for planning or education efforts. **Bold and italicized** cells indicate a difference in terms of majority perceptions or practices between subgroups, where the sums of “Strongly Agree/Agree” or similar indicators of opinion (such as “Usually/Sometimes”) result in a majority on one side of an issue for one group and majority on the other side of an issue for the other group.

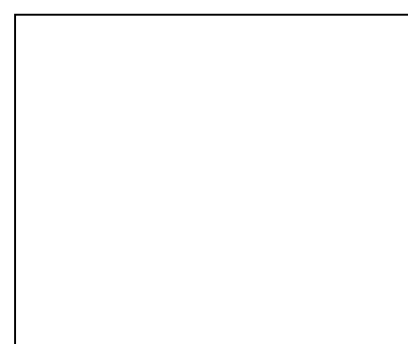
primary source of drinking water	full sample	not engaged in farming	any involvement in farming
well	25.7%	17.1%	<b>68.8%</b>
bottled	1.7%	1.5%	2.8%
municipal	72.2%	<b>80.9%</b>	27.7%
don't know	0.4%	0.4%	0.5%
other	0.1%	0.0%	0.3%
NA	0.1%	0.1%	0.0%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,025		



well cased and grouted	full sample	not engaged in farming	any involvement in farming
yes	67.4%	63.1%	<b>73.7%</b>
no	5.2%	4.6%	5.7%
don't know	26.8%	<b>31.8%</b>	<b>20.2%</b>
NA	0.6%	0.6%	0.3%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	707		



aquifer	full sample	not engaged in farming	any involvement in farming
Jordan or deeper	30.2%	23.3%	<b>41.1%</b>
Prairie du Chien	0.7%	0.7%	0.6%
St. Peter	0.9%	0.7%	0.8%
Multiple aquifers	2.1%	1.2%	1.1%
Galena	1.6%	1.2%	2.3%
don't know	62.9%	<b>71.8%</b>	<b>51.7%</b>
other	0.6%	0.7%	0.5%
Ironton/Franconia	0.5%	0.2%	1.1%
NA	0.6%	0.3%	0.8%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	683		



information as to the quality  
 of their drinking water.

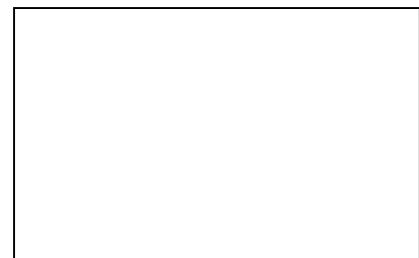
<b>types of water treatment</b>	<b>full sample</b>	<b>not engaged in farming</b>	<b>any involvement in farming</b>
softener	64.5%	64.3%	61.8%
softener iron filter	6.4%	5.1%	12.3%
Reverse osmosis	3.8%	3.8%	4.6%
Sediment filter	7.3%	6.7%	11.8%
Chlorination	2.7%	2.7%	3.1%
Ultraviolet system	0.1%	0.0%	0.5%
Carbon Filter	14.0%	14.3%	10.8%
Don't know/Don't use treatment	20.5%	22.0%	15.2%

[Sum exceeds 100% since more than one treatment can be selected.]

<b>number of treatments</b>	<b>full sample</b>	<b>not engaged in farming</b>	<b>any involvement in farming</b>
none	22.7%	23.4%	21.1%
1	58.7%	58.7%	58.4%
2	16.2%	15.7%	15.6%
3	2.2%	1.9%	4.4%
4	0.3%	0.3%	0.4%
5	0.0%	0.0%	0.1%
Total	100.0%	100.0%	100.0%
Responses (includes missing)	1,042		

**chief source of information as to  
 the quality of your drinking  
 water**

	<b>full sample</b>	<b>not engaged in farming</b>	<b>any involvement in farming</b>
Lab tests	18.0%	11.9%	49.3%
municipal water report	48.8%	53.9%	20.6%
don't recall did get	3.9%	3.2%	5.9%
do not have	28.2%	<b>29.9%</b>	<b>23.1%</b>
other sources	1.1%	1.1%	1.2%
Total	100.0%	99.9%	100.0%
Responses (unweighted total)	1,004		



**rate overall quality of drinking  
 water - taste**

	<b>full sample</b>	<b>not engaged in farming</b>	<b>any involvement in farming</b>
excellent	36.2%	32.7%	51.6%
good	43.3%	46.2%	32.6%
fair	14.3%	14.8%	9.6%
poor	5.5%	5.6%	5.2%
no opinion	0.7%	0.6%	1.0%
total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,031		



<b>rate overall quality of drinking water - clarity</b>	full sample	not engaged in farming	any involvement in farming
excellent	41.0%	38.9%	47.6%
good	46.7%	48.4%	41.5%
fair	8.7%	9.2%	4.9%
poor	2.0%	2.0%	3.1%
no opinion	1.6%	1.4%	2.9%
total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,007		

<b>rate overall quality of drinking water - safety prior to treatment</b>	full sample	not engaged in farming	any involvement in farming
excellent	19.0%	15.3%	32.1%
good	36.6%	35.9%	37.2%
fair	11.9%	12.2%	12.7%
poor	5.5%	5.8%	4.2%
no opinion	27.0%	30.9%	13.9%
total	100.0%	100.0%	100.0%
Responses (unweighted total)	945		

<b>how would you rate overall stream quality?</b>	full sample	not engaged in farming	any involvement in farming
excellent	5.2%	3.7%	11.5%
good	47.9%	46.1%	54.2%
fair	42.1%	45.5%	29.8%
poor	4.9%	4.7%	4.5%
total	100.0%	100.0%	100.0%
Responses (unweighted total)	993		

<b>If stream water quality were significantly worse I would use streams for recreation</b>	full sample	not engaged in farming	any involvement in farming
less often	63.9%	<b>67.5%</b>	<b>49.3%</b>
more often	0.9%	0.9%	0.4%
the same	35.2%	<b>31.6%</b>	<b>50.2%</b>
total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,000		

<b>If stream water quality were significantly better I would use streams for recreation</b>	full sample	not engaged in farming	any involvement in farming
less often	1.8%	2.1%	1.2%
more often	37.4%	39.9%	22.7%
the same	60.9%	58.0%	76.1%
total	100.0%	100.0%	100.0%
Responses (unweighted total)	999		

<b>To what extent do you consider the water quality of streams to be a problem</b>	full sample	not engaged in farming	any involvement in farming
Never a problem	3.7%	3.8%	3.5%
Rarely a problem	21.6%	19.5%	31.3%
Occasionally a problem	54.0%	55.0%	50.5%
Frequently a problem	14.4%	16.1%	9.4%
Always a problem	6.3%	5.6%	5.2%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	978		

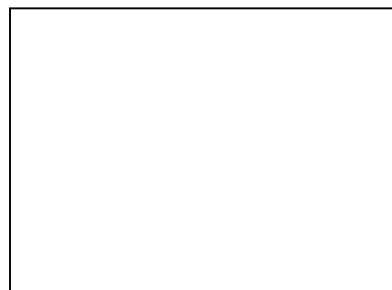
<b>Single most common source of pollution</b>	full sample	not engaged in farming	any involvement in farming
Runoff from streets, lawns, & urban lands	38.9%	<b>35.0%</b>	<b>52.1%</b>
Household wastewater (septic systems)	4.3%	4.5%	2.7%
Livestock operations	15.1%	<b>16.5%</b>	<b>11.9%</b>
Cropland operations	41.4%	<b>44.0%</b>	<b>32.4%</b>
Other	0.2%	0.1%	0.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	916		

Substantially harmful is  
 less than 10% for the  
 forest/grassland, cropland, and  
 pasture areas.

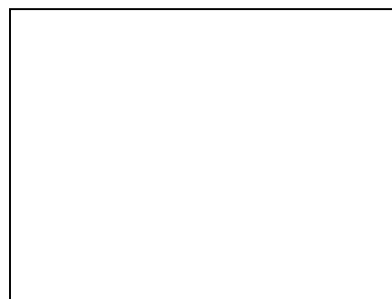
How do you rate the effort for quality?

grades with a majority for  
 the farm respondents.

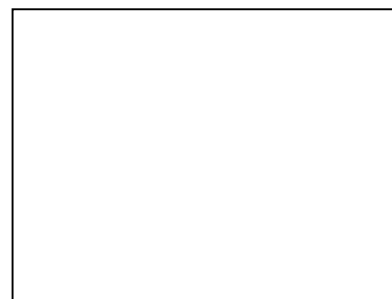
... area in forest or grassland	full sample	not engaged in farming	any involvement in farming
Usually beneficial	76.0%	76.3%	73.9%
Sometimes beneficial	13.1%	13.1%	13.4%
Sometimes harmful	2.1%	1.7%	4.4%
Usually harmful	0.8%	0.9%	0.1%
No opinion	8.1%	7.9%	8.2%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,006		



... area in cropland			
Usually beneficial	6.4%	3.9%	13.9%
Sometimes beneficial	16.5%	14.0%	28.5%
Sometimes harmful	50.2%	<b>54.5%</b>	<b>36.3%</b>
Usually harmful	16.8%	<b>17.5%</b>	<b>11.0%</b>
No opinion	10.2%	10.1%	10.3%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,000		



... area in pasture			
Usually beneficial	22.8%	<b>17.3%</b>	<b>42.3%</b>
Sometimes beneficial	30.8%	<b>30.7%</b>	<b>33.8%</b>
Sometimes harmful	31.1%	35.3%	13.6%
Usually harmful	5.1%	6.0%	2.6%
No opinion	10.2%	10.7%	7.7%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,007		



... area in urban/suburban development			
Usually beneficial	2.8%	2.0%	1.7%
Sometimes beneficial	6.9%	6.7%	9.3%
Sometimes harmful	61.5%	63.8%	53.1%
Usually harmful	19.1%	17.5%	27.6%
No opinion	9.7%	10.0%	8.2%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,003		

... application of manure/fertilizer at customary rates			
Usually beneficial	4.7%	1.5%	14.7%
Sometimes beneficial	8.6%	5.6%	21.8%
Sometimes harmful	50.6%	53.0%	46.6%
Usually harmful	27.9%	31.8%	9.0%
No opinion	8.2%	8.2%	7.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,004		

the sum of "usually..." and  
"sometimes harmful" is  
greater than a majority for  
the non-farm respondents

#### How do these land uses affect water quality?

... application of pesticides at customary rates	full sample	not engaged in farming	any involvement in farming
Usually beneficial	2.4%	0.4%	11.8%
Sometimes beneficial	4.4%	2.8%	11.1%
Sometimes harmful	43.4%	43.3%	46.4%
Usually harmful	42.4%	46.6%	21.3%
No opinion	7.5%	6.8%	9.5%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,004		

#### ... row crops within 50 feet of streams

Usually beneficial	2.1%	0.9%	8.6%
Sometimes beneficial	5.3%	4.3%	11.1%
Sometimes harmful	40.7%	38.6%	46.9%
Usually harmful	41.6%	46.0%	23.5%
No opinion	10.3%	10.2%	9.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,005		

#### ... customary cropland practices

Usually beneficial	5.2%	2.9%	15.2%
Sometimes beneficial	13.0%	8.6%	26.5%
Sometimes harmful	48.9%	<b>52.1%</b>	<b>38.1%</b>
Usually harmful	15.4%	<b>17.4%</b>	<b>7.3%</b>
No opinion	17.5%	18.9%	13.0%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	993		

#### ... livestock confinement practices

Usually beneficial	2.2%	0.4%	10.9%
Sometimes beneficial	6.7%	4.9%	12.1%
Sometimes harmful	46.7%	46.0%	49.3%
Usually harmful	36.2%	41.2%	17.0%
No opinion	8.2%	7.5%	10.7%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,004		

#### ... livestock pasturing

Usually beneficial	7.7%	5.0%	16.4%
Sometimes beneficial	21.3%	18.0%	39.9%
Sometimes harmful	51.1%	<b>54.8%</b>	<b>32.2%</b>
Usually harmful	7.5%	<b>8.8%</b>	<b>3.2%</b>
No opinion	12.4%	13.4%	8.4%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,000		

the sum of "usually" and "sometimes harmful" is greater than a majority for the non-farm respondents

**How do these land uses affect water quality?**

... residential & commercial lawn practices	full sample	not engaged in farming	any involvement in farming
Usually beneficial	1.0%	0.8%	2.4%
Sometimes beneficial	5.6%	5.2%	6.2%
Sometimes harmful	55.4%	56.4%	51.8%
Usually harmful	30.6%	31.0%	29.5%
No opinion	7.5%	6.7%	10.1%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,000		

**... septic systems**

Usually beneficial	3.2%	1.1%	13.5%
Sometimes beneficial	7.1%	6.4%	10.7%
Sometimes harmful	63.6%	65.2%	57.3%
Usually harmful	10.1%	11.5%	3.2%
No opinion	15.9%	15.9%	15.3%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	997		

**... road runoff**

Usually beneficial	0.8%	0.3%	3.0%
Sometimes beneficial	1.2%	0.8%	3.5%
Sometimes harmful	55.8%	55.9%	49.6%
Usually harmful	33.4%	34.4%	35.1%
No opinion	8.7%	8.6%	8.8%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,005		

**... drainage of wetlands**

Usually beneficial	1.4%	0.6%	4.9%
Sometimes beneficial	13.2%	12.7%	17.7%
Sometimes harmful	28.3%	26.3%	35.5%
Usually harmful	42.0%	44.9%	27.5%
No opinion	15.1%	15.6%	14.3%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	994		

**... drainage tile in farm fields that are not wetlands**

Usually beneficial	6.3%	4.5%	12.9%
Sometimes beneficial	23.6%	22.7%	31.8%
Sometimes harmful	29.8%	<b>30.4%</b>	<b>24.9%</b>
Usually harmful	18.7%	<b>20.0%</b>	<b>11.4%</b>
No opinion	21.6%	22.4%	19.0%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	998		



**How do these land uses affect water quality?**

<b>... drainage tile outlets to streams or sinkholes</b>	full sample	not engaged in farming	any involvement in farming
Usually beneficial	1.4%	1.0%	<b>3.9%</b>
Sometimes beneficial	7.9%	6.8%	8.0%
Sometimes harmful	33.6%	31.6%	43.9%
Usually harmful	39.9%	41.8%	33.3%
No opinion	17.2%	18.8%	10.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,001		
<b>... farm runoff to streams or sinkholes</b>			
Usually beneficial	0.8%	0.6%	1.3%
Sometimes beneficial	1.8%	1.3%	5.1%
Sometimes harmful	33.8%	29.9%	48.3%
Usually harmful	53.5%	58.3%	34.7%
No opinion	10.1%	9.9%	10.5%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,006		
<b>... urban runoff to streams or sinkholes</b>			
Usually beneficial	0.7%	0.6%	0.7%
Sometimes beneficial	1.1%	0.8%	2.7%
Sometimes harmful	33.3%	31.6%	41.6%
Usually harmful	56.6%	58.8%	47.0%
No opinion	8.3%	8.2%	7.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1,005		

**Do you know of or suspect that any of the following conditions ... affect groundwater quality in the Mississippi River-Winona Watershed?**

<b>High levels of bacteria - groundwater</b>	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	0.9%	0.8%	1.7%
Suspect it is <u>NOT</u> a problem	9.9%	8.1%	18.4%
Don't know	47.8%	50.3%	39.3%
Suspect it <u>IS</u> a problem	31.9%	30.5%	34.4%
Certain it <u>IS</u> a problem	9.5%	10.3%	6.2%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	989		

**Do you know of or suspect that any of the following conditions ... affect groundwater quality in the Mississippi River-Winona Watershed?**

<b>High levels of nitrates - groundwater</b>	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	0.6%	0.3%	2.0%
Suspect it is <u>NOT</u> a problem	6.5%	4.6%	17.4%
Don't know	34.8%	37.4%	24.6%
Suspect it <u>IS</u> a problem	37.1%	36.0%	39.1%
Certain it <u>IS</u> a problem	21.0%	21.7%	17.0%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	989		
<b>High levels of heavy metals - groundwater</b>	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	1.0%	0.8%	2.2%
Suspect it is <u>NOT</u> a problem	7.1%	4.9%	17.9%
Don't know	50.7%	52.1%	47.0%
Suspect it <u>IS</u> a problem	24.8%	24.7%	20.5%
Certain it <u>IS</u> a problem	16.5%	17.5%	12.4%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	987		
<b>High levels of minerals - groundwater</b>	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	1.2%	1.0%	2.2%
Suspect it is <u>NOT</u> a problem	17.8%	17.0%	21.8%
Don't know	48.7%	50.4%	46.2%
Suspect it <u>IS</u> a problem	23.7%	22.0%	25.0%
Certain it <u>IS</u> a problem	8.6%	9.6%	4.8%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	985		
<b>High levels of pesticides - groundwater</b>	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	0.7%	0.3%	2.8%
Suspect it is <u>NOT</u> a problem	6.3%	4.8%	14.7%
Don't know	34.0%	34.5%	33.0%
Suspect it <u>IS</u> a problem	38.4%	40.1%	31.9%
Certain it <u>IS</u> a problem	20.6%	20.3%	17.6%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	987		

**Do you know of or suspect that any of the following conditions ... affect groundwater quality in the Mississippi River-Winona Watershed?**

High levels of radioactivity-groundwater	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	1.8%	1.4%	4.1%
Suspect it is <u>NOT</u> a problem	11.5%	11.2%	13.5%
Don't know	58.9%	60.4%	57.4%
Suspect it <u>IS</u> a problem	10.8%	10.7%	7.9%
Certain it <u>IS</u> a problem	17.0%	16.4%	17.1%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	986		

**Do you know of or suspect that any of the following conditions ... affect stream water quality in the Mississippi River-Winona Watershed?**

High levels of bacteria - stream water	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	0.4%	0.2%	1.1%
Suspect it is <u>NOT</u> a problem	7.1%	5.4%	13.8%
Don't know	46.8%	48.2%	42.3%
Suspect it <u>IS</u> a problem	36.7%	36.1%	36.1%
Certain it <u>IS</u> a problem	9.0%	10.0%	6.7%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	988		

High levels of nitrates - stream water	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	0.4%	0.2%	1.3%
Suspect it is <u>NOT</u> a problem	4.3%	3.2%	8.6%
Don't know	36.7%	37.0%	37.4%
Suspect it <u>IS</u> a problem	40.0%	39.7%	39.7%
Certain it <u>IS</u> a problem	18.7%	19.9%	12.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	987		

High levels of heavy metals - stream water	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	0.8%	0.6%	1.7%
Suspect it is <u>NOT</u> a problem	7.0%	6.4%	9.3%
Don't know	55.0%	54.8%	60.8%
Suspect it <u>IS</u> a problem	22.9%	23.2%	17.6%
Certain it <u>IS</u> a problem	14.2%	15.0%	10.6%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	983		



a high level of agreement  
or sometimes harmful,  
Do you know of or suspect that any of the following conditions ... affect stream  
water quality in the Mississippi River-Winona Watershed?  
almost half of respondents  
don't know whether the

High levels of minerals - stream water	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	1.1%	0.8%	2.5%
Suspect it is <u>NOT</u> a problem	17.1%	16.7%	19.6%
Don't know	55.5%	56.9%	56.6%
Suspect it <u>IS</u> a problem	20.6%	18.9%	19.0%
Certain it IS a problem	5.8%	6.8%	2.3%

High levels of pesticides - stream water	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	0.4%	0.2%	1.4%
Suspect it is <u>NOT</u> a problem	5.3%	4.4%	11.1%
Don't know	31.7%	31.0%	35.8%
Suspect it <u>IS</u> a problem	42.7%	44.7%	33.9%
Certain it IS a problem	19.9%	19.7%	17.8%

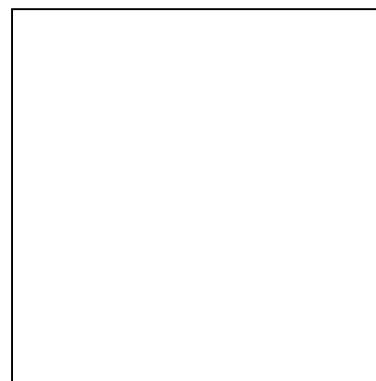
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	983		

High levels of sediment - stream water	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	0.3%	0.2%	1.0%
Suspect it is <u>NOT</u> a problem	4.6%	4.4%	6.9%
Don't know	35.5%	34.9%	37.8%
Suspect it <u>IS</u> a problem	39.4%	39.4%	39.5%
Certain it IS a problem	20.1%	21.0%	14.7%

Total	100.0%	100.0%	100.0%
Responses (unweighted total)	985		

High levels of salts - stream water	full sample	not engaged in farming	any involvement in farming
Certain it is <u>NOT</u> a problem	0.5%	0.3%	1.9%
Suspect it is <u>NOT</u> a problem	5.3%	4.8%	8.1%
Don't know	47.8%	48.2%	49.1%
Suspect it <u>IS</u> a problem	35.2%	34.6%	33.5%
Certain it IS a problem	11.2%	12.0%	7.5%

Total	100.0%	100.0%	100.0%
Responses (unweighted total)	987		



**How important are each of the following water issues to you?**

<b>Clean rivers and streams</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	48.5%	50.0%	41.9%
Very important	43.3%	43.5%	41.8%
Somewhat important	6.9%	5.8%	14.3%
Not important	0.1%	0.1%	0.0%
No opinion	1.2%	0.6%	2.5%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	998		

<b>Flow quantity of springs</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	37.7%	38.1%	36.3%
Very important	38.4%	38.3%	35.2%
Somewhat important	18.3%	18.0%	22.4%
Not important	1.0%	1.1%	1.2%
No opinion	4.7%	4.5%	4.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	998		

<b>Water quality of springs</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	42.2%	42.2%	40.3%
Very important	41.6%	41.5%	41.1%
Somewhat important	12.2%	12.5%	14.1%
Not important	0.6%	0.6%	1.0%
No opinion	3.4%	3.2%	3.6%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	997		

<b>Habitat around springs</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	39.5%	40.0%	34.3%
Very important	40.7%	41.4%	36.0%
Somewhat important	13.2%	12.4%	20.7%
Not important	2.6%	2.3%	4.6%
No opinion	4.0%	3.8%	4.4%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	997		

for all of the questions about the importance of water issues is the fact that

all of the issues show any consistent levels of importance for both categories of respondents. While there are a few statistically significant differences, none result in differences in majority opinion.

**How important are each of the following water issues to you?**

<b>Clean well water for existing homes</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	54.3%	54.1%	56.2%
Very important	38.2%	38.4%	36.5%
Somewhat important	4.8%	5.2%	4.8%
Not important	0.7%	0.8%	0.1%
No opinion	1.9%	1.5%	2.4%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1007		

<b>Clean well water for livestock</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	30.9%	28.0%	43.0%
Very important	49.6%	51.0%	42.6%
Somewhat important	16.1%	17.7%	11.4%
Not important	0.9%	0.9%	0.8%
No opinion	2.5%	2.3%	2.2%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1005		

<b>Preserving wetlands</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	45.8%	49.8%	31.1%
Very important	31.8%	29.9%	34.5%
Somewhat important	17.6%	16.8%	24.3%
Not important	2.4%	1.9%	5.6%
No opinion	2.4%	1.7%	4.5%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	1003		

<b>Minimizing flood damages</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	41.7%	42.4%	39.9%
Very important	39.2%	38.7%	38.4%
Somewhat important	15.9%	16.2%	17.4%
Not important	1.7%	1.8%	1.3%
No opinion	1.5%	0.8%	3.0%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	996		

**How important are each of the following water issues to you?**

		not engaged in farming	any involvement in farming
<b>Habitat for fish &amp; ducks</b>	full sample		
Extremely important	42.3%	45.7%	32.1%
Very important	35.0%	34.6%	34.1%
Somewhat important	18.2%	16.2%	25.3%
Not important	1.8%	1.3%	4.7%
No opinion	2.7%	2.2%	3.8%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	999		
<b>Accommodating water using industries</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	9.6%	9.5%	11.4%
Very important	23.4%	20.7%	25.4%
Somewhat important	41.4%	43.6%	37.4%
Not important	20.0%	20.8%	19.9%
No opinion	5.6%	5.5%	5.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	998		
<b>Accommodating residential growth</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	9.6%	10.1%	7.8%
Very important	23.0%	21.8%	25.3%
Somewhat important	45.9%	47.0%	40.9%
Not important	17.0%	16.7%	21.2%
No opinion	4.5%	4.3%	4.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	996		
<b>Irrigation for lawns</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	6.1%	6.0%	6.2%
Very important	10.5%	10.0%	9.0%
Somewhat important	36.0%	37.6%	26.5%
Not important	43.3%	43.0%	53.6%
No opinion	4.2%	3.5%	4.7%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	990		

**How important are each of the following water issues to you?**

<b>Stream habitat</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	44.3%	46.0%	37.0%
Very important	37.6%	38.5%	31.4%
Somewhat important	13.7%	11.8%	24.8%
Not important	1.6%	1.4%	2.8%
No opinion	2.8%	2.3%	4.0%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	998		
<b>Avoiding threats to shallow wells</b>	full sample	not engaged in farming	any involvement in farming
Extremely important	48.4%	50.7%	41.0%
Very important	33.3%	31.6%	36.8%
Somewhat important	13.1%	12.6%	17.3%
Not important	1.4%	1.5%	1.2%
No opinion	3.8%	3.6%	3.6%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	999		

**Which ... best describes your level of awareness of the following water quality issues?**

<b>Quality of drinking water from wells</b>	full sample	not engaged in farming	any involvement in farming
Very informed	9.2%	8.2%	13.3%
Somewhat informed	41.9%	38.1%	59.3%
Somewhat uninformed	27.5%	28.7%	18.7%
Very uninformed	21.4%	25.0%	8.6%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	990		
<b>Trends in nitrates in area wells</b>	full sample	not engaged in farming	any involvement in farming
Very informed	7.3%	6.5%	10.9%
Somewhat informed	32.1%	27.8%	50.2%
Somewhat uninformed	32.2%	32.8%	27.6%
Very uninformed	28.4%	32.9%	11.4%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	988		

**Which ... best describes your level of awareness of the following water quality issues?**

		not engaged in	any involvement in
<b>Trends in pesticides in area wells</b>	full sample	farming	farming
Very informed	6.4%	5.5%	9.7%
Somewhat informed	27.5%	23.6%	42.9%
Somewhat uninformed	36.0%	36.7%	32.0%
Very uninformed	30.1%	34.2%	15.5%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	987		
<b>Trends in sediment in area streams</b>	full sample	not engaged in	any involvement in
Very informed	6.6%	6.4%	8.5%
Somewhat informed	32.5%	28.8%	47.0%
Somewhat uninformed	34.3%	34.7%	28.9%
Very uninformed	26.7%	30.1%	15.5%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	988		
<b>Trends in bacteria in area streams</b>	full sample	not engaged in	any involvement in
Very informed	3.1%	2.9%	2.5%
Somewhat informed	25.2%	22.8%	36.0%
Somewhat uninformed	37.2%	36.2%	38.5%
Very uninformed	34.5%	38.1%	23.1%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	976		
<b>Trends in nitrates in area streams</b>	full sample	not engaged in	any involvement in
Very informed	3.6%	3.1%	3.9%
Somewhat informed	28.5%	26.1%	39.9%
Somewhat uninformed	36.1%	35.9%	33.7%
Very uninformed	31.9%	34.8%	22.4%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	978		

**Which ... best describes your level of awareness of the following water quality issues?**

<b>Impacts of nitrates on fish in area streams</b>	full sample	not engaged in farming	any involvement in farming
Very informed	4.9%	4.6%	5.2%
Somewhat informed	30.7%	29.8%	33.5%
Somewhat uninformed	33.0%	30.6%	40.5%
Very uninformed	31.3%	35.0%	20.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	977		

<b>Impact of sediment on fish in area streams</b>	full sample	not engaged in farming	any involvement in farming
Very informed	6.4%	6.7%	5.9%
Somewhat informed	30.7%	28.3%	36.8%
Somewhat uninformed	33.5%	32.0%	38.2%
Very uninformed	29.4%	33.0%	19.1%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	969		

<b>General awareness of water quality issues</b>	full sample	not engaged in farming	any involvement in farming
Very informed	7.0%	6.0%	11.9%
Somewhat informed	43.5%	42.2%	53.2%
Somewhat uninformed	29.1%	28.3%	25.0%
Very uninformed	20.4%	23.5%	9.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	975		

<b>Awareness of TMDL process</b>	full sample	not engaged in farming	any involvement in farming
Very informed	3.8%	3.1%	6.1%
Somewhat informed	18.1%	17.7%	21.6%
Somewhat uninformed	39.0%	36.0%	43.7%
Very uninformed	39.1%	43.3%	28.5%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	978		

**Which ... best describes your level of awareness of the following water quality issues?**

<b>Aware of impairment status of area streams</b>	full sample	not engaged in farming	any involvement in farming
Very informed	3.4%	3.1%	5.8%
Somewhat informed	20.6%	20.2%	22.8%
Somewhat uninformed	36.6%	34.5%	39.4%
Very uninformed	39.4%	42.3%	31.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	976		

<b>Aware of impairment for turbidity in area streams</b>	full sample	not engaged in farming	any involvement in farming
Very informed	3.9%	3.6%	5.5%
Somewhat informed	23.7%	21.4%	35.7%
Somewhat uninformed	38.5%	37.2%	36.1%
Very uninformed	34.0%	37.7%	22.7%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	978		

<b>Aware of impairment for bacteria in area streams</b>	full sample	not engaged in farming	any involvement in farming
Very informed	2.7%	2.4%	4.3%
Somewhat informed	20.1%	17.9%	29.0%
Somewhat uninformed	37.7%	35.2%	43.4%
Very uninformed	39.5%	44.5%	23.4%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	979		

<b>Aware of impairment for nitrates in area streams</b>	full sample	not engaged in farming	any involvement in farming
Very informed	3.2%	2.9%	4.7%
Somewhat informed	22.5%	20.2%	34.2%
Somewhat uninformed	37.6%	35.7%	40.3%
Very uninformed	36.7%	41.2%	20.8%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	975		



## Conservation Districts a

very significant or major

source of information,

How much do you rely on the following sources for information about local water quality issues?

While a majority of those not engaged in farming rely

on local radio or television.

<b>State Agency Staff</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	8.6%	9.6%	3.1%
Major source	23.6%	22.6%	31.0%
Minor source	30.2%	27.8%	38.4%
Not a source	37.6%	40.0%	27.4%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	941		
<b>County extension service staff</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	10.1%	9.8%	11.0%
Major source	27.6%	25.8%	38.6%
Minor source	30.9%	30.3%	30.6%
Not a source	31.3%	34.1%	19.8%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	946		
<b>Soil &amp; water conservation district staff</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	11.8%	<b>10.8%</b>	<b>16.1%</b>
Major source	34.9%	<b>33.6%</b>	<b>40.0%</b>
Minor source	25.1%	24.9%	26.8%
Not a source	28.2%	30.6%	17.1%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	948		
<b>Local radio or television</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	13.3%	<b>13.4%</b>	<b>13.0%</b>
Major source	35.6%	<b>38.0%</b>	<b>25.6%</b>
Minor source	36.0%	34.6%	40.2%
Not a source	15.1%	13.9%	21.2%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	956		

**How much do you rely on the following sources for information about local water quality issues?**

<b>Newspaper or weekly to monthly magazines</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	12.7%	12.7%	13.4%
Major source	37.7%	40.2%	28.3%
Minor source	35.8%	33.9%	39.0%
Not a source	13.8%	13.2%	19.2%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	962		
<b>National radio or television</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	11.3%	11.6%	9.9%
Major source	29.0%	31.3%	20.2%
Minor source	37.2%	35.8%	44.0%
Not a source	22.4%	21.3%	25.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	953		
<b>Internet sources</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	6.1%	6.1%	3.6%
Major source	21.6%	22.8%	20.1%
Minor source	37.3%	37.0%	37.0%
Not a source	35.0%	34.1%	39.4%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	945		
<b>Outdoor interest groups</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	10.0%	10.2%	8.7%
Major source	25.4%	25.8%	19.5%
Minor source	34.1%	32.1%	42.9%
Not a source	30.4%	31.9%	28.9%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	951		
<b>Farm advocacy groups</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	3.8%	2.6%	8.0%
Major source	17.6%	14.7%	28.0%
Minor source	35.1%	34.1%	42.7%
Not a source	43.5%	48.6%	21.3%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	944		

**How much do you rely on the following sources for information about local water quality issues?**

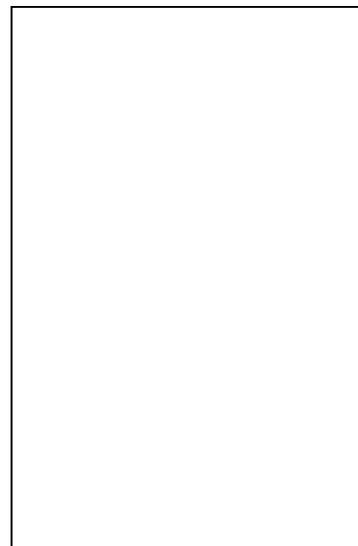
<b>Environmental groups</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	5.4%	5.4%	4.0%
Major source	27.9%	28.6%	21.9%
Minor source	35.5%	33.5%	44.1%
Not a source	31.1%	32.5%	30.0%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	947		
<b>Books or journals</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	2.9%	2.7%	3.1%
Major source	16.4%	14.6%	20.2%
Minor source	39.4%	38.6%	45.2%
Not a source	41.3%	44.0%	31.5%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	948		
<b>Public meetings or hearings</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	5.5%	5.1%	5.8%
Major source	22.8%	22.9%	23.9%
Minor source	36.1%	33.6%	45.7%
Not a source	35.6%	38.3%	24.6%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	948		
<b>Field demonstrations</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	4.0%	3.6%	5.8%
Major source	15.2%	11.0%	32.8%
Minor source	30.2%	29.0%	32.9%
Not a source	50.7%	<b>56.3%</b>	<b>28.4%</b>
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	947		
<b>Classes</b>	full sample	not engaged in farming	any involvement in farming
Very significant source	2.9%	2.6%	4.4%
Major source	9.3%	7.8%	13.1%
Minor source	24.6%	24.0%	27.1%
Not a source	63.2%	65.6%	55.3%
Total	100.0%	100.0%	100.0%
Responses (unweighted total)	915		

**Have you ever served on or participated in any of the following organizations?**  
**[unweighted responses]**

	full sample	not engaged in farming	any involvement in farming
Master gardener program	19	11	8
Citizen stream monitoring program	21	13	8
Environmental groups	73	35	38
Farm advocacy groups	48	7	41
Local boards and commissions	108	36	72
Outdoor interest groups	206	121	85
Total (some respondents selected more than one organization)	475	223	252
Number of organization types involved in:			
0	67.9%	68.2%	67.5%
1	23.0%	22.8%	23.1%
2	6.6%	7.0%	6.2%
3 to 5	2.5%	2.0%	3.1%

**Which [learning opportunity] would you be most likely to take advantage of to  
 learn about water quality issues? [Unweighted responses.]**

	Full sample	not engaged in farming	any involvement in farming
Printed fact sheets	656	338	292
Visit a website	486	279	192
Attend a weekend or evening class	156	67	83
Look at a demonstration or display	280	126	143
Read a newspaper article or series	587	322	139
Watch a video or DVD	249	134	108
Take a course for certification or credit	80	39	35
Watch a television program	461	251	189
Take part in a volunteer program	161	92	61
Train for a regular volunteer position	61	36	19
Expert assess water-related practices	163	58	99
Attend a fair or festival	180	97	73
<b>Respondents</b>	<b>1042</b>	<b>513</b>	<b>471</b>



statement, compared to a

Have you in doing any of the following to conserve water or preserve water quality? [unweighted responses]

	Full sample	not engaged in farming	any involvement in farming
Replaced or repaired your septic system (city water users excluded)	39.1%	37.6%	40.1%
Pumped your septic system (city water users excluded)	73.0%	73.9%	72.4%
Tested your drinking water (city water users excluded)	67.3%	64.8%	69.0%
Reduced or eliminated lawn watering	55.8%	59.2%	53.2%
Changed the landscaping in your yard	25.7%	26.1%	25.2%
Reduced/eliminated lawn chemical applications	47.5%	49.7%	46.7%
Reduced/eliminated farm chemical applications			25.9%
Installed water saving fixtures in your home	42.2%	47.6%	37.8%
Improved management of livestock waste			28.0%
Installed erosion control practices			48.1%
<b>Respondents</b>	<b>1042</b>	<b>513</b>	<b>471</b>

#### How much do you agree or disagree with the following statements?

	full sample	not engaged in farming	any involvement in farming
<b>If I own property, I have a right to use my land as I wish</b>			
Strongly Agree	12.5%	10.5%	23.2%
Agree	34.8%	34.6%	34.2%
Neutral	20.0%	21.2%	16.2%
Disagree	24.2%	25.5%	20.7%
Strongly disagree	7.3%	7.8%	4.0%
No opinion	1.3%	0.5%	1.7%
Responses (unweighted)	987		
<b>If I own a well, I have a right to clean drinking water</b>			
Strongly Agree	41.5%	41.2%	50.1%
Agree	45.0%	44.8%	40.4%
Neutral	7.5%	8.2%	5.7%
Disagree	1.4%	1.4%	1.7%
Strongly disagree	0.5%	0.5%	0.5%
No opinion	4.2%	3.8%	1.6%
Responses (unweighted)	987		

Specifically, do you farmers

do not help with payment for

**The public has a right to streams that are as clean as their natural condition.**

	full sample	not engaged in farming	any involvement in farming
Strongly Agree	36.9%	40.5%	25.3%
Agree	50.7%	50.5%	51.6%
Neutral	7.6%	6.6%	14.2%
Disagree	1.9%	0.5%	4.9%
Strongly disagree	0.5%	0.2%	1.9%
No opinion	2.3%	1.7%	2.1%
Responses (unweighted)	987		

**If I own property, I should be paid to prevent erosion**

	full sample	not engaged in farming	any involvement in farming
Strongly Agree	2.7%	1.8%	7.6%
Agree	13.2%	9.6%	24.9%
Neutral	34.5%	35.1%	32.9%
Disagree	36.6%	40.8%	21.0%
Strongly disagree	8.6%	8.7%	10.5%
No opinion	4.3%	4.0%	3.0%
Responses (unweighted)	981		

**In public waters, I have a right to catch fish that are safe to eat**

	full sample	not engaged in farming	any involvement in farming
Strongly Agree	41.5%	45.7%	27.6%
Agree	49.9%	47.2%	59.2%
Neutral	5.5%	4.9%	7.3%
Disagree	0.9%	0.7%	2.2%
Strongly disagree	0.2%	0.1%	0.9%
No opinion	1.9%	1.4%	2.8%
Responses (unweighted)	986		

<b>Whether or not I own a well, I have a right to clean groundwater</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	48.0%	51.4%	35.6%
Agree	44.3%	41.9%	53.8%
Neutral	4.6%	3.9%	6.8%
Disagree	0.7%	0.6%	1.4%
Strongly disagree	0.2%	0.1%	0.9%
No opinion	2.2%	2.0%	1.6%
Responses (unweighted)	989		
<b>Most people will voluntarily give up profits to protect water quality</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	4.3%	4.3%	3.3%
Agree	15.2%	14.2%	19.0%
Neutral	23.1%	22.6%	25.9%
Disagree	38.3%	39.2%	37.7%
Strongly disagree	16.2%	17.4%	9.7%
No opinion	2.9%	2.4%	4.5%
Responses (unweighted)	983		
<b>Most people will voluntarily give up profits to protect natural habitats</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	2.8%	3.0%	2.5%
Agree	15.0%	14.8%	13.7%
Neutral	23.0%	22.8%	26.5%
Disagree	39.9%	40.2%	42.2%
Strongly disagree	16.3%	17.1%	10.4%
No opinion	2.9%	2.2%	4.8%
Responses (unweighted)	984		
<b>Federal regulations are a good way to protect streams and groundwater</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	14.1%	<b>15.5%</b>	<b>9.7%</b>
Agree	40.7%	<b>41.5%</b>	<b>33.7%</b>
Neutral	23.8%	24.6%	23.7%
Disagree	12.7%	11.5%	19.4%
Strongly disagree	5.4%	3.6%	11.5%
No opinion	3.3%	3.3%	2.1%
Responses (unweighted)	984		

<b>State regulations are a good way to protect streams and groundwater</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	17.3%	19.3%	10.5%
Agree	52.6%	53.5%	43.5%
Neutral	17.6%	17.4%	22.3%
Disagree	6.3%	5.0%	12.9%
Strongly disagree	3.9%	2.8%	8.5%
No opinion	2.3%	2.0%	2.3%
Responses (unweighted)	986		
<b>Local regulations are a good way to protect streams and groundwater</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	20.3%	22.2%	14.9%
Agree	56.4%	56.5%	52.7%
Neutral	14.7%	14.0%	18.6%
Disagree	3.9%	3.4%	7.3%
Strongly disagree	2.5%	1.8%	4.4%
No opinion	2.3%	2.0%	2.1%
Responses (unweighted)	987		
<b>The government should provide incentives for water quality protection</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	16.3%	15.8%	20.0%
Agree	39.1%	38.8%	38.8%
Neutral	26.9%	28.2%	21.7%
Disagree	12.2%	12.5%	13.2%
Strongly disagree	3.4%	3.3%	2.6%
No opinion	2.0%	1.4%	3.7%
Responses (unweighted)	1000		



<b>Effective watershed management is best done at the grassroots level</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	19.9%	19.4%	23.6%
Agree	53.4%	52.9%	55.5%
Neutral	19.1%	20.4%	14.2%
Disagree	4.1%	4.5%	2.4%
Strongly disagree	0.2%	0.1%	0.6%
No opinion	3.3%	2.6%	3.7%
Responses (unweighted)	1003		
<b>Free market forces adequately protect water resources</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	2.4%	2.5%	2.0%
Agree	7.9%	6.5%	14.9%
Neutral	36.5%	36.0%	39.7%
Disagree	32.0%	33.1%	27.7%
Strongly disagree	13.2%	14.0%	9.0%
No opinion	8.1%	8.0%	6.6%
Responses (unweighted)	994		
<b>A good way to protect water quality is by neighbors talking to neighbors</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	10.0%	9.3%	13.1%
Agree	46.4%	46.4%	44.9%
Neutral	26.1%	27.1%	25.4%
Disagree	10.5%	10.8%	9.1%
Strongly disagree	1.4%	1.4%	1.6%
No opinion	5.6%	5.1%	5.8%
Responses (unweighted)	1002		
<b>A good way to protect water quality is through education</b>	full sample	not engaged in farming	any involvement in farming
Strongly Agree	35.5%	34.2%	39.3%
Agree	57.9%	60.0%	50.6%
Neutral	5.1%	5.1%	5.9%
Disagree	0.3%	0.1%	1.2%
Strongly disagree	0.5%	0.5%	0.8%
No opinion	0.8%	0.1%	2.2%
Responses (unweighted)	1002		

**How often do you use the area around the Mississippi River-Winona Watershed for a recreational purpose?**

	full sample	not engaged in farming	any involvement in farming
Monthly or more frequently	49.4%	54.2%	28.4%
More than once per year	29.9%	27.5%	38.6%
Less than once per year	10.4%	10.1%	12.9%
Never	10.3%	8.1%	20.0%
Responses (unweighted)	1007		

**Which of the following activities do you do in the area around the Mississippi River-Winona Watershed?**

	full sample (unweighted)	not engaged in farming	any involvement in farming	Weighted % of Responses
Walking, hiking, or skiing	63.6%	71.5%	58.0%	65.5%
Bird-watching, photography, wildflower identification, or similar activities	31.8%	36.6%	26.8%	30.1%
Swimming, wading, or watercraft in streams	41.2%	52.4%	31.0%	46.1%
Fishing	52.2%	60.6%	44.4%	52.0%
Camping	27.8%	36.5%	20.6%	32.2%
Hunting	41.7%	39.2%	46.7%	34.3%
Responses (unweighted)	1042	513	471	

The remaining survey questions provide information on the characteristics of the respondents.

**Are you currently engaged in farming? (Check the description that best applies.)**

	Count	Unweighted % of Responses	Weighted % of Responses
Yes, as an operator or spouse of an operator of land that I/we own or rent	232	23.60%	6.90%
Yes, as an owner or spouse of an owner of land that we rent to others ...	175	17.80%	5.30%
Yes, as an employee of a farmer or on-farm service business	20	2.00%	1.70%
Yes, in another way (please specify: help family, minor farming, CRP)	10	1.00%	3.20%
No, I am a retired farmer	34	3.50%	0.50%
No	513	52.10%	82.50%
Total Responses	984		
Missing (left blank: 5.6%)	58		

**Do you reside in the watershed?**

	Count	Unweighted % of Responses	Weighted % of Responses
Yes	889	90.6%	90.6%
No	92	9.4%	9.4%
Total Responses	981		
Missing (left blank: 5.9%)	61		

