



Silver Creek Watershed Citizen Awareness Campaign

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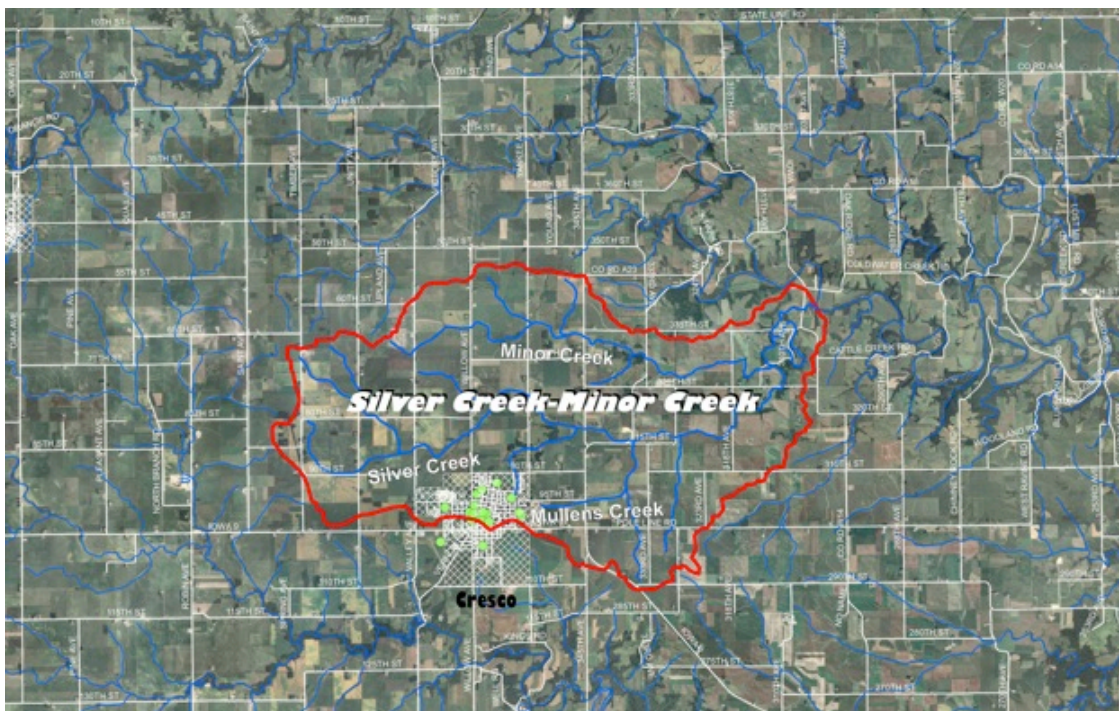
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Silver Creek Watershed Awareness Campaign

Background

The Silver Creek Watershed is located in Howard and Winneshiek Counties in northeast Iowa. Silver Creek Watershed consists of row crops and grassland and also includes the city of Cresco (pop. 3,905). Cresco is the main social hub for the watershed; it has ample businesses and community activities to support the Silver Creek Watershed project. Silver Creek Watershed's land area is 22,410 acres (13,104 acres in Howard County and 9,306 acres in Winneshiek County) and empties into the Upper Iowa River.

"The Upper Iowa River and its tributaries contribute greatly to the economic health of the region, diversifying the opportunities for business and tourism development in the region. The waters of Northeast Iowa are a major attraction for anglers and other water recreationists. ...In 1998 the Iowa DNR estimated over 314,000 angler trips per year are made to the Upper Iowa River Watershed, stimulating over \$29 million dollars of economic activity each year. The Iowa DNR estimates canoeists enjoying the Upper Iowa River generate another \$5 million yearly." (Upper Iowa River Watershed Project: <http://www.northeastiowarcd.org/uirw/about.htm>). Furthermore, National Geographic Adventure magazine lists canoeing the Upper Iowa River as one of the Top 100 Adventures in the United States (http://www.nationalgeographic.com/adventure/0003/100adventures_new.html). The overall health of the Upper Iowa River Watershed and its fish populations are greatly impacted by its



tributaries, including Silver Creek. While many people visit this area from around the state (and country), this campaign seeks to inspire greater appreciation and awareness of water quality issues on the part of Silver Creek's own local watershed residents.

The Silver Creek Watershed is on the Iowa Department of Natural Resources 303(d) impaired water bodies list due to bacteria levels at 5.5 times the state criterion and therefore can no longer support primary contact recreation. A land assessment of the watershed has been completed and the RASCAL (Rapid Assessment of Stream Conditions Along Length) assessment is being conducted in an effort to determine the source(s) of the bacteria in the watershed.

In June 2011, a random sample of 690 Silver Creek Watershed residents was surveyed to assess residents' perceptions and understanding of water quality issues. When asked what was responsible for the existing pollution problems in their watershed, the 219 respondents indicated that livestock operations (70%, n=159) and agriculture crop production (68%, n=149) were the two main factors.

Goals/Strategies

While many people visit this area from outside the watershed to explore its ample recreational opportunities, the primary goals of this project are to promote local residents' appreciation of Silver Creek and to generate pride in their water quality, which ultimately will require changes in habits and practices. Education about bacteria and how high levels harm water quality will also be an important issue with this campaign. The changes made can eventually remove the Silver Creek Watershed from the DNR's 303(d) impaired water bodies list.

Because the Silver Creek Watershed contains a large amount of farmland as well as the city of Cresco, this outreach campaign must have components that reach out to both rural and urban residents, as well as residents of varying ages. Each of the materials suggested in this proposal was created with this in mind and will complement the others in the goal of reaching multiple audiences. In addition to any immediate action generated by this project, this outreach campaign should create *lasting* tools to promote water quality messages and continue to unite the community around the Silver Creek Watershed project.

Watershed Leadership Team

Creation of a Silver Creek Watershed advisory board is highly recommended to guide the watershed project in striving towards its goals of improving water quality and strengthening the watershed community in building a culture of conservation. In addition to the Silver Creek Watershed coordinator, the Howard and Winneshiek Soil and Water Conservation District commissioners bring many strengths to the table: active involvement and a passion for protecting local soil and water quality, an in-depth understanding of local attitudes and perceptions, and years of

experience. Because Silver Creek’s impairment is due to elevated bacteria levels, it is recommended to invite a member of the Howard or Winneshiek Co. Cattlemen as well as the Howard and/or Winneshiek Co. sanitarian to become advisory board members. Furthermore, it would also be beneficial to invite local or regional economic development/tourism personnel to sit on this advisory board. Clean water builds positive economic development, and these individuals would bring unique perspectives to the watershed advisory board. This advisory board will be instrumental in shaping Silver Creek Watershed’s marketing plan and direction moving forward.

Branding Elements

Core branding elements for the watershed awareness campaign should be created to support this plan. To accomplish this, the following elements will need to be developed:

- Watershed Identification Logo: two examples are provided but designs should be considered with the input of the watershed coordinator, local SWCD commissioners and others working on the project.



- Campaign Slogan: **“Our creek. Our watershed. Our future.”**

The slogan can be included on all of the components of the campaign in conjunction with the watershed identification logo.

Marketing Materials

Several different marketing media will be utilized in the campaign to align with what survey respondents indicated they would use.

One survey question asked, “Of the learning opportunities available, which would you be most likely to take advantage of for water quality issues?” The highest response was the use of printed fact sheets or brochures (57%, n=125), followed by a website (30%, n=65) and “looking at a demonstration or display” (27%, n=59). The campaign will incorporate all three of these learning opportunities to help educate watershed residents and motivate changes to positively impact water quality.

Another survey question asked, “Have you ever changed your mind about an environmental issue as a result of...?”. The highest responses indicated were “concern about the future for your children/grandchildren” (49%, n=108), “firsthand observation” (37%, n=81), and “news coverage” (36%, n=79). These responses have been taken into account and allow for a targeted watershed campaign, conveying water quality messages in ways that are most meaningful to residents.

Support Resources

An informational brochure will be developed to generate interest about the watershed, the project and its goals. The language and images used in the brochure, and all appropriate materials, will emphasize the importance of water quality for residents, their children and grandchildren—the future. The brochure will be available at Howard and Winneshiek SWCD/NRCS and Extension offices, Prairie’s Edge Nature Center, Cresco Area Chamber of Commerce, Cresco Public Library, and in local retail sites, particularly Cresco businesses.

Regular press releases will be sent to the *Cresco Times* newspaper and website, as well as local radio stations, to support all of the materials and events below. A weekly radio segment that discusses conservation could be aired on the Cresco radio station, KCZQ – 102.3 FM, featuring watershed coordinator Neil Shaffer, or a local radio personality. This supports survey responses of information received via news coverage media being a significant motivating factor in changing opinions on environment issues.

Website

A website will be created and dedicated solely to the watershed project. The website will be referenced in all other outreach material and should contain an overview of the project goals and information on what has been done thus far to understand the bacterial issues in the area. Information on conservation management practices and other best management practices for improving water quality should be included as well. The website should also contain a resource page for obtaining further information on rural *and* urban conservation practices ranging from no-till farming to instructions on creating a rain barrel.

In order to promote local awareness and pride in the project, a community page should be a key component of the larger Silver Creek Watershed website. This page will allow people to submit photos of local conservation in action, such as a farmer standing next to his no-till equipment, or a class trash pick-up day.

Because many survey respondents indicated their concern for the future and what the water quality will be like for their children and grandchildren, the website should also include an educational component for the young generation. There should be a page dedicated to children's activities such as hands-on water quality experiments that are easy to do at home, a water quality crossword puzzle or a page to print and color. This can help kids get an early start on taking pride in their local watershed and understanding water quality issues.

Movie Theater Advertising

Many movie theaters project local business ads prior to movie previews. Ads promoting the watershed project as well as why clean water quality is important to everyone could be part of these advertisements, provided the Cresco Theatre participates in this practice.

Fact Sheets/Utility Bill Inserts

A series of fact sheets will be created and inserted into utility bills of the entire watershed every three months so that residents receive updated information about the project. Quarterly fact sheets can also be made specific to the seasonal fluctuations in water quality and how practices contribute differently during different times of the year.

In addition to specific information about water quality, the fact sheets should contain information about the watershed project in general, including the impairments of the watershed and any findings from the land and RASCAL assessments. The fact sheets will be easy to read and will contain information on where to go to learn more. They will contain ideas for how community members can change their behaviors to improve their water quality and establish a successful watershed project in their area. Also included will be short profiles of a watershed resident who is making changes to their land for future generations.

By placing the fact sheet in a utility bill, residents will have more opportunity to read it and create a connection between their water bill and water quality. This connection can solidify the message of the project, reaching all households in the watershed community.

Suggested topics for quarterly fact sheets:

Quarter 1:

- Opportunities for involvement in the Silver Creek Watershed project
 - Information on becoming an IOWATER volunteer
 - Upcoming watershed project events
- Watershed project goals to be met
- Resident feature/profile

Quarter 2:

- Bacteria
 - General facts about bacteria, i.e. their rate of growth
 - Bacterial threats to human health
 - Sources of high bacteria levels within the Silver Creek Watershed and proposed solutions
- Progress made thus far and watershed project goals
- Resident feature/profile

Quarter 3:

- Urban Conservation
 - Problems caused by storm water runoff and possibilities for urban conservation
 - Information on permeable pavers, native landscapes, rain gardens
- Progress made thus far and watershed project goals
- Resident feature/profile

Quarter 4:

- Public recreation opportunities in Silver Creek Watershed
 - How outdoor recreation activities in the Silver Creek Watershed can generate economic benefits
 - Information on wildlife in Silver Creek (things to discover)
- Overview of project goals which have been met
- Goals for the future of the Silver Creek Watershed project
- Resident feature/profile

Watershed Signage

Watershed Boundary Signs

A local stream-labeling project, in which roadside signs were placed at stream crossings, has proven quite successful. Building upon that successful signage campaign, signs should be placed on roads as people enter the watershed, which read, “Now entering/exiting Silver Creek Watershed” and will contain the logo, slogan and website.



These will mark the boundaries of the watershed, as they exist on the landscape. They will offer a different view of the area for those who are familiar with the concept of watersheds and introduce the concept to those who are not, creating conversation pieces for those living in the watershed as well as those who are visiting.

Yard Signs

As community members become aware and involved with the project, they should be positively reinforced for any changes that they make in their practices. Signs will be created for people to put in their yards so that they can be recognized as good conservationists.

The signs can read:

I installed (conservation practice) to help restore Silver Creek.

Our creek. Our watershed. Our future.

Find out more at *website.com*



These signs will be brief so that the message is transferred as travelers pass by. The goal is to motivate people to practice conservation on their land, with the signs sparking interest and curiosity about what is happening within the watershed. In addition to yard signs, watershed residents who are practicing conservation will be recognized on the “community page” of the Silver Creek Watershed website which will showcase photos of conservation in action. This will encourage watershed residents to network with one another and strengthen their community around the watershed project.

Watershed Resident Involvement

Cresco Farmer's Market

The Cresco Farmer's Market is a popular semi-weekly event in a visible location and receives heavy traffic. Those involved with the watershed project can have a booth with information about the project and tips for community members to improve water quality in their area.

Handouts at the booth can include the general informational brochure and additional fact cards about water quality and what can be done to improve it (e.g. What is a watershed? What watershed do you live in? What are some of the issues that your community is facing with its water quality/impairments?). The booth should appeal to all ages. Kids can take home a picture to color or a worksheet regarding pollution and water quality.

The handout and kids' activities distributed at the farmer's market booth can be compiled into a workbook and made available through the Cresco Area Chamber of Commerce as a resource when the farmer's market is not open.

Bronze Statue Tags

The bronze statues placed throughout the city of Cresco create a unique opportunity for outreach. To raise awareness of the Silver Creek Watershed project, tags with brightly colored ribbons will be tied onto each statue (with permission of the city of Cresco). The tags will contain brief facts about water quality issues in Iowa, specifically in the Silver Creek Watershed.

An example would be:

Bacteria double?
That's quite a rate!
They multiply
so that 4 million become 8!
Our creek. Our watershed. Our future.
Silver Creek Watershed



The tag information will be written so most ages can understand the facts presented. The tags will list the project's website, logo and slogan.

A Combined Effort

The farmer's market and the statue ribbons can be connected through a scavenger hunt activity. On each statue tag, there will be a trivia question along with a date when the watershed project booth will be at the Cresco Farmer's Market. The answers to the trivia questions can be brought to the

farmer's market booth on the corresponding date in exchange for a small prize (e.g. a pencil with the watershed project information).

A Silver Creek Watershed scavenger hunt could also be combined with geocaching, an outdoor treasure hunt in which participants use GPS-enabled devices to locate hidden containers (called geocaches) and then share their experiences online. There are over 1.5 million active geocaches and over 5 million geocachers worldwide (<http://www.geocaching.com/>), and local residents indicated this is a popular activity in northeast Iowa.

Area Churches and Service Groups

Fifty-two percent of survey respondents indicated that they are very active within their local church. People often use their church for idea exchange and discussion on a variety of topics, religious and nonreligious. Clean water is a human right and discussing within the church community why and how to clean up local waters would be appropriate. Water quality activities could be part of social justice activities on the part of local churches. Watershed project leaders should approach church members who are also watershed residents to see if they would speak to the issue at a church event.

The utility fact sheets will be adapted for inserting into church bulletins in Cresco area churches including, but not limited to: Assembly of God, Cresco Community Chapel, Faith Baptist Church, First Baptist Church, United Methodist Church, First Congregational Church, First Lutheran Church, Immanuel Lutheran Church, and Notre Dame Catholic Church.

Involving youth groups, such as Boy and Girl Scouts or 4-H, in the watershed project help bring awareness to the issues involving the Silver Creek Watershed to new, younger audiences. This will help engage the next generation who will be taking care of the water quality. The groups can plan service projects that help the watershed such as trash pick up days, painting picnic tables or restrooms in an area park, etc. Furthermore, these service-oriented groups can also help with door-to-door promotion and distribution of print materials within the watershed, as well as the Cresco statue campaign and farmer's market booth.

Another opportunity for youth involvement would be possible through a partnership with one or more instructors at Crestwood High School, Crestwood Alternative High School or Northeast Iowa Community College (Cresco Center). Design and creation of a Silver Creek Watershed website could become a class project for these students, in which the watershed coordinator and/or advisory board would serve as the client and consult with the teacher(s) and student group(s) regularly. In addition to raising students' awareness of local environmental issues, this partnership would be a great learning opportunity for the students and would benefit the watershed project by utilizing students' computer and design skills.

The watershed advisory board could also sponsor a video contest for high school/community college students, in which teams of students create 60-second video ads promoting local water quality and the Silver Creek Watershed project. All entries could be posted on YouTube, generating

widespread interest in the watershed project and efforts towards improving water quality in and around Silver Creek. Winners could be chosen by the advisory board as well as by popular vote.

Town Festivals and County Fairs

Annual town festivals and county fairs (e.g. Mighty Howard County Fair, Old Settlers Day in Chester, Sweet Corn Days in Lime Springs, Czech Days in Protivin, Cresco's Norman Borlaug Harvest Fest), provide a unique opportunity for education and promotion of the Silver Creek Watershed project. These events already promote pride in the local community, so expanding that sentiment to include pride in local water quality would be very appropriate. The Silver Creek Watershed project could participate through numerous means, including event sponsorship and/or setting up a booth to distribute print materials and visit with local residents.

Community Watershed Events and Field Day

Survey respondents answered "concern about the future for your children/ grandchildren" (49%, n=108) and "firsthand observation" (37%, n=81) as to how they were most likely to change their minds about local water quality. The campaign will utilize these responses to plan three community events offering opportunities for watershed residents to gather together and discuss the challenges with the area's water quality issues.

- A general awareness event "kick off" event for all watershed residents will be held at the Prairie's Edge Nature Center just outside of Cresco and hosted by watershed coordinator Neil Shaffer and other local community members who are familiar to area residents. This will be the first step in creating a network for residents to gather together and discuss the challenges with the area's water quality.
- An Iowa Learning Farms field day will be held on a watershed resident's farm who is demonstrating conservation practices. The field day is an opportunity for farmers and watershed residents to visit a farm and learn about different conservation practices that support healthy soils, healthy water bodies and minimize transport of bacteria into waterways. The field day can offer simultaneous tracks addressing no-till/strip-till, cover crops, nutrient and manure management, rain barrels, organic gardening, etc. so that there are topics for both urban and rural residents.
- A 5K/10K fun run can be held within the watershed or Cresco community. T-shirts with the watershed logo and project info (website) can be given away to participants. The fun run engages a new audience about the watershed project.
- A "closing" event should be held to celebrate the progress made in education and outreach of the Silver Creek Watershed campaign. This could be a ceremony to award certificates of recognition to those who aided in the campaign. All of the events provide opportunities for watershed residents to network, learn from one another and unite as a watershed community.

As part of the campaign, an IOWATER volunteer water quality monitoring workshop could be held locally. Watershed residents should be encouraged to participate in the workshop with their children or grandchildren of appropriate ages. Then volunteers can conduct the monitoring together, so ownership of the watershed and pride in water quality can be nurtured through multiple generations. The IOWATER program also offers a subsequent workshop on bacteria monitoring, and this workshop could be offered locally if enough interest is generated.

The Iowa Learning Farms Conservation Station should be included at the opening event and the field day. The Conservation Station is an effective tool for demonstrating how conservation practices benefit water and soil quality and for bringing people together around conservation issues. The rainfall simulator component of the Conservation Station has an effective visual display, which demonstrates how different land practices (urban and rural) affect surface and subsurface water quality. The Conservation Station also contains a learning lab with various lessons that can be changed depending on the targeted message and audience at the event. A specific educational module could be created that focuses on the Silver Creek Watershed community, its water quality challenges, especially bacterial impairment, and the impacts of land management decisions.

Youth Outdoor Classroom

Iowa Learning Farms will coordinate and host a youth outdoor classroom day for the 4th and 5th grade students of Crestwood Elementary School and Notre Dame Catholic School. A park or nature area within the watershed would be an ideal location for such an event. Alternatively, a landowner in the watershed could host the youth outdoor classroom on his/her property. The event should be held in a location adjacent to Silver Creek to allow students to see and experience the water body in an up-close setting.

The Conservation Station will be a key component of this youth outdoor classroom day. Through fun, engaging hands-on activities, students will experience educational lessons on watersheds and the impacts of land management choices on soil and water quality. The outdoor classroom should have a bacteria component as well. This event will utilize the educational materials developed for Silver Creek, raising an appreciation for the watershed and local communities, while also raising awareness of water quality challenges faced in the watershed.

Ideally, there would be 5-6 different learning stations, each with its own presenter or team of presenters. Iowa Learning Farms will work with watershed coordinator Neil Shaffer to identify conservation-minded individuals or groups to lead other learning stations/group sessions during the daylong event. Examples of such partners may include Winneshiek and/or Howard Co. Conservation Boards, local ISU Extension and Outreach personnel, local DNR/NRCS staff, local SWCD commissioners and local Farm Bureau personnel. Students would be bussed to the field site then divided into groups to experience the many different learning stations. Student groups would rotate to each of the different learning stations, spending approximately 40 minutes at each stop, participating in such activities as nature hikes/scavenger hunts, fish species identification, birds and furs, geocaching, and water quality monitoring.

Time frame

First Quarter Activities	<ul style="list-style-type: none"> • Create website • Finalize logo design • General project informational brochure • Utility bill/church bulletin fact sheet #1
Spring/Summer Quarter Activities	<ul style="list-style-type: none"> • Kick-off event for residents • Watershed boundary signs • Farmer's market* • Bronze Statue watershed project tags* • Town festivals/county fairs • Utility bill/church bulletin fact sheet #2
Summer Quarter Activities	<ul style="list-style-type: none"> • Farmer's market* • Bronze Statue watershed project tags* • Iowa Learning Farms Field Day • Yard signs • Town festivals/county fairs • Utility bill/church bulletin fact sheet #3 • 5/10K Fun Run
Fall/Winter Quarter Activities	<ul style="list-style-type: none"> • Yard signs • Youth Outdoor Classroom (Oct) • Utility bill/church bulletin fact sheet #4 • Closing event for residents

*Cresco Farmer's Market runs from May 1 through October 30. This component of the campaign can run during both quarters or only one of the two.

WATER ISSUES IN IOWA

Silver Creek Watershed Survey Results

Introduction

This document reports the results of a survey conducted for the *Community Assessments: Key Components to Successful Community-based Watershed Improvement Project*. This project is a collaboration between Iowa State University Extension and the Silver Creek Watershed group.

Funded by Silver Creek Watershed planning group and Iowa Department of Natural Resources Section 319 funds, the purpose of this project is to develop and test a community assessment tool that can be used by watershed action teams and coordinators to enhance community understanding of watersheds. Effective community assessments will allow watershed groups to develop goals, outreach and education regarding water quality challenges based on the values of the people living in the watershed.

The Silver Creek Watershed survey was based on a water issues survey administered to the four states in the Heartland Region in 2007. Using a similar survey allows local watershed groups to compare their findings to the statewide findings. Silver Creek Watershed has approximately 6,900 residents if you include the whole city of Cresco, which is only partially in the watershed. We chose to include the entire city because of drainage issues, etc. We completed a mailing list for the watershed by compiling landowner lists from Howard and Winneshiek counties and a mailing list from the city of Cresco. Due to the large size of the Cresco mailing list it was decided that every fifth resident should be entered into our survey mailing list. The list was still very large, so the final list was determined using every other entry and equates to approximately 10 percent of the watershed population plus entire city of Cresco, or 690 residents.

The survey was conducted using a modified Dillman Tailored Design Method. A three-step process was followed consisting of 1) a first mailing of survey and cover letter explaining the purpose of the survey; 2) a reminder postcard two weeks later sent to non-respondents; and 3) a second mailing of the survey to remaining non-respondents.

Of the 690 surveys that were mailed, 12 were undeliverable and 219 were completed and returned. As a result, the overall response rate was 32 percent. While this rate of response is lower than what was hoped for, the sample size is large enough to facilitate statistical analyses. Response rates are more important when the purpose of the survey is to measure effects or make generalizations to a larger population. However, it is less important if the purpose is to gain insight and direction for outreach and education as in the case in the community assessment survey.

This report presents the tabulated results of the surveys. The tables present the questions and response categories as they were presented in the surveys. The number of responses for each question or question item is provided in parentheses.

1. What is the **best** definition of a watershed? (CHECK ONE BOX) (n=210)

	All
A structure that stores water	3%
An area of land that drains to a common body of water	79%
A basin to hold extra water to prevent flooding	12%
An underground water supply	6%

Water Issues (CHECK THE BEST ANSWER, UNLESS MULTIPLE ANSWERS ARE INDICATED.)

2. Where do you get your drinking water? (CHECK ALL THAT APPLY)

	All
Well (individual well or well that serves fewer than 15 residences) (n=46)	21%
Rural water system (n=4)	2%
River, stream, pond, or lake (individual system) (n=1)	1%
City water system (n=170)	79%
Purchase bottled water (n=50)	23%
Produce own with reverse osmosis (RO) system (n=1)	1%
Don't know (n=0)	0%

3. Do you feel that your home drinking water is safe to drink? (n=212)

	All
Yes	86%
No	14%

4. In your opinion, what is the *quality of groundwater* (sources of well water) in your area? (n=216)

	All	Non-Farming	Farming
Good	40%	42%	34%
Fair	37%	34%	47%
Poor	6%	6%	7%
Don't know	17%	18%	12%

5. In your opinion, what is the *quality of surface waters* (rivers, streams, lakes) where you live? (n=217)

	All	Non-Farming	Farming
Good	15%	12%	27%
Fair	57%	59%	51%
Poor	14%	14%	12%
Don't know	14%	15%	10%

6. Do you know or suspect that any of the following conditions are affecting water quality in your area?

	All	Non-Farming	Farming
High bacteria counts (n=204)			
Know	9%	6%	23%
Suspect	31%	30%	36%
Not a Problem	12%	11%	18%
Don't know	48%	53%	23%
Fertilizer/nitrates (n=215)			
Know	17%	17%	20%
Suspect	53%	56%	45%
Not a Problem	7%	4%	15%
Don't know	23%	23%	20%
Heavy Metals (e.g., lead, arsenic) (n=202)			
Know	1%	1%	3%
Suspect	15%	15%	13%
Not a Problem	18%	17%	23%
Don't know	66%	67%	61%
Hardness (e.g., calcium, other minerals) (n=211)			
Know	42%	38%	58%
Suspect	28%	33%	12%
Not a Problem	5%	5%	5%
Don't know	25%	24%	25%

Pesticides (n=210)	All	Non-Farming	Farming
Know	10%	10%	10%
Suspect	47%	51%	30%
Not a Problem	9%	6%	23%
Don't know	34%	33%	37%
Animal waste (n=210)			
Know	15%	14%	20%
Suspect	44%	48%	30%
Not a Problem	12%	9%	25%
Don't know	29%	29%	25%
Septic Systems (n=204)			
Know	3%	2%	8%
Suspect	25%	26%	18%
Not a Problem	19%	18%	25%
Don't know	53%	54%	49%
Pharmaceuticals (i.e. antibiotics, personal care products) (n=210)			
Know	2%	2%	3%
Suspect	20%	21%	17%
Not a Problem	21%	18%	30%
Don't know	57%	59%	50%

7. In your opinion, which of the following are most responsible for the existing pollution problems in rivers and lakes *in Iowa*? (CHECK UP TO 3 ANSWERS)

	All	Non-Farming	Farming
Agriculture crop production (n=144)	66%	69%	51%
Erosion from roads and/or construction sites (n=24)	11%	11%	10%
Wastes from urban areas (n=51)	23%	19%	42%
Industry (n=59)	27%	26%	32%
Wild animals/pets (n=1)	1%	1%	0%
Livestock and/or poultry operations (n=154)	70%	75%	54%
Septic systems (n=18)	8%	9%	7%
Urban stormwater runoff (n=52)	24%	23%	29%
Landfills (n=31)	14%	15%	10%
Wastewater treatment plants (n=22)	10%	8%	20%
Streambank erosion (n=59)	27%	27%	27%

8. In your opinion, which of the following are most responsible for the existing pollution problems in rivers and lakes *in your watershed*? (CHECK UP TO 3 ANSWERS)

	All	Non-Farming	Farming
Agriculture crop production (n=149)	68%	71%	59%
Erosion from roads and/or construction sites (n=26)	12%	14%	5%
Wastes from urban areas (n=21)	10%	7%	22%
Industry (n=41)	19%	20%	15%
Wild animals/pets (n=4)	2%	2%	0%
Livestock and/or poultry operations (n=154)	70%	73%	63%
Septic systems (n=16)	7%	7%	7%
Urban stormwater runoff (n=41)	19%	18%	22%
Landfills (n=23)	11%	11%	10%
Wastewater treatment plants (n=22)	10%	10%	12%
Streambank erosion (n=56)	26%	25%	29%

9. Do you know where water goes that falls onto your land or yard? (CHECK ALL THAT APPLY)

	All
Storm drain and then straight to the river (n=91)	42%
Directly into a nearby creek (n=38)	17%
Roadside ditch and then stream or river (n=37)	17%
It gets absorbed into the land (n=122)	56%
Don't know (n=30)	14%

Soil Erosion Issues

10. Do you have any soil erosion on your property? (n=202)

	All
None	63%
A little	30%
Moderate	2%
A lot	1%
Don't know	4%

11. What are some of the ways that you try to prevent or fix soil erosion on your property? (CHECK ALL THAT APPLY)

	All
Continuous no-till or strip-till (n=28)	13%
Leaving vegetation on the ground in garden (n=47)	22%
Following the natural contours of the land (either farmland or in landscaping) (n=31)	14%
Planted windbreaks (n=36)	16%
Grassed waterway or grass strip around garden (n=63)	29%
Placing mulch on all exposed soil on land (n=28)	13%
Use of native plantings to protect streambanks (n=17)	8%
Cover crops (n=14)	6%
We don't do anything (n=22)	10%
Not applicable (n=82)	37%

12. Have you or someone in your household done any of the following as part of an individual or community effort to conserve water or preserve water quality in the last five years?
 (CHECK ALL THAT APPLY)

	All
Changed the way your yard is landscaped (n=33)	15%
Reduced your water consumption (i.e. stopped watering lawn) (n=97)	44%
Reduced your use of pesticides, fertilizers or other chemicals (n=62)	28%
Increased residue on row crop acres (n=24)	11%
Addressed erosion on your land (n=34)	16%
Pumped your septic system (n=28)	13%
Tested your drinking water (n=45)	21%
Other_____	

Governance

13. In your opinion, does the environment receive the right amount of emphasis from government and elected officials in your community? (CHECK ONE ANSWER) (n=214)

	All	Non-Farming	Farming
<u>Not enough emphasis</u> is placed on environmental protection	41%	46%	22%
Environmental protection receives about the <u>right amount of emphasis</u>	24%	23%	30%
<u>Too much emphasis</u> is placed on environmental protection	5%	2%	18%
Don't know	30%	29%	30%

14. In your opinion, who should be most responsible for protecting water quality in your community? (SELECT ONE) (n=211)

	All	Non-Farming	Farming
Environmental Protection Agency (EPA)	5%	5%	2%
Natural Resources Conservation Service (NRCS)	8%	9%	5%
Iowa Department of Agriculture and Land Stewardship (IDALS)	5%	5%	8%
Iowa Department of Natural Resources (IDNR)	10%	12%	5%
Local Soil and Water Conservation District (SWCD)	14%	14%	18%
Your county, city, or town	14%	17%	3%
Individual citizens without land	2%	2%	3%
Landowners	28%	24%	49%
Don't know	13%	14%	8%
Other: All of the above	2%	2%	2%
Not IDNR	1%	0%	5%

15. How well do you feel each one of these groups is fulfilling their responsibility for protecting water quality in your community? (CIRCLE ONE ANSWER PER GROUP. LEAVE IT BLANK IF YOU "DON'T KNOW.")

						Responses given in average rating		
						All	Non-Farming	Farming
	<i>Very Well</i>	<i>Well</i>	<i>Okay</i>	<i>Poorly</i>	<i>Very Poorly</i>			
Federal government (EPA, NRCS) (n=156)	5	4	3	2	1	2.67	2.59	3.0
State government (DNR, IDALS) (n=161)	5	4	3	2	1	2.82	2.80	2.93
Your county, city, or town govt. (n=161)	5	4	3	2	1	2.88	2.89	2.79
Soil and water conservation district (SWCD) (n=159)	5	4	3	2	1	3.01	2.98	3.09
Your community (n=167)	5	4	3	2	1	2.94	2.95	2.86
The landowners (n=158)	5	4	3	2	1	2.67	2.59	3.00
Individual citizens (n=158)	5	4	3	2	1	2.72	2.63	3.10

Water Quality Education

16. Have you received water quality information from the following sources?

(CHECK ALL THAT APPLY)

	All	Non-Farming	Farming
Television (n=88)	40%	43%	32%
Internet (n=38)	17%	17%	22%
Newspapers (n=105)	48%	49%	42%
Radio (n=40)	18%	18%	22%
Extension Service (n=66)	30%	26%	49%
Iowa Learning Farms (n=13)	6%	6%	2%
Universities (n=20)	9%	10%	7%
Schools (elementary and secondary) (n=14)	6%	7%	5%
Agricultural trade/commodity groups (n=14)	6%	6%	10%
Environmental agencies (government) (n=33)	15%	14%	20%
Environmental agencies (citizen groups) (n=25)	11%	13%	5%

17. Would you like to learn more about any of the following water quality issue areas?
 (CHECK ALL THAT INTEREST YOU)

	All
Agricultural water management on row crop acreages (n=32)	15%
Animal manure and waste management (n=45)	21%
Drinking water and human health (n=103)	47%
Environmental restoration (n=32)	15%
Nutrients and pesticide management (n=43)	20%
Pollution assessment and prevention (n=44)	20%
Water conservation (n=38)	17%
Water policy and economics (n=15)	7%
Watershed management (n=42)	19%
Private well and septic system management (n=22)	10%
Small acreage water and land management (n=26)	12%
Home and garden landscaping for water quality (n=39)	18%
Other	3%

18. Have you ever changed your mind about an environmental issue as a result of:

(CHECK ALL THAT APPLY)

	All	Non-Farming	Farming
News coverage (TV, newspapers, Internet, etc.) (n=79)	36%	40%	20%
Field days (n=17)	8%	7%	10%
Conversations with other people (n=55)	25%	27%	20%
Attending public meetings or participating in volunteer activities (n=14)	6%	6%	7%
Classes or presentations (n=26)	12%	12%	12%
Speech by an elected representative (n=3)	1%	2%	0%
Firsthand observation (n=81)	37%	33%	56%
Financial considerations (n=18)	8%	7%	15%
Concern about the future for your children/grandchildren (n=108)	49%	50%	49%

19. Of the following kinds of learning opportunities available, which would you be most likely to take advantage of for water quality issues? (CHECK UP TO 3 ITEMS)

	All	Non-Farming	Farming
Read printed fact sheets, bulletins, or brochures (n=125)	57%	59%	49%
Visit a website for information and tips (n=65)	30%	31%	24%
Look at a demonstration or display (n=59)	27%	27%	29%
Watch a video (n=35)	16%	16%	17%
Volunteer in a one-time learning activity (e.g. water monitoring, streamside restoration or education) (n=23)	11%	11%	7%
Take a course for certification or credit (n=11)	5%	5%	5%
Get trained for a regular volunteer position (e.g. as a watershed steward or a water quality monitor) (n=13)	6%	6%	7%
Ask for a home, farming, or workplace water practices assessment (n=29)	13%	11%	22%
Attend a fair or festival (n=43)	20%	21%	15%

20. Are you now participating, or have you participated, in any of the following activities in the last five years? (CHECK ALL THAT APPLY)

	All
Master Gardener program (n=10)	5%
Volunteer water quality monitoring (n=6)	3%
Lake or river protection groups (n=6)	3%
Town conservation commissions (n=2)	1%
Other water or environmental protection groups (n=20)	9%

Please answer the following as they pertain to you

21. Where do you live? (n=217)

	All
Inside city limits, not engaged in Farming	70%
Outside city limits, not engaged in Farming	12%
Inside city limits, currently engaged in Farming	8%
Outside city limits, currently engaged in Farming	10%

22. Approximately what is the population of your community? (n=186)

Average 4075

23. How long have you lived in in your area? (n=216)

Average 35 years

24. To what extent are you currently active in your local community?

	All
Frequent local shops and restaurants (n=208)	
<i>Never</i>	3%
<i>Sometimes</i>	41%
<i>Always</i>	56%
Attend local sporting events (n=176)	
<i>Never</i>	19%
<i>Sometimes</i>	65%
<i>Always</i>	16%
Active member of local church (n=201)	
<i>Never</i>	15%
<i>Sometimes</i>	32%
<i>Always</i>	53%
Participate in local social clubs (n=174)	
<i>Never</i>	40%
<i>Sometimes</i>	43%
<i>Always</i>	17%
Participate in environmental/garden club (n=159)	
<i>Never</i>	78%
<i>Sometimes</i>	18%
<i>Always</i>	4%
Attend school events (n=182)	
<i>Never</i>	17%
<i>Sometimes</i>	65%
<i>Always</i>	18%

25. What is your gender? (n=216)

	All
Male	57%
Female	43%

26. What is your age? (n=212)

Average of 60 years old (range ages 20-95)

27. How many people live in your household? (n=219)

# of individuals	Individuals 18 and over	Individuals under 18
0	---	80%
1	29%	7%
2	61%	8%
3	8%	3%
4	2%	1%
5	---	1%

28. What level of education you have completed? (n=213)

	All
Less than high school or some high school	6%
High school graduate	31%
Some college or vocational training	28%
College graduate	25%
Advanced college degree	10%

29. What is your current occupation? (n=201)

	All
Farming	6%
Manufacturing/Contracting/Transportation	12%
Education	5%
Management/Retail	8%
Government	3%
Retired	44%
Professional (Lawyer/Doctor/Insurance)	8%
In the home	3%
Disabled	2%
Self-employed	4%
Other	5%