



Badger Creek Lake Watershed Citizen Awareness Campaign

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Badger Creek Lake Watershed Awareness Campaign

Background

Badger Creek Lake is located in Madison County; its watershed is 11,700 acres of mostly crop and pasture land. There are no incorporated towns located within the watershed. The Badger Creek Lake Watershed is unique in that it is a rural area, but is dominated by a population that commutes to Des Moines for work and leisure.

Badger Creek Lake's primary designation is fishing and, generally, the anglers who utilize Badger Creek Lake visit from outside of the watershed. Algae blooms and siltation have caused several small fish kills and an overall decline in fish habitat. The lake receives excess nutrients and sediment due to gully, sheet, rill, streambank/streambed and shoreline erosion as well as livestock access to streams. An estimated 7,774 tons of sediment could reach Badger Creek Lake in a year (Restoring Our Pride in Badger Creek Lake, 2006).

A survey was mailed in June 2011 to all residents within the watershed. Of the 117 returned surveys, results indicate that the watershed residents perceive that agriculture crop production (70%, n=82), livestock (35%, n=41) and streambank erosion (48%, n=56) are the major causes of poor water quality in Badger Creek and its contributing waters.



Goals/Strategies

Survey results indicate that watershed residents are generally aware of contributors to the poor water quality within their watershed; therefore, the goal for the Badger Creek Lake Watershed campaign is to inform residents about the importance of water quality within the watershed and the lake and to inspire them to value and care for Badger Creek Lake. These goals will ultimately require changes in habits and practices. The changes made can eventually remove the lake from the Iowa Department of Natural Resources 303(d) list of impaired water bodies.

Because there are no towns within the watershed, the challenge will be for watershed residents to unite and work together to better the area in which they live. A different approach should be taken, suggesting that residents within the watershed are part of a “watershed community” and outreach material will reach community members individually—in their homes and in their cars. Outreach campaign materials have been developed to specifically address these challenges, to promote ownership and pride in the local watershed community. Booneville, Van Meter and De Soto are located within 10 miles to the north of Badger Creek Lake and residents in these communities will be included in campaign outreach as well.

Iowa Learning Farms staff who visited the local area were told by a watershed resident that , “Badger Creek Lake was built to hold dirt.” Historically, the lake *was* designated for sediment control. Despite increased recreational usage, many citizens maintain the perceived role of the lake is for sediment control and they do not consider the importance of Badger Creek Lake’s water quality. Acknowledging these local attitudes, it is recommended that a water quality message be paired with a message about the importance of *soil* quality. For farmers, focusing the message on the Badger Creek Lake Watershed may prove most effective, while non-farmers may relate more closely with water quality in the lake. These targeted messages will serve as vital components in restoring the water quality in Badger Creek Lake.

The materials suggested in this proposal complement one another in terms of providing education on Badger Creek Lake Watershed’s challenges with the goal of reaching out to multiple audiences. These outreach methods, when kept up to date and used together, will serve as effective tools to teach about conservation issues, strengthen the watershed community, and renew the water quality in Badger Creek Lake.

Watershed Leadership Team

Creation of a Badger Creek Lake 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 addition to the Badger Creek Lake Watershed coordinator, the Madison 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. To make this advisory board as well rounded and representative as possible, it is recommended that additional advisory board members include at least one non-farmer resident and one female resident. Furthermore, it is strongly recommended to invite the county sanitarian and local or regional economic development personnel to sit on this advisory board. Clean water builds positive economic development, and these individuals would bring a unique perspective to the watershed advisory board. This advisory board will be instrumental in shaping Badger Creek Lake Watershed's marketing plan and direction moving forward.

Branding Elements

Foundational branding elements should be created to support this watershed awareness campaign. To accomplish this, the following elements should be considered:

- 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: **“Save the soil. Save the lake.”**
This will be included on all of the components of the campaign in conjunction with the watershed identification logo.
- Campaign Mascot: If the logo with a badger is chosen to represent the Badger Creek Lake watershed project, a badger mascot could be created (e.g. **“Barry the Badger”**), which would serve as a fun and unifying theme across watershed project outreach materials.

Marketing Materials

Several different marketing media will be utilized in the campaign to align with what survey respondents indicated they would use. The outreach materials are designed to be complementary, promoting an awareness and appreciation for Badger Creek Lake and its challenges, while recognizing that solutions must be approached as a watershed community.

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 (67%, n=79) followed by a website (38%, n=44) and “looking at a demonstration or display” (32%, n=37). This campaign will incorporate all three of these learning opportunities to help educate watershed residents.

Another survey question was, “Have you ever changed your mind about an environmental issue as a result of...”. The most popular responses were “firsthand observation” (58%, n=68), “conversations with other people” (35%, n=41) and “concern about the future for your children/grandchildren” (35%, n=41). This campaign takes these responses into account as well, presenting a message of protecting soil and water quality in ways that are most meaningful to the watershed community.

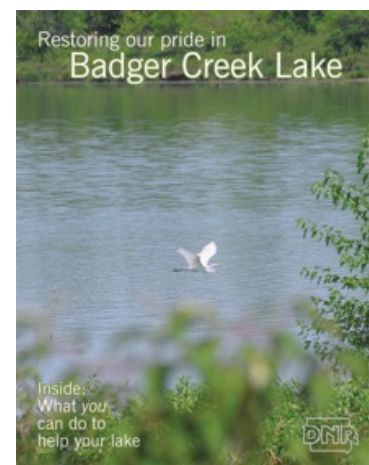
Support Resources

A general brochure “Restoring our pride in Badger Creek Lake” is available online

(<http://publications.iowa.gov/4707/1/badger%5B1%5D.pdf>).

The eight-page brochure was created in 2006 and needs updating with current statistics.

A smaller brochure summarizing the Badger Creek Lake Watershed project should be created for the general public. These brochures will greatly increase the visibility of the watershed project. The smaller, more general brochure will be available at Madison County SWCD/NRCS and Extension offices, Madison County Conservation,



and in brochure racks at the Madison County Chamber of Commerce office, local landmarks such as the John Wayne birthplace, and at local retail sites.

Regular press releases will be sent to area newspapers and radio stations, as well as posted on the website, to support and inform the public of the campaign and its events. The local shopper newspaper allows for special inserts by zip code, so this would provide another avenue for targeted outreach in and around Badger Creek Lake Watershed.

Website

A website will be created with background information on Badger Creek Lake, its watershed and the progress of the watershed project. The website should include facts about soil quality, water quality, and ideas for what community members can do to improve the environment in the area, as well as additional resources on establishing best management practices.

It will be imperative to continually update the website as more testing is conducted throughout the duration of the project. This will allow community members to be informed about any changes in the water quality in the area so they are aware that the project is evolving.

The website should also include a page with activities for kids with items such as instructions for easy-to-make water quality experiments and printable activities such as water-themed crossword puzzles and pictures to color. As many survey respondents indicated a concern for water quality when thinking about the future of the next generation(s), these activities can be done together with children or grandchildren, promoting multigenerational awareness and interest in water quality issues and Badger Creek Lake Watershed, specifically.

Fact Sheets/Utility Bill Inserts

A series of fact sheets will be created and inserted into watershed residents' utility bills once every three months.

The fact sheet inserts should contain information on the project and progress updates. They should also include information on challenges for the project and proposed solutions. They should direct community members to the project website and offer contact information for experts who can answer questions and offer insight on utilizing best management practices. The inserts should also discuss seasonal trends in water quality, specific to the fluctuations in water detriments and how practices contribute differently during different seasons.

Survey respondents indicated strongly that they would utilize printed fact sheets or brochures to learn about water quality issues. By placing the fact sheet in a utility bill, there is the opportunity to reach a large number of people, increasing the likelihood that it will be read and will create a connection between water bills and water quality. Using photography showing both good and bad

examples, the fact sheets will address the factors contributing to Badger Creek Lake's water quality impairments, as well as opportunities for involvement and local ownership in the project.

Suggested topics for quarterly fact sheets:

Quarter 1:

- Opportunities for involvement in the Badger Creek Lake Watershed restoration project
 - Attend local field days and other watershed project events
 - Statewide opportunities, e.g. IOWATER volunteer water monitoring
- Progress made thus far and watershed project goals to be met

Quarter 2:

- Public recreational opportunities at Badger Creek Lake
 - How the lake is utilized recreationally and why it is a popular fishing spot
 - How outdoor recreation activities at Badger Creek Lake can generate economic benefits
- Overview of completed project goals
- Goals for the future of the Badger Creek Lake Watershed project

Quarter 3:

- Nutrient Management
 - General information about nutrient transport and its effect on water bodies
 - Information about the cost of nutrients and the amount of money being lost by allowing their transport into the lake and other water bodies
- Results from any testing within the watershed and Badger Creek Lake
- Progress made thus far and watershed project goals to be met

Quarter 4:

- Economics of soil
 - Soil loss rates in the Badger Creek Lake Watershed
 - Watershed impacts resulting from soil loss
 - Proposed solutions on a farm scale and on a watershed scale (grassed waterways, buffer strips, streambank stabilization, restricting livestock access to streams, etc.)
- Long term goals for the project
- Watershed project goals to be met

Watershed Signage

Watershed Boundary Signs

Signage will be created to mark the geographic boundaries of the watershed. The signs will say, "Now Entering/Exiting Badger Creek Lake Watershed" and will contain the logo, slogan and the website. The signs will provide a different perspective of the area and introduce the concept of watersheds to those who may not have previous knowledge of it. These signs will increase the visibility of, and generate curiosity about, the Badger Creek Lake Watershed project.



Road Signs

Small signs will be placed along well-traveled roads around the watershed and will contain sequential facts about soil quality. The signs will be reminiscent of the old Burma-Shave advertising road signs and placed in groups of four or five. The first three or four signs will contain the featured message with the last containing the logo and slogan (and possibly the badger mascot) for the watershed project. Each set of signs will be different, to engage people and generate curiosity about the project. Signs can include information about soil and water quality.

One example:

Muddy water

is not so charming

Protect your soil

keep on farming!

Save the soil. Save the lake.

Badger Creek Lake Watershed project



Yard Signs

As knowledge of the watershed project grows, those community members who have made positive changes in their conservation practices should be recognized. Signs will be created for people to put in their yards so that they are acknowledged as good conservationists.

The signs can read:

I installed (conservation practice) to save my soil.

Save the soil. Save the lake.

Find out more at *website.com*



These signs will be brief so that the message is easily transferred as travelers pass by. They will contain the logo, slogan and website for the project. These signs will motivate people to practice conservation on their land and to be acknowledged for their good work. In addition to their yard sign, they will be recognized on the website, which will include their contact information (with their permission) so that community members can easily ask questions or exchange information with someone who has installed conservation practices on their own land. This will encourage residents to network with one another and strengthen community awareness of the watershed improvement project.

Watershed Resident Involvement

Area Churches and Service Groups

Forty-one 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. 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 farmers/residents in the watershed 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 area churches, including: Trinity Lutheran in Van Meter and Van Meter Baptist Church, Van Meter United Methodist Church, De Soto Calvary Baptist and Methodist churches, and Booneville United Methodist Church.

Inviting local pastors to an SWCD or watershed meeting is highly recommended. These individuals are generally well-respected community members; getting them “on board” with the watershed project can lead to increased discussion and informed dialogue in their local congregations.

Involving church youth groups and community youth organizations, such as Boy Scouts, Girl Scouts, and 4-H, in the watershed project helps bring awareness to the issues involving the lake to new, younger audiences. This will also help engage the next generation of Badger Creek Lake water quality caretakers. These groups can plan service projects that help the lake such as trash pick up days, painting picnic tables or restrooms, etc. Furthermore, these service-oriented groups can also help with door-to-door promotion and distribution of print materials within the watershed.

Photography Contest

A “four seasons” amateur photography contest would promote the natural beauty of Badger Creek Lake, highlight conservation efforts towards improved water quality, and encourage visitors to the area year round. Harrison County has successfully sponsored a similar contest, and the watershed project team should consult with them for advice and recommendations in planning this event.

Community Events and Field Day

Survey respondents answered “firsthand observation” and “conversations with other people” as two ways in which they were most likely to change their minds. Acknowledging these responses, the campaign will include several community events offering opportunities for watershed residents to gather together and discuss the challenges faced in Badger Creek Lake Watershed:

- A general awareness “kick off” event for the residents of Badger Creek Lake Watershed, held at the Badger Creek Lake State Recreation Area, will be the first step in creating a network for community members to gather together and discuss their local water quality. This event will be dedicated to the quality of the water and soil in the area with the goal of generating interest and excitement about the project. To generate the largest amount of interest possible, this event should be marketed as a free, family-oriented event (e.g. community picnic at Badger Creek Lake) rather than a “watershed meeting.”
- An Iowa Learning Farms field day will be held on a watershed resident’s farm who is demonstrating conservation practices such as no-till, strip-till, cover crops, wetlands, etc. This field day is a chance for farmers and watershed residents to visit a farm and learn about various conservation practices that reduce erosion and improve water quality. Attendees will have the opportunity to visit with one or more local farmers about their management practices as well as an expert (ISU, NRCS, DNR, etc.).
- A 5K/10K fun run can be held at the lake or within the watershed. The event can start or end at Badger Creek Lake, or be held in its entirety at the lake (if trails allow). T-shirts with the watershed logo and project info (website) can be given away to participants. The fun run offers a different usage of the lake area other than fishing and brings a new audience to the lake.

- The DNR's IOWATER program is a statewide initiative that trains citizens to be volunteer water quality monitors around the state. The introductory IOWATER training workshop is an 8-hour program that trains local personnel to monitor a variety of physical and chemical parameters of local streams, rivers, and lakes. An IOWATER workshop could be held locally to train both teachers from surrounding schools as well as interested local citizens.
- A “closing” event should be held at the end of the campaign to celebrate the progress made and recognize watershed residents who were key in achieving the campaign goals. This could be a simple ceremony to award certificates of recognition and publicity opportunities, and could be held in conjunction with the annual Madison SWCD Winter Conservation Banquet. All of the events provide opportunities for watershed residents to network, talk one-on-one and unite as a “watershed community.”

The Iowa Learning Farms Conservation Station should be at the kick-off event, the field day or the fun run. The Conservation Station is an effective tool for demonstrating the benefits of conservation land practices on soil and water quality and brings people together to address conservation issues. The rainfall simulator component of the Conservation Station contains an effective visual display that demonstrates the effects of different land management choices (urban and rural) and their impacts on soil loss as it relates to water quality. The Conservation Station also contains a learning lab with various lessons that can be changed depending on the targeted audience and the message of the event. A specific educational module could be created for this event tailored to the issues surrounding the Badger Creek Lake Watershed, particularly addressing the issues of soil productivity, erosion and the connectedness of soil and water quality to the local community.

Youth Outdoor Classroom

Iowa Learning Farms will help coordinate and host a youth outdoor classroom day at Badger Creek Lake for 4th and 5th grade students of De Soto Intermediate School (Adel-De Soto-Minburn Community School District) and Van Meter Elementary School.

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. This event will utilize the educational materials developed for Badger Creek Lake, raising an appreciation for the watershed and local communities, while also raising awareness as to the 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 Ben Gleason and conservation-minded partners to lead learning stations during the day-long event. Partners could include: Madison County Conservation Board, Madison County ISU Extension and Outreach personnel, local DNR/NRCS staff, local SWCD commissioners, local Farm Bureau personnel and the

Adel-De Soto-Minburn High School Ecology Club. Students would be divided into groups to experience the many different learning stations. Student groups rotate to each of the learning stations, spending approximately 40 minutes at each stop, participating in activities such as nature hikes/scavenger hunts, fish species identification, birds and furs, geocaching, tree planting and water quality monitoring.

Time Frame

First Quarter Activities	<ul style="list-style-type: none"> • Create website • Finalize logo design • General project information brochure • Introduce photography contest • Utility bill/church bulletin fact sheet #1
Spring/Summer Quarter Activities	<ul style="list-style-type: none"> • Kick-off event for residents (community picnic) • Local IOWATER introductory workshop • Watershed boundary signs • Sequential roadside signs • Utility bill/church bulletin fact sheet #2
Summer Quarter Activities	<ul style="list-style-type: none"> • Iowa Learning Farms field day • Yard signs • Utility bill/church bulletin fact sheet #3 • 5/10K fun run at the lake
Fall/Winter Quarter Activities	<ul style="list-style-type: none"> • Yard signs • Utility bill/church bulletin fact sheet #4 • Youth outdoor classroom (Oct) • Closing event for residents

WATER ISSUES IN IOWA

Badger Creek Lake 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 Badger Creek Watershed group.

Funded by Badger Creek Lake 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 better understand the 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 survey was based on a water issues survey that was administered to the four states in the Heartland Region in 2007. Using a similar survey, local watershed groups are able to compare their findings to the statewide findings. Badger Creek Lake Watershed has 356 residents. The watershed coordinator provided a complete watershed mailing list and we sent surveys to all 356 residents.

The survey was conducted using a modified Dillman Tailored Design Method. A four-step process was followed consisting of 1) the watershed group announced the survey in their newsletters that goes out to all residents in the watershed; 2) a first mailing of survey and cover letter explaining the purpose of the survey; 3) a reminder postcard sent two weeks later to non-respondents; and 4) a second mailing of the survey to remaining non-respondents.

Of the 356 surveys that were mailed, 7 were undeliverable, and 117 were completed and returned. As a result, the overall response rate was 34 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=112)

	All
A structure that stores water	2%
An area of land that drains to a common body of water	85%
A basin to hold extra water to prevent flooding	11%
An underground water supply	2%

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=34)	29%
Rural water system (n=94)	80%
River, stream, pond, or lake (individual system) (n=1)	1%
City water system (n=9)	8%
Purchase bottled water (n=7)	6%
Produce own with reverse osmosis (RO) system (n=4)	3%
Don't know (n=0)	0%

3. Do you feel that your home drinking water is safe to drink? (n=116)

	All
Yes	95%
No	5%

4. In your opinion, what is the *quality of groundwater* (sources of well water) in your area? (n=116)

	All	Non-Farming	Farming
Good	41%	37%	46%
Fair	28%	29%	29%
Poor	12%	10%	15%
Don't know	19%	24%	10%

5. In your opinion, what is the *quality of surface waters* (rivers, streams, lakes) where you live? (n=117)

	All	Non-Farming	Farming
Good	23%	20%	29%
Fair	43%	45%	37%
Poor	22%	25%	19%
Don't know	12%	10%	15%

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

	All	Non-Farming	Farming
High bacteria counts (n=111)			
Know	7%	4%	10%
Suspect	27%	28%	27%
Not a Problem	23%	21%	28%
Don't know	43%	47%	35%
Fertilizer/nitrates (n=117)			
Know	14%	15%	12%
Suspect	47%	51%	39%
Not a Problem	14%	8%	24%
Don't know	25%	26%	25%
Heavy Metals (e.g., lead, arsenic) (n=110)			
Know	0%	0%	0%
Suspect	10%	10%	10%
Not a Problem	28%	21%	44%
Don't know	62%	69%	46%
Hardness (e.g., calcium, other minerals) (n=112)			
Know	33%	31%	34%
Suspect	27%	25%	32%
Not a Problem	12%	12%	12%
Don't know	28%	32%	22%

Pesticides (n=115)	All	Non-Farming	Farming
Know	9%	8%	10%
Suspect	38%	44%	29%
Not a Problem	15%	13%	20%
Don't know	38%	35%	41%
Animal waste (n=115)			
Know	11%	10%	12%
Suspect	30%	35%	22%
Not a Problem	27%	20%	42%
Don't know	32%	35%	24%
Septic Systems (n=112)			
Know	3%	4%	0%
Suspect	18%	15%	25%
Not a Problem	41%	35%	53%
Don't know	38%	46%	22%
Pharmaceuticals (i.e. antibiotics, personal care products) (n=111)			
Know	1%	0%	2%
Suspect	14%	16%	10%
Not a Problem	35%	32%	40%
Don't know	50%	52%	48%

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=73)	62%	66%	56%
Erosion from roads and/or construction sites (n=24)	21%	21%	20%
Wastes from urban areas (n=42)	36%	30%	46%
Industry (n=27)	23%	23%	24%
Wild animals/pets (n=2)	2%	3%	0%
Livestock and/or poultry operations (n=43)	37%	45%	24%
Septic systems (n=11)	9%	11%	7%
Urban stormwater runoff (n=47)	40%	36%	51%
Landfills (n=12)	10%	11%	7%
Wastewater treatment plants (n=13)	11%	12%	10%
Streambank erosion (n=51)	44%	43%	46%

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=82)	70%	74%	61%
Erosion from roads and/or construction sites (n=28)	24%	23%	22%
Wastes from urban areas (n=11)	9%	8%	12%
Industry (n=6)	5%	6%	2%
Wild animals/pets (n=6)	5%	7%	2%
Livestock and/or poultry operations (n=41)	35%	40%	29%
Septic systems (n=19)	16%	18%	15%
Urban stormwater runoff (n=14)	12%	12%	12%
Landfills (n=6)	5%	7%	2%
Wastewater treatment plants (n=7)	6%	8%	2%
Streambank erosion (n=56)	48%	44%	56%

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=3)	3%
Directly into a nearby creek (n=71)	61%
Roadside ditch and then stream or river (n=63)	54%
It gets absorbed into the land (n=72)	62%
Don't know (n=1)	1%

Soil Erosion Issues

10. Do you have any soil erosion on your property? (n=113)

	All	Non-farming	Farming
None	20%	30%	3%
A little	51%	51%	67%
Moderate	23%	22%	25%
A lot	4%	4%	5%
Don't know	2%	2%	0%

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)	24%
Leaving vegetation on the ground in garden (n=33)	28%
Following the natural contours of the land (either farmland or in landscaping) (n=46)	39%
Planted windbreaks (n=25)	21%
Grassed waterway or grass strip around garden (n=54)	46%
Placing mulch on all exposed soil on land (n=25)	21%
Use of native plantings to protect streambanks (n=22)	19%
Cover crops (n=17)	15%
We don't do anything (n=11)	9%
Not applicable (n=11)	9%

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=28)	24%
Reduced your water consumption (i.e. stopped watering lawn) (n=35)	30%
Reduced your use of pesticides, fertilizers or other chemicals (n=32)	27%
Increased residue on row crop acres (n=26)	22%
Addressed erosion on your land (n=43)	78%
Pumped your septic system (n=34)	29%
Tested your drinking water (n=12)	10%
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=116)

	All	Non-Farming	Farming
<u>Not enough emphasis</u> is placed on environmental protection	41%	46%	32%
Environmental protection receives about the <u>right amount of emphasis</u>	29%	28%	32%
<u>Too much emphasis</u> is placed on environmental protection	10%	7%	17%
Don't know	20%	19%	19%

14. In your opinion, who should be most responsible for protecting water quality in your community? (SELECT ONE) (n=111)

	All	Non-Farming	Farming
Environmental Protection Agency (EPA)	2%	3%	0%
Natural Resources Conservation Service (NRCS)	7%	6%	10%
Iowa Department of Agriculture and Land Stewardship (IDALS)	3%	1%	5%
Iowa Department of Natural Resources (IDNR)	11%	14%	5%
Local Soil and Water Conservation District (SWCD)	21%	22%	16%
Your county, city, or town	4%	7%	0%
Individual citizens without land	1%	0%	0%
Landowners	38%	35%	46%
Don't know	13%	12%	18%
Other: All of the above	1%	0%	2.4%
Not EPA	1.7%	2.7%	0%
Not NRCS	1.7%	2.7%	0%
NRCS, IDALS	1%	0%	2.4%

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=80)	5	4	3 	2	1	2.74	2.63	2.93
State government (DNR, IDALS) (n=83)	5	4	3 	2	1	2.87	2.96	2.69
Your county, city, or town govt. (n=76)	5	4	3 	2	1	2.72	2.70	2.75
Soil and water conservation district (SWCD) (n=89)	5	4	 3	2	1	3.27	3.13	3.63
Your community (n=72)	5	4	3 	2	1	2.79	2.78	2.88
The landowners (n=90)	5	4	 3	2	1	3.30	3.06	3.73
Individual citizens (n=73)	5	4	3 	2	1	2.90	2.98	2.74

Water Quality Education

16. Have you received water quality information from the following sources?
(CHECK ALL THAT APPLY)

	All	Non-Farming	Farming
Television (n=37)	32%	29%	37%
Internet (n=29)	25%	23%	29%
Newspapers (n=43)	37%	36%	39%
Radio (n=29)	25%	18%	39%
Extension Service (n=46)	40%	30%	56%
Iowa Learning Farms (n=11)	9%	10%	10%
Universities (n=17)	15%	8%	27%
Schools (elementary and secondary) (n=2)	2%	3%	0%
Agricultural trade/commodity groups (n=20)	17%	11%	29%
Environmental agencies (government) (n=24)	21%	14%	32%
Environmental agencies (citizen groups) (n=12)	10%	14%	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=22)	19%
Animal manure and waste management (n=11)	9%
Drinking water and human health (n=30)	26%
Environmental restoration (n=21)	18%
Nutrients and pesticide management (n=17)	15%
Pollution assessment and prevention (n=14)	12%
Water conservation (n=9)	8%
Water policy and economics (n=13)	11%
Watershed management (n=39)	33%
Private well and septic system management (n=40)	34%
Small acreage water and land management (n=37)	32%
Home and garden landscaping for water quality (n=28)	24%
Other: Assistance for landowners	1%
Reusing grey water	1%

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=28)	24%	25%	24%
Field days (n=7)	6%	0%	17%
Conversations with other people (n=41)	35%	34%	39%
Attending public meetings or participating in volunteer activities (n=12)	10%	10%	12%
Classes or presentations (n=15)	13%	16%	7%
Speech by an elected representative (n=1)	1%	1%	0%
Firsthand observation (n=68)	58%	56%	63%
Financial considerations (n=13)	11%	10%	15%
Concern about the future for your children/grandchildren (n=41)	35%	36%	34%

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=79)	68%	69%	66%
Visit a website for information and tips (n=44)	38%	43%	32%
Look at a demonstration or display (n=37)	32%	23%	49%
Watch a video (n=25)	21%	18%	29%
Volunteer in a one-time learning activity (e.g. water monitoring, streamside restoration or education) (n=13)	11%	14%	7%
Take a course for certification or credit (n=10)	9%	12%	2%
Get trained for a regular volunteer position (e.g. as a watershed steward or a water quality monitor) (n=6)	5%	7%	2%
Ask for a home, farming, or workplace water practices assessment (n=16)	14%	14%	12%
Attend a fair or festival (n=20)	17%	22%	7%

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=4)	3%
Volunteer water quality monitoring (n=0)	0%
Lake or river protection groups (n=4)	3%
Town conservation commissions (n=1)	1%
Other water or environmental protection groups (n=10)	9%

Please answer the following as they pertain to you

21. Where do you live? (n=114)

	All
Inside city limits, not engaged in farming	8%
Outside city limits, not engaged in farming	56%
Inside city limits, currently engaged in farming	3%
Outside city limits, currently engaged in farming	33%

22. Approximately what is the population of your community? (n=62)

Average 6069

23. How long have you lived in in your area? (n=114)

Average 27 years

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

	All
Frequent local shops and restaurants (n=104)	
<i>Never</i>	4%
<i>Sometimes</i>	67%
<i>Always</i>	29%
Attend local sporting events (n=93)	
<i>Never</i>	24%
<i>Sometimes</i>	64%
<i>Always</i>	12%
Active member of local church (n=96)	
<i>Never</i>	30%
<i>Sometimes</i>	28%
<i>Always</i>	42%
Participate in local social clubs (n=81)	
<i>Never</i>	54%
<i>Sometimes</i>	35%
<i>Always</i>	11%
Participate in environmental/garden club (n=74)	
<i>Never</i>	86%
<i>Sometimes</i>	11%
<i>Always</i>	3%
Attend school events (n=93)	
<i>Never</i>	30%
<i>Sometimes</i>	55%
<i>Always</i>	15%

25. What is your gender? (n=115)

	All
Male	72%
Female	28%

26. What is your age? (n=111)

Average of 56 years old (range 23-89)

27. How many people live in your household? (n=117)

# of individuals	Individuals 18 and over	Individuals under 18
0	---	73%
1	16%	10%
2	69%	15%
3	14%	1%
4	1%	1%
5	---	---

28. What level of education you have completed? (n=114)

	All
Less than high school or some high school	1%
High school graduate	26%
Some college or vocational training	27%
College graduate	36%
Advanced college degree	10%

29. What is your current occupation? (n=109)

	All
Farming	14%
Manufacturing/Contracting/Transportation	7%
Education	3%
Technology/Communications	6%
Management/Retail	15%
Government	3%
Retired	26%
Professional (Lawyer/Doctor/Insurance)	16%
In the home	3%