

Cedar River Watershed Survey Results

Recent floods have caused billions of dollars in damages in the Cedar River watershed. While these floods spurred local collaborative efforts (e.g., the Cedar River Watershed Coalition) to address flood recovery and mitigation in the watershed, as memories of the flood fade it will become harder to achieve real and effective results. The challenge now is to determine how to translate these watershed-wide efforts into successful projects that provide flood protection and conservation benefits for your community.

The Environmental Law Institute and the University of North Carolina, in collaboration with a Cedar River Watershed Working Group, developed and disseminated a brief web-survey to help us understand the main challenges facing the Cedar River Watershed and identify and prioritize projects to address these challenges. The survey questions were designed to help us determine how to motivate people to become more involved and invested in efforts to improve the overall health of the watershed. The survey was divided into four parts: I) Background, II) Challenges and Current Action, III) Getting Involved and IV) Priorities for Action, as summarized below.

The Cedar River Working Group is comprised of representatives from local, regional, and state natural resource, emergency management, planning, and farm agencies and organizations from across the watershed (See our website at www.eli.org/Program_Areas/natural_hazard_mitigation.cfm).

Part I: Background

This section of the survey included questions to identify the occupation of survey respondents and whether or not they are actively involved in conservation activities in the Cedar River watershed.

Who responded to the survey?

The survey was sent to farmers, landowners, emergency managers, elected officials, soil and water conservation districts, land use planners, county conservation boards, watershed project coordinators, non-profit organizations, state agencies, and federal agencies across the watershed. We received 267 responses, 193 of which were completed in full. As shown in Figure 1, respondents came from a wide variety of professions, the most prominent of which was farming (30 responses), but planning (25 responses); restoration or management of floodplains, wetlands, or wildlife habitat (24 responses); and research and education (19 responses) were also well represented. Other respondents included engineers, volunteer/planning taskforce members, city or state government officials, agricultural services professionals, regulators, and conservationists.











#	Answer	Bar	Response	%
1	Farming		30	13%
2	Agricultural services		8	4%
3	Planning		25	11%
4	Emergency management		7	3%
5	Restoration or management of floodplains, wetlands or wildlife habitat		24	11%
6	Park manager		6	3%
7	Elected official		18	8%
8	Regulator		9	4%
9	Research/academic		13	6%
10	Other (please specify)		84	38%
	Total		224	

Figure 1: Occupation of respondents

Respondents were dispersed throughout the Cedar River Watershed, with 34% working in the Lower Cedar River, 26% in the Upper Cedar River, 21% in the Middle Cedar River and 7% working in the entire Cedar River watershed (Figure 2). The remaining 12% of respondents do not work in the watershed.






#	Answer	Bar	Response	%
1	Upper Cedar River		56	26%
2	Middle Cedar River		47	21%
3	Lower Cedar River		75	34%
4	Entire Cedar River Watershed		15	7%
5	I do not work in the Cedar River Watershed		26	12%
	Total		219	

Figure 2: Where respondents are working

Two-thirds of respondents have personally been involved in disaster response recovery (Figure 3).



#	Answer	Bar	Response	%
1	Yes		140	68%
2	No		66	32%
	Total		206	

Figure 3: Respondents personal involvement in disaster response or recovery

Slightly more, 72%, are actively involved with projects in the watershed, individually or through their organization (Figure 4).



#	Answer	Bar	Response	%
1	Yes		136	72%
2	No		53	28%
	Total		189	

Figure 4: Respondents involvement with projects in the watershed

Who is active in the Basin and where?

The survey respondents provided information on the kinds of activities taking place in the watershed, where projects are taking place, and what organizations are involved. We asked participants to tell us whether or not they had been involved in a series of general activities within the past five years, including watershed planning, protecting/restoring wetlands or wildlife habitat, improving water quality, reducing flood risks, farmland conservation, farmland best management practices, and/or raising awareness about challenges in the watershed (Figure 5). Watershed planning, protecting/restoring wetlands or wildlife habitat, improving water quality, reducing flood risks, and raising awareness about challenges in the watershed were each selected by more than 50% of the respondents. Raising awareness was the most common response, selected by more than 67% of respondents. Farmland conservation and farmland best management practices were selected by 36% and 38% of respondents, respectively.









#	Answer	Bar	Response	%
1	Watershed planning		106	55%
2	Protecting/restoring wetlands or wildlife habitat		99	51%
3	Improving water quality		117	61%
4	Reducing flood risks		98	51%
5	Farmland conservation		70	36%
6	Farmland best management practices		73	38%
7	Raising awareness about challenges in the watershed		130	67%
8	None of the above		15	8%

Figure 5: Respondents' involvement in watershed activities in the past five years

When asked in what part of the watershed these activities were taking place, participants indicated that roughly one third of these activities were located in the upper watershed and one third in the lower watershed (Figure 6). Another 20% of the activities took place in the middle watershed and 17% spanned the entire watershed.





#	Answer	Bar	Response	%
1	Upper watershed		53	31%
2	Middle watershed		35	20%
3	Lower watershed		55	32%
4	Entire watershed		29	17%
	Total		172	

Figure 6: Where respondents' projects were located

Respondents listed over a hundred different groups with which they worked. Most common were city or municipal governments and local soil and watershed conservation districts. Local conservation groups were also mentioned frequently, with some of the most common being the Indian Creek Watershed Management Authority, Cedar River Watershed Coalition, Upper Cedar Watershed Management Authority, and Corridor Conservation Coalition. Several respondents also mentioned federal agencies such as the U.S. Army Corps of Engineers, and national environmental organizations such as The Nature Conservancy and Ducks Unlimited. See Appendix B for the entire list.

Part II: Challenges and Current Action

This section of the survey included questions to identify the major challenges facing the watershed and how those challenges could be addressed. This section also includes answers to questions about existing watershed priorities and the most significant outcomes of previous watershed activities.

What challenges have been identified?

Respondents ranked the challenges facing the Cedar River watershed and named balancing agricultural productivity with natural resource protection the most significant challenge (Figure 7). Loss of natural habitats like wetlands and floodplains, declining water quality, and flooding came in as the second, third, and fourth most significant challenges, respectively. Loss of Conservation Reserve Program (CRP) lands and balancing urban development with natural resource protection followed. Participants ranked drought as the least significant challenge facing the watershed right now. Several participants wrote in additional challenges, including a lack of regional authority to take meaningful action, poor interagency communication and cooperation, a lack of public awareness or concern except when there is an emergency or crisis, and the voluntary nature of non-point source nutrient run-off controls.

#	Answer	1	2	3	4	5	6	7	8	Total Responses
1	Declining water quality	27	40	30	38	32	22	13	1	203
2	Loss of natural habitats (e.g., wetlands and floodplains)	36	40	47	28	19	19	13	1	203
3	Loss of Conservation Reserve Program (CRP) lands	4	20	28	33	54	36	27	1	203
4	Drought	1	5	9	8	19	41	108	12	203
5	Flooding	53	25	19	22	28	38	16	2	203
6	Balancing urban development with natural resource protection	22	30	29	33	31	35	19	4	203
7	Balancing agricultural productivity with natural resource protection	50	41	37	40	19	10	4	2	203
8	Other (please specify)	9	1	4	1	0	3	3	181	202
	Total	202	202	203	203	202	204	203	204	-

Figure 7: The biggest challenges facing the watershed today.

How should challenges be addressed?

Respondents offered their opinions on how best to address the major challenges facing the watershed. The survey asked respondents to rank approaches for the various challenges identified above. The identified approaches included purchasing conservation easements, adopting best management practices, raising awareness, creating wetland mitigation banks, building reservoirs, adopting new regulations, and restoring natural habitats (Figure 8).

#	Question	Purchase conservation easements	Adopt best management practices	Raise awareness	Create wetland mitigation banks	Build reservoirs	Adopt new regulations	Restore natural habitats	None of these	Total Responses	Mean
1	Declining water quality	10	89	18	11	4	39	26	2	199	3.71
2	Loss of natural habitats	53	16	12	15	0	12	84	6	198	4.49
3	Loss of CRP lands	55	26	23	2	1	34	27	23	191	4.01
4	Drought	1	63	34	6	17	2	18	53	194	4.64
5	Flooding	16	47	15	24	16	19	44	16	197	4.47
6	Balancing development with resource protection	17	50	35	4	2	73	11	5	197	4.08
7	Balancing agriculture with resource protection	16	88	25	3	1	50	9	5	197	3.49
8	Other, please specify	0	5	2	0	1	3	1	10	22	5.73

Figure 8: Respondents' suggestions for the best way to address the identified challenges.

To address the challenge of declining water quality, nearly half of respondents (89 out of 199) recommended adopting farmland best management practices. Thirty-nine respondents recommended adopting new regulations, twenty-six opted for restoring natural habitats, and eighteen were in favor of raising awareness. Roughly ten respondents chose purchasing conservation easements or creating wetland mitigation banks. The least popular method was building reservoirs with only four selections.

To address loss of natural habitat, nearly half of respondents recommended restoring natural habitats, and a quarter recommended purchasing conservation easements. Adopting best management practices, raising awareness, creating wetland mitigation banks and adopting new regulations were all selected by 12 – 16 respondents.

When it came to the best way to address loss of CRP lands, participants suggested a number of possible approaches. Respondents agreed that building reservoirs and creating wetland mitigation banks were not the most effective approaches, but adopting best management practices, raising awareness, adopting new regulations and restoring natural habitat were all similarly popular responses. The most popular option, garnering roughly one quarter of responses, was purchasing conservation easements.

Responses to how best to address flooding were similarly diverse. The most common responses were adopting best management practices and restoring natural habitats, followed by a near even split between purchasing conservation easements, raising awareness, building reservoirs, adopting new regulations, and creating wetland mitigation banks.

Respondents strongly supported adopting best management practices to address droughts, as well as raising awareness, and agreed that purchasing conservation easements and adopting new regulations were unlikely to help.

In order to balance agriculture with resource protection, respondents recommended adopting best management practices and new regulations. Respondents had similar suggestions for how to balance development with resource protection, recommending adopting new regulations, followed by adopting best management practices and raising awareness.

Participants also wrote in a number of possible approaches to addressing watershed challenges, including removing agricultural subsidies, improving information and the quality of floodplain maps, and taking a system-wide approach that includes multiple strategies (see Appendix B for full list).

Respondents were also asked to select funding sources that should be tapped to implement these projects (Figure 9). The most common response, which 92% of respondents recommended, was state grants. Another 88% of respondents chose federal grants. Local grants, Iowa’s Water and Land Legacy amendment, if adopted, and private foundations were each chosen by roughly 70% of respondents. Half of respondents recommended tapping into private investment funds.

#	Answer	Bar	Response	%
1	Federal grants (e.g., Wetlands Reserve Program)		162	88%
2	State grants (e.g., Resources Enhancement and Protection Program, Watershed Improvement Review Board)		169	92%
3	Local grants		129	70%
4	Iowa's Water and Land Legacy amendment, if adopted		133	72%
5	Private foundations		124	67%
6	Private investment fund		96	52%
7	Other (Please specify)		22	12%

Figure 9: The funding sources should be tapped to implement projects in the watershed.

What is being done?

Survey respondents reported whether or not they incorporate watershed improvement priorities into their work, and, if so, what specific priorities are they following (see Appendix B for full list). The majority of respondents (57%) were not aware of any formal watershed improvement priorities that have been adopted for the Cedar River watershed (Figure 10). Of those respondents aware of formal watershed improvement priorities, 73% stated that they incorporate the priorities in their work (Figure 11). Reasons for not incorporating the priorities included disagreeing with them, those priorities being outside of the respondent’s direct sphere of influence, and feeling that only highly visible practices receive funding.

#	Answer	Bar	Response	%
1	Yes		80	43%
2	No		105	57%
	Total		185	

Figure 10: Respondents' awareness of existing watershed goals.

#	Answer	Bar	Response	%
1	Yes		53	73%
2	No, (If no, please explain briefly why not)		20	27%
	Total		73	

Figure 11: Do you incorporate improvement priorities in your work?

The most common watershed priorities listed by survey participants included Best Management Practices (BMPs), such as buffer strips, wind breaks, cover crops, habitat improvement, riparian filters,

no-till farming, terraces, and crop rotations. Respondents' also commonly indicated that they were incorporating priorities related to improving water quality in their work, with nearly twenty responses. Water quality improvement priorities included Nutrient Reduction Strategies, preventative maintenance procedures to reduce sanitary sewer overflows, and use of Integrated Best Management to reduce commercial fertilizer and manure runoff. Roughly ten respondents cited incorporating planning or regulatory priorities such as sub-watershed planning, comprehensive planning, funding land acquisition, developing TMDLs, enforcing existing regulations, and adding additional restrictions to local floodplain ordinances. Finally, several respondents cited raising awareness and improving public education as improvement priorities they have incorporated into their work.

We asked participants to tell us, in their opinion, what were the most significant outcomes of their work (see Appendix B for full list). Raising awareness about the challenges facing the watershed was by far the most common response with over forty respondents indicating this was a significant outcome. Similarly, several respondents mentioned building relationships between different parties, and collaborating and engaging with landowners and colleagues. Roughly thirty respondents told us that the successful protection or restoration of land, including converting floodplain fields to forests, buying out farm land and restoring wetlands, and improving wildlife habitat, were the most significant outcomes of their work. Roughly fifteen respondents listed improved water quality as the most significant outcome of their work but did not specify how this was achieved. Finally, several respondents listed the development of watershed management plans and determining target locations for BMPs as their most significant outcomes.

Part III: Getting Involved

This section of the survey included questions designed to assess factors that motivated people to get involved in watershed improvement projects.

What are the best ways to get people and groups involved?

As many respondents voiced throughout the survey, public awareness and participation are essential to the success of watershed improvement projects. Respondents offered their ideas on what might encourage or discourage groups to get involved, and how they have gained the support of other groups and the public. We first asked respondents to reflect on what motivated them to get involved in the watershed (Figure 12). For 66% of respondents, it was a general interest in improving the Cedar River Watershed. Another 42% of participants were motivated to get involved after a recent flooding event. Availability of funding and involvement of people and groups that the respondents trust were each selected by nearly 30% of respondents. A regulatory requirement motivated 16% of respondents to get involved. Only ten respondents (6%) became involved at the suggestion of a friend or colleague. Finally, 9 participants wrote in that they became involved as part of their jobs, and another 15 respondents wrote in that they became involved out of a desire to improve public or private lands and a recognition of the need to do so.

#	Answer	Bar	Response	%
1	Recent flooding event		70	42%
2	Regulatory requirement		26	16%
3	Availability of funding		45	27%
4	Interest in improving the Cedar River watershed		111	66%
5	Involvement of people I trust		48	29%
6	Suggestion of a friend or colleague		10	6%
7	Other (please specify)		35	21%

Figure 12: What motivated respondents to get involved.

Respondents stated that they would be discouraged from participating in watershed improvement projects by poor leadership (50%), lack of funding, lack of clear benefits (both 44%), questionable outcomes (40%), lack of time to devote to the project (32%) and distrust of people or organizations involved (31%) (Figure 13). Lack of action; clear, realistic goals and objectives; and strategic use of funds were among the write-in responses to this question.

#	Answer	Bar	Response	%
1	Lack of funding		79	44%
2	Poor leadership		90	50%
3	No time to devote to the project		57	32%
4	Project doesn't offer clear benefits		80	44%
5	Distrust of people or organizations involved		56	31%
6	Questionable outcomes		72	40%
7	Other (please specify)		21	12%

Figure 13: What discourages participation.

Respondents drew from their own experiences to share how they gain the support of other groups and the public (Figures 14 and 15). In soliciting the support of other groups, the majority of respondents (86%) made personal contact with potential partners. Also common response was highlighting common goals or mission (67%). Less common responses included asking existing partners to reach out to their contacts (44%), providing funding to potential partners (42%), and highlighting a track record of success (38%). Respondents also wrote-in responses that included promoting education, providing technical assistance, bringing in the Extension, and proving the project will get accomplished. In order to gain the support of the public, respondents were likely to use in-person meetings (66%), reach out through their partners and contacts (64%), and engage community leaders (59%) and elected officials (52%). Respondents also said they seek to build a broad coalition to gain support (45%) and use broad media/messaging campaigns (43%). Less common was raising awareness among youth (20%) and some respondents stated that they generally do not reach out to the public for their projects (8% or 10 respondents).

#	Answer	Bar	Response	%
1	Make personal contact with potential partners		112	86%
2	Provide funding		55	42%
3	Highlight common goals or mission		87	67%
4	Ask existing partners to reach out to their contacts		57	44%
5	Highlight track record of success		50	38%
6	Other (Please specify)		10	8%

Figure 14: How respondents' get other groups to support projects.

#	Answer	Bar	Response	%
1	Broad media/messaging campaigns		56	43%
2	In-person meetings		87	66%
3	Reach out through partners and contacts		84	64%
4	Engage community leaders		77	59%
5	Build a broad coalition		59	45%
6	Engage elected officials		68	52%
7	Raise awareness among youth		26	20%
8	I do not generally reach out to the public for my projects		10	8%
9	Other (Please specify)		8	6%

Figure 15: How groups get the public to support their projects.

How to strengthen local capacity

Respondents offered their opinions on how to strengthen local capacity by ranking the key attributes of the organizations successfully implementing conservation or restoration projects, listing what organizations or individuals should be involved for a project to be successful, and indicating what they think is needed to strengthen the capacity of groups working to improve the health of the Cedar River watershed. The respondents indicated that successful organizations demonstrated results (72% of respondents selected this option) and have sufficient funding (69%) (Figure 16). More than half of respondents also found that successful organizations engage broad coalitions and have dynamic leaders (58% and 51%, respectively). Slightly less common responses were having a strong track record of working in the watershed (46%) and being well known in the watershed (31%). In write-in responses, respondents listed willing cooperation from landowners and locals, publicity, and strong relationships with those in the agriculture sector were important factors.

#	Answer	Bar	Response	%
1	Have sufficient funding		124	69%
2	Demonstrate results		129	72%
3	Engage broad coalitions		104	58%
4	Are well known in the watershed		55	31%
5	Have dynamic leaders		92	51%
6	Have a strong track record of working in the watershed		83	46%
7	Other (please specify)		16	9%

Figure 16: The key attributes of successful organizations.

Participant responses indicate that broad participation in watershed projects was required for projects to be successful (Figure 17). Around 90% of respondents indicated that soil and water conservation

districts, farmers/farmer organizations, and landowners/developers should be involved in order to ensure project success. Roughly 80% of respondents said county conservation boards and watershed organizations were important to the success of a project. Elected officials, non-profit conservation organizations, state agencies and regional planners/Councils of Government were each chosen by between 60 and 68% of respondents. Even the least common option selected, federal agencies, was still selected by half of respondents – showing that respondents generally found value in the inclusion of a range of stakeholders and groups. As one respondent stated, “Not every project needs every entity listed above, but they’re all important entities somewhere in the Basin.”

When asked how to strengthen the capacity of groups working to improve the health of the watershed, increasing sustained funding and developing watershed plans with measurable goals were listed as the most important, with providing technical assistance and leadership training following (Figure 18). Other responses submitted include improving the ability of local groups to implement BMPs and other positive changes, improving coordination, and increasing the number of dedicated staff.

#	Answer	Bar	Response	%
1	Elected officials		113	60%
2	Soil and water conservation districts		165	88%
3	County conservation boards		149	79%
4	Farmers/farmer organizations		168	89%
5	Landowners/developers		173	92%
6	Non-profit conservation organizations		122	65%
7	State agencies		128	68%
8	Federal agencies		94	50%
9	Watershed organizations		150	80%
10	Regional planners/Councils of Government		117	62%
11	Other (Please specify)		20	11%

Figure 17: The organizations that need to be involved in watershed projects.

#	Question	Least Important 1	2	3	4	Most Important 5	Total Responses	Mean
1	Funding	2	6	28	38	109	183	4.34
2	Leadership training	6	20	57	66	29	178	3.52
3	Technical assistance	1	6	24	84	67	182	4.15
4	Watershed plans with measureable goals	1	5	23	59	94	182	4.32
5	Other (Please specify)	1	2	1	1	7	12	3.92

Figure 18: What is needed to strengthen the capacity of groups working to involve the health of the watershed.

How is success defined?

Respondents offered their opinions on how to define success by ranking the characteristics of a successful project (Figure 19). Respondents listed improved quality of the watershed as the most important characteristic of a successful project. Respondents felt equally strongly about the other characteristics listed: achieving stated goals, engaging the community, providing multiple benefits and providing measurable outcomes. Respondents also wrote-in several possible characteristics, including ongoing efforts to repeat the project, building trust among partners, providing long-term benefits, and repeatable results.

#	Question	Least Important 1	2	3	4	Most Important 5	Total Responses	Mean
1	Achieved stated goals	1	8	23	80	75	187	4.18
2	Engaged the community	3	5	16	82	81	187	4.25
3	Provided multiple benefits	1	8	35	78	65	187	4.06
4	Provided measurable outcomes	2	5	27	79	75	188	4.17
5	Improved quality of watershed	1	0	13	49	124	187	4.58
6	Other (please specify)	1	0	1	1	6	9	4.22

Figure 19: What are the characteristics of a successful project.

Part IV: Priorities for Action

The last section of the survey sought to identify priorities for action in the Cedar River watershed. We asked respondents what strategies should be adopted to achieve the identified goals and about their vision for the Cedar River watershed.

What should the priorities be moving forward?

Respondents offered their opinions on what the priorities should be moving forward to improve the health of the watershed. When asked to rank goals for the Cedar River watershed, responses varied significantly (Figure 20). We asked participants to rank the following watershed goals: improve water quality, protect natural areas, reduce flood risks, improve wildlife habitat, enhance fish habitat, provide recreation opportunities, sustain productive agriculture, promote economic development, promote public health, and adapt to climate change. The results showed that improving water quality, protecting natural areas, and reducing flood risks were the most important goals for the watershed. Write-in responses included controlling soil erosion, enabling regional authorities through legislation, and dredging the river (see Appendix B for full list).

#	Question	Least Important 1	2	3	4	Most Important 5	Total Responses	Mean
1	Improve water quality	0	3	15	57	119	194	3.58
2	Protect natural areas	0	5	22	66	99	192	3.48
3	Reduce flood risks	2	8	31	60	93	194	3.42
4	Improve wildlife habitat	3	14	47	74	52	190	3.22
5	Enhance fish habitat	4	21	73	65	27	190	3.05
6	Provide recreation opportunities	10	30	69	61	22	192	3.12
7	Sustain productive agriculture	5	16	67	63	43	194	3.07
8	Promote economic development	29	31	67	47	18	192	2.93
9	Promote public health	8	26	52	57	46	189	3.30
10	Adapt to climate change	36	36	52	42	26	192	3.05
11	Other (please specify)	3	0	1	0	9	13	3.15

Figure 20: Rating watershed goals.

When asked an open-ended question about what strategies should be adopted to achieve the identified goals, we received a wide range of suggestions (see summary section below for more). Among the most common answers were development of a new watershed-wide plan that identifies watershed improvement goals and priority projects for implementation and adoption of new regulations for agricultural practices, urban development, and increased natural resource protection. Respondents

recommended incentives to increase adoption of BMPs and encourage more widespread use of conservation easements. At the same time, many respondents advocated requiring use of buffer strips and other conservation practices, requiring low-impact development in urban areas, and regulating agricultural pollutants more strictly. Related to this, stronger enforcement of new and existing policies was a common theme in the responses. Some respondents focused on the need for more on-the-ground projects that will demonstrate the benefits of watershed improvement projects for local communities. Finally, many respondents felt increasing public awareness and improving education and demonstration of management practices were needed to achieve the goals of a healthy watershed.

When asked about their vision for the Cedar River watershed, respondents collectively painted a picture of a watershed in which restoration of natural areas and adoption of BMPs have led to improved water quality and where there are fewer flooding events and reduced flood impacts. Respondents envisioned a river that provides all Iowans with opportunities for safe swimming, fishing, and boating and expressed hope that communities would understand the value of natural areas and wetlands for reducing flood risk and put value in the river as a community resource. Improved water quality and reduced flooding were by far the two most common overarching goals – and this is consistent with what we heard when we asked participants about watershed priorities (see Figure 20). Also mentioned frequently was the idea of achieving a balance between conservation and economic/agricultural development. Policy-related visions included purchasing more public land along rivers for open space, a plan for the watershed, and a set of consistent goals and policy statements throughout the watershed for various groups to work towards. Some respondents specified BMPs that could be used to achieve their vision for the watershed. These included measures that contribute to more sustainable agricultural production, low impact restoration, and restoring natural vegetation.

Summary and Next Steps

How to Motivate Local Action

One purpose of our survey was to identify how to motivate people to become more involved and invested in efforts to improve the overall health of the watershed. What are the factors that motivate participation in or initiate watershed projects? How can active groups recruit new partners? And, what are the characteristics of a successful project? Overall, education, personal contact, and partnerships are necessary to motivate local action. Beyond that, a solid watershed plan, with identified projects and measurable goals, and demonstration projects that yield measurable results are needed.

- Education/Raise Awareness: The majority of the survey respondents got involved in Cedar River projects to follow a general interest in improving the Watershed. Participants told us that a “love of nature,” “my Christian beliefs to take care of God’s earth,” “my own conservation ethic,” and a “concern for the health of our waterways” were motivating factors. Not surprisingly, survey respondents suggested that education and public understanding is crucial to building an expanded community of watershed advocates willing and able to initiate and

implement improvement projects. In fact, many survey respondents cited increasing awareness as the most significant outcome of their previous projects.

Our survey indicates that information on the role that habitat conservation and farm conservation practices play in improving water quality and reducing flood events may be the most effective. For example, in our survey, the second most commonly cited motivating factor for getting involved in a Cedar River Watershed improvement project was a recent flooding event. One possible avenue for expanding education efforts is the plan developed by the County Conservation Board Directors in the Cedar River Watershed to effectively communicate messages to the public about reducing flooding in the watershed. The Plan was developed based on a series of focus groups held throughout the Basin that tested different watershed management/flood risk reduction messages to identify ones that resonated with multiple audiences. The plan is now being implemented as an education plan, led by the County Conservation Boards, throughout the Basin.

- Personal Contact/Leadership: There seems to be no substitute for in-person contact with local groups and officials. Making personal contact with potential partners was the most cited way to get other groups to support projects and in-person meetings was the most cited way to get the public to support watershed projects. On the other hand, the most commonly cited reason for not participating in a project was a lack of leadership. So, having an effective leader capable of engaging local groups and the public may be key to increasing local efforts.
- Partnerships: Survey participants listed many groups with which they participate. The most commonly cited groups included the soil and water conservation districts, farmers and farm organizations, landowners, and local communities. Conservation boards, watershed organizations, elected officials, and regional planners are also important. Respondents generally found value in the inclusion of a range of stakeholders and groups.
- A Plan: Many of the survey respondents indicated that they have been involved in watershed planning over the past five years. Yet, respondents also told us that an “overarching, basin-wide plan” is still needed. The plan should outline goals that are framed in realistic terms, identify measurable strategies tied to the goals, and could also pinpoint geographical priorities. Upfront planning undertaken by reputable groups removes a burden from local groups to identify appropriate projects and gives them confidence that their projects are scientifically supported and will, as part of a series of watershed projects, make a real difference to the health of the watershed.
- Demonstrate Results: Survey respondents told us that efforts that can demonstrate measurable results are the hallmark of successful groups. We also heard many times that demonstration projects are needed to help stimulate additional action – as local groups can see how watershed improvement projects have provided tangible results to neighboring communities it may be easier to find funding and local support from elected officials for additional projects. As

suggested above, projects that can demonstrate measurable results can also be a key part of an outreach/education strategy designed to motivate further action throughout the watershed. A watershed wide plan may be able to identify priority locations for such projects.

A Vision for the Cedar River Watershed

As described above, survey participants had a hopeful vision for the future of the watershed where there is “space to play, work, and live” and a “high quality of life.” Out of the many visions offered, we were able to identify a series of keywords that capture the varied views of the participants. The keywords describe ‘what’ the watershed should be and provide, ‘who’ should lead watershed efforts, and ‘how’ watershed goals should be achieved.

- What:
 - Healthy, Functioning, Safe, Resilient, Sustainable
 - Balanced Uses
 - Multiple benefits: Reduced flood events, Clean water, Healthy wetland and floodplain habitats, Healthy farms and working watershed, Smart Development, Recreation
- Who:
 - Locally led projects, but regional goals
 - Collaborative (‘we are all in this together’)
 - Community and Political Support
- How:
 - Understanding – public outreach and scientific understanding
 - Watershed wide plan/Clear Goals
 - Proactive
 - Flexible
 - Conservation Practices
 - Implementation/demonstration

Strategies for Achieving an Inclusive Vision for the Cedar River Watershed

As described above survey respondents identified a wide range of potential strategies for achieving watershed goals. The following is a list of broad categories that capture the various suggestions provided in the survey. These could serve as a starting point for developing a set of unifying and measurable strategic goals for conserving wetlands and floodplains and mitigating flood hazards that can be accepted and embraced by the key stakeholders in the watershed.

- Increase use of agricultural best practices/conservation measures (E.g., CRP/Farm Bill Programs, Buffers, No-Till, Easements, Iowa Nutrient Reduction Strategy) through a combination of regulations and incentives

- Expand natural area protection (e.g., Wetland, Floodplain, and Habitat Protection and Restoration) through regulations and voluntary efforts
- Develop a system-wide watershed plan that includes a combination of approaches and implement pilot projects to illustrate how these efforts provide community benefits.
- Expand education on the importance of the watershed and how to protect it, including peer-to-peer learning and public outreach efforts.
- Develop regulatory tools for increasing natural area protection, reducing discharge, and expanding farm conservation practices.
- Develop and expand funding opportunities (e.g, Iowa Water and Land Legacy, stormwater tax, public-private partnerships, redirect farm subsidies, other incentives).
- Require and encourage smart urban development (e.g., prohibit development in floodplain, improve control of stormwater runoff).
- Expand effective water management activities (e.g., River Maintenance/Buffers/Reservoirs)
- Develop and expand creative partnerships
- Expand mapping and research that can inform planning and education efforts as well as on-the-ground projects.

Appendix A: Survey Questions

1. What is your primary occupation?
 - 1) Farming
 - 2) Agricultural services
 - 3) Planning
 - 4) Emergency management
 - 5) Restoration or management of floodplains, wetlands or wildlife habitat
 - 6) Park manager
 - 7) Elected official
 - 8) Regulator
 - 9) Research/academic
 - 10) Other (please specify)

2. In what part of the Cedar River watershed do you work? Refer to map below.
 - 1) Upper Cedar River
 - 2) Middle Cedar River
 - 3) Lower Cedar River
 - 4) Entire Cedar River Watershed
 - 5) I do not work in the Cedar River Watershed

3. Have you been involved personally in disaster response or recovery, e.g., after a flood?
 - 1) Yes
 - 2) No

4. In your opinion, what are the biggest challenges facing the Cedar River watershed today? Please rank the options below by clicking on the responses shown below and dragging them up or down.
 - 1) Declining water quality
 - 2) Loss of natural habitats (e.g., wetlands and floodplains)
 - 3) Loss of Conservation Reserve Program (CRP) lands
 - 4) Drought
 - 5) Flooding
 - 6) Balancing urban development with natural resource protection
 - 7) Balancing agricultural productivity and natural resource protection
 - 8) Other (please specify)

5. What is the best way to address these challenges?
 - 1) Purchase conservation easements
 - 2) Adopt best management practices
 - 3) Raise awareness
 - 4) Create wetland mitigation banks
 - 5) Build reservoirs
 - 6) Adopt new regulations
 - 7) Restore natural habitats

- 8) None of these
6. Please rate the following goals for the Cedar River watershed. Rate each on a scale of 1 to 5 for importance: 1 = Least important and 5 = Most important
 - 1) Improve water quality
 - 2) Protect natural areas
 - 3) Reduce flood risks
 - 4) Improve wildlife habitat
 - 5) Enhance fish habitat
 - 6) Provide recreation opportunities
 - 7) Sustain productive agriculture
 - 8) Promote economic development
 - 9) Promote public health
 - 10) Adapt to climate change
 - 11) Other (please specify)
7. What strategies should be adopted to achieve the most important goals you identified above?
8. Within the past five years, have you been involved in any of the following types of activities? For farmers and large landowners, this could include activities on your own land. Please select all that apply.
 - 1) Watershed planning
 - 2) Protecting/restoring wetland or wildlife habitat
 - 3) Improving water quality
 - 4) Reducing flood risks
 - 5) Farmland conservation
 - 6) Farmland best management practices
 - 7) Raising awareness about challenges in the watershed
 - 8) None of the above
9. In what part of the Cedar River watershed was the activity located:
 - 1) Upper watershed
 - 2) Middle watershed
 - 3) Lower watershed
 - 4) Entire watershed
10. With what other groups or organizations did you work?
11. In your opinion, what was the most significant outcome of the project?
12. What motivated you to get involved? Please select all that apply.
 - 1) Recent flooding event
 - 2) Regulatory requirement
 - 3) Availability of funding
 - 4) Interest in improving the Cedar River watershed
 - 5) Involvement of people I trust

- 6) Suggestion of a friend or colleague
 - 7) Other (please specify)
13. What would discourage you from participating in a watershed improvement project?
Please select all that apply.
- 1) Lack of funding
 - 2) Poor leadership
 - 3) No time to devote to the project
 - 4) Project doesn't offer clear benefits
 - 5) Distrust of people or organizations involved
 - 6) Questionable outcomes
 - 7) Other (please specify)
14. In your opinion, what are the characteristics of a successful project. Please rate each item below on a scale of 1 to 5, with 1 = Least important and 5 = Most important.
- 1) Achieved stated goals
 - 2) Engaged the community
 - 3) Provided multiple benefits
 - 4) Provided measurable outcomes
 - 5) Improved quality of watershed
 - 6) Other (Please specify)
15. What are the key attributes of organizations that have successfully implemented conservation or restoration projects in the Cedar River watershed? Please select all that apply
- 1) Have sufficient funding
 - 2) Demonstrate results
 - 3) Engage broad coalitions
 - 4) Are well known in the watershed
 - 5) Have dynamic leaders
 - 6) Have a strong track record of working in the watershed
 - 7) Other (Please specify)
16. In your opinion, what organizations or individuals should be involved for a project to be successful? Please select all that apply.
- 1) Elected officials
 - 2) Soil and water conservation districts
 - 3) County conservation boards
 - 4) Farmers/farmer organizations
 - 5) Landowners/developers
 - 6) Non-profit conservation organizations
 - 7) State agencies
 - 8) Federal agencies
 - 9) Watershed organizations
 - 10) Regional planners/Councils of Government
 - 11) Other (please specify)
17. Are you or your organization actively involved with projects in the watershed?

- 1) Yes
- 2) No

18. How do you get other groups to support your projects? Please select all that apply.

- 1) Make personal contact with potential partners
- 2) Provide funding
- 3) Highlight common goals or mission
- 4) Ask existing partners to reach out to their contacts
- 5) Highlight track record of success
- 6) Other (Please specify)

19. How do you get the public to support your projects? Please select all that apply.

- 1) Broad media/messaging campaigns
- 2) In-person meetings
- 3) Reach out through partners and contacts
- 4) Engage community leaders
- 5) Build a broad coalition
- 6) Engage elected officials
- 7) Raise awareness among youth
- 8) I do not generally reach out to the public for my projects
- 9) Other (Please specify)

20. What is needed to strengthen the capacity of groups working to improve the health of the Cedar River Watershed? Please rate the following choices on a scale of 1 to 5, with 1 = Least important and 5 = Most important.

- 1) Funding
- 2) Leadership training
- 3) Technical assistance
- 4) Watershed plans with measurable goals
- 5) Other (please specify)

21. Are you aware of any formal watershed improvement priorities (e.g., land acquisition targets, water quality goals) that have been adopted for the Cedar River watershed?

- 1) Yes
- 2) No

22. Do you incorporate these improvement priorities in you work?

- 1) Yes
- 2) No

23. What specific watershed improvement priorities have you incorporated into your work?

24. What is your vision for the Cedar River watershed?

25. Funding is often cited as an obstacle to implementing projects in the Cedar River watershed. What funding sources should be tapped to implement projects in the watershed? Please select all that apply.











- 1) Federal grants (e.g., Wetlands Reserve Program)

- 2) State grants (e.g., Resources Enhancement and Protection Program, Watershed Improvement Review Board)
- 3) Local grants
- 4) Iowa's Water and Land Legacy amendment, if adopted
- 5) Private foundations
- 6) Private investment fund
- 7) Other (Please specify)

26. Is there anything else you'd like to add about the Cedar River watershed?

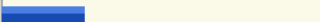

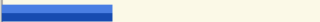

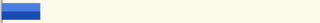
Appendix B: Survey Results

1. What is your primary occupation?



#	Answer	Bar	Response	%
1	Farming		30	13%
2	Agricultural services		8	4%
3	Planning		25	11%
4	Emergency management		7	3%
5	Restoration or management of floodplains, wetlands or wildlife habitat		24	11%
6	Park manager		6	3%
7	Elected official		18	8%
8	Regulator		9	4%
9	Research/academic		13	6%
10	Other (please specify)		84	38%
	Total		224	

Other (Please specify)	
Wildlife Conservation	Extension
Naturalist	Conservation worker
County Conservation Executive Director	Public Works Dir.
Volunteer Conservationist	Municipal employee
Genius	Soil conservationist
Retired	Social work
Civil Engineer	Film/Video Production; Sustainability Consulting
Federal employee - conservationist	USDA employee
Geologist	Citizen
Appointed ass't SWCD Commissioner	Philanthropy
GIS Analyst (Primarily dealing with Water Quality Issues)	Educator
Retired	Zoning/Floodplain Mgr.
General Manager of Utility Company	Conservation
Municipal environmental	Public works director
Volunteer	NRCS
Retired District Conservationist, NRCS	Engineer
Engineer	Nonprofit
Conservation Education	Retired teacher
Retired	City Administrator
Director/naturalist	Funder
Naturalist	Retired professor
Municipal Utilities Staff	Consulting Engineer
Retired	Retired academic, geologist
Land surveyor	Land Surveyor
Supervisor, state wildlife management agency	Retired, environmental activist
Parks & Rec	Forester
Engineer	General Contractor
Engineer	Econ Development
Volunteer/planning taskforce	Environmental educator
Volunteer/planning taskforce	Local govt.
Water resources management	Consulting Engineer
Public land management	Journalist
Federal Government engineer	Volunteer/planning taskforce
City Administrator	Volunteer/planning taskforce
Retired ag extension	Laborer
Geologist/Farm Manager	Municipal Engineer
Environmentalist	Environmental Specialist
City Manager	Wildlife biologist on private lands
Graphic designer	Environmental Educator
City Clerk	Civil Engineer

2. In what part of the Cedar River watershed do you work? Refer to map below.

#	Answer	Bar	Response	%
1	Upper Cedar River		56	26%
2	Middle Cedar River		47	21%
3	Lower Cedar River		75	34%
4	Entire Cedar River Watershed		15	7%
5	I do not work in the Cedar River Watershed		26	12%
	Total		219	

3. Have you been involved personally in disaster response or recovery, e.g., after a flood?

#	Answer	Bar	Response	%
1	Yes		140	68%
2	No		66	32%
	Total		206	

4. In your opinion, what are the biggest challenges facing the Cedar River watershed today? Please rank the options below by clicking on the responses shown below and dragging them up or down.

#	Answer	1	2	3	4	5	6	7	8	Total Responses
1	Declining water quality	27	40	30	38	32	22	13	1	203
2	Loss of natural habitats (e.g., wetlands and floodplains)	36	40	47	28	19	19	13	1	203
3	Loss of Conservation Reserve Program (CRP) lands	4	20	28	33	54	36	27	1	203
4	Drought	1	5	9	8	19	41	108	12	203
5	Flooding	53	25	19	22	28	38	16	2	203
6	Balancing urban development with natural resource protection	22	30	29	33	31	35	19	4	203
7	Balancing agricultural productivity with natural resource protection	50	41	37	40	19	10	4	2	203
8	Other (please specify)	9	1	4	1	0	3	3	181	202
	Total	202	202	203	203	202	204	203	204	-

Other (please specify)

Maintenance of the river.

We can't control how much it rains, what we can control is what land practices are in place to help retain what we do get.

Getting people to care unless there's an emergency or crisis.

misinformation

Soil Erosion

Voluntary nature of Non-Point Source nutrient run-off controls

Lack of State plan to support decision making

Lack of a regional authority to take meaningful action

Quality Floodplain Maps

awareness

These topics aren't mutually exclusive

high commodity prices promote row crop production in high risk areas

Tiling, no natural regen of ground water

all of them

interagency communication and cooperation; and lack of resources available to small communities for flood mitigation

Tile drainage

Urban disconnect with agricultural issues, challenges

Water availability

poor farming practices. tearing out grass waterways, etc.

Silting in of River

once in a lifetime rainfalls

fragmented jurisdiction

Lack of public awareness, concern

Silting in of the Channel

Statistic	Declining water quality	Loss of natural habitats (e.g., wetlands and floodplains)	Loss of Conservation Reserve Program (CRP) lands	Drought	Flooding	Balancing urban development with natural resource protection	Balancing agricultural productivity with natural resource protection	Other (please specify)
Min Value	1	1	1	1	1	1	1	1
Max Value	8	8	8	8	8	8	8	8
Mean	3.65	3.33	4.65	6.22	3.67	4.09	2.97	7.50
Variance	3.27	3.31	2.56	1.90	4.60	3.72	2.78	2.77
Standard Deviation	1.81	1.82	1.60	1.38	2.14	1.93	1.67	1.66
Total Responses	203	203	203	203	203	203	203	202

5. What is the best way to address these challenges?

#	Question	Purchase conservation easements	Adopt best management practices	Raise awareness	Create wetland mitigation banks	Build reservoirs	Adopt new regulations	Restore natural habitats	None of these	Total Responses	Mean
1	Declining water quality	10	89	18	11	4	39	26	2	199	3.71
2	Loss of natural habitats	53	16	12	15	0	12	84	6	198	4.49
3	Loss of CRP lands	55	26	23	2	1	34	27	23	191	4.01
4	Drought	1	63	34	6	17	2	18	53	194	4.64
5	Flooding	16	47	15	24	16	19	44	16	197	4.47
6	Balancing development with resource protection	17	50	35	4	2	73	11	5	197	4.08
7	Balancing agriculture with resource protection	16	88	25	3	1	50	9	5	197	3.49
8	Other, please specify	0	5	2	0	1	3	1	10	22	5.73

Other, please specify											
having to choose a single option is not necessarily accurate. To address the challenges often requires a system wide approach that includes multiple options											
misinformation											
soil erosion											
Quit subsidizing the farmers and guaranteeing them a certain amount for their crops. Nobody else has that guarantee with their job.											
fee title acquisitions and wetland restoration											
Lack of regional authority											
Quality Floodplain Maps											
show economic value of natural systems											
Eliminate harmful agriculture subsidies											
Newtrant Reduction Strategy											
Create a down stream fund to support the last one above											
Tile Drainage											
Educational programs											
Water availability											
Farms programs should stop rewarding erosive crops like corn and soybeans											
mandate soil protection farming practices											
Siltin in of River											
raise awareness is important											
Siltin of Channel											

Statistic	Declining water quality	Loss of natural habitats	Loss of CRP lands	Drought	Flooding	Balancing development with resource protection	Balancing agriculture with resource protection	Other, please specify
Min Value	1	1	1	1	1	1	1	2
Max Value	8	8	8	8	8	8	8	8
Mean	3.71	4.49	4.01	4.64	4.47	4.08	3.49	5.73
Variance	4.41	7.13	7.21	6.48	5.34	4.39	4.24	10.85
Standard Deviation	2.10	2.67	2.69	2.55	2.31	2.09	2.06	3.29
Total Responses	199	198	191	194	197	197	197	28

6. Please rate the following goals for the Cedar River watershed. Rate each on a scale of 1 to 5 for importance: 1 = Least important and 5 = Most important

#	Question	Least Important 1	2	3	4	Most Important 5	Total Responses	Mean
1	Improve water quality	0	3	15	57	119	194	3.58
2	Protect natural areas	0	5	22	66	99	192	3.48
3	Reduce flood risks	2	8	31	60	93	194	3.42
4	Improve wildlife habitat	3	14	47	74	52	190	3.22
5	Enhance fish habitat	4	21	73	65	27	190	3.05
6	Provide recreation opportunities	10	30	69	61	22	192	3.12
7	Sustain productive agriculture	5	16	67	63	43	194	3.07
8	Promote economic development	29	31	67	47	18	192	2.93
9	Promote public health	8	26	52	57	46	189	3.30
10	Adapt to climate change	36	36	52	42	26	192	3.05
11	Other (please specify)	3	0	1	0	9	13	3.15

Other (please specify)											
Sustainable, conservation-based agriculture											
control soil erosion											
fund new conservation practices such as cover crops and provide more state funding to staff local SWCD with full time staff											
Enable regional authorities through legislation											
What's the definition of sustainable ag?											
Economic Development											
tear out dams											
Government handouts destroys common sense											
Remove Silt from River											
Dredge the River											

Statistic	Improve water quality	Protect natural areas	Reduce flood risks	Improve wildlife habitat	Enhance fish habitat	Provide recreation opportunities	Sustain productive agriculture	Promote economic development	Promote public health	Adapt to climate change	Other (please specify)
Min Value	2	2	1	1	1	1	1	1	1	1	1
Max Value	6	6	6	6	6	6	6	6	6	6	4
Mean	3.58	3.48	3.42	3.22	3.05	3.12	3.07	2.93	3.30	3.05	3.15
Variance	0.49	0.64	0.88	1.21	1.61	2.09	1.41	2.51	1.85	2.86	2.78
Standard Deviation	0.70	0.80	0.94	1.10	1.27	1.44	1.19	1.58	1.36	1.69	1.67
Total Responses	194	192	194	190	190	192	194	192	189	192	15

7. What strategies should be adopted to achieve the most important goals you identified above?

Text Responses
Regulations to help protect natural areas. Limit crop production and tilling somehow.
The Cedar River Watershed needs an overarching basin-wide plan that identifies the best methods and "how much" of these activities are needed to reduce flood risk, improve water quality, improve wildlife habitat, etc. so that all watershed groups throughout the basin can contribute to these efforts in the ways that make the most sense locally.
Given that agriculture is the biggest land use in the watershed, it is critical that landowners begin to implement adequate conservation measures and begin exploring alternative crop rotations. In order to achieve this, there needs to be a balance of regulation (to ensure conservation compliance, build soil health, and reduce runoff), public education (to improve the conservation ethic of ALL farmers), and a re-thinking of federal farm policy (for example, eliminating the crop insurance subsidies that incentivize risky farming practices that are ultimately paid for by taxpayers).
Farmers reduce tillage and fertilizer use, build soil organic matter, restore natural areas lost in the last 10 years to farming and development
Restore natural areas
Fully fund Iowa's water and land legacy or develop a fund for investing in the Cedar River Watershed.
Require low impact development in urban areas and conservation practices for ag production
Incentives to promote conservation practices on private lands
Couple farm payments with conservation practices
Protecting and restoring wetlands and restoration of a more natural hydrologic function to subwatersheds will help achieve all goals listed above, not just the goals I indicated are a top priority. The landscape within the entire basin needs more perennial vegetation and more wetlands.

Maintenance of the river, through cleaning of the river banks and bottom, enforcement of flood plain, stop building and filling in of the river upstream. Stop the dumping of hazard waste and products near and into the river.

System wide approach that offers a variety of solutions dependent on the location, desired result, and desired secondary results

Education, secured statewide funding to both state and counties for implementation

Acquire more public open space and/or obtain more conservation easements on private lands

Combination of regulatory, management practices, funding, and broad based coalition of groups

We need to increase Nature habitat, by reducing ag production and putting the money farmers get for subsidy and put that to restoring nature resources

Do some research on protecting natural areas and sustain productive agriculture at the same time. The climate is always changing but humans have done damage to natural resources and we need to think about building cities so close to a river.

Stream Buffers - rural and urban; native plantings in urban areas; permeable paving and other water absorption strategies

It's not a zero sum game. Balance approach is needed. There are always unforeseen consequences when man is involved.

Encouraging neighboring communities and agencies to partner in creative ways. Don't let bureaucracy kill good ideas.

Balance of education, incentives, penalties, enforcement, update the Iowa Code

Public education and outreach.

Awareness, education, and successful example of the above.

Raising awareness through outreach and education of the general public. Encouraging federal, state, local, and private entities to collaborate and pool resources in order to fully understand the situation. Spending half your time chasing grants and other fickle funding sources in an effort to cobble together something presentable is counter productive. There needs to be a source of more solid funding sufficient to allow for comprehensive research into the the watershed and get action plans, regulations, and best management practices in place.

Farmer to farmer education, incentives, stronger regulation and enforcement if voluntary involvement fails

All of the potential solutions suggested in the previous question must be components of any effort to improve the Cedar River Watershed...conservation easements, BMPs, wetland mitigation banks, natural habitat restoration. Education is in my mind the 2nd most powerful strategy. But I personally believe that without stricter regulations, that improvements in the overall hydrology of the Cedar River (and any other river in Iowa) will be difficult to attain.

Education, regulation

Have a body with broad overview and regulatory powers

Start multiple small construction projects to show progress is being made towards improving water quality.

Adopt regs that are enforced

If you restore natural habitats (riparian corridors & floodplains), improvements in water quality, fish habitat, and recreation should soon follow.

Promote and provide incentives for no-till farming and buffer strips.

Require adjacent landowners to leave buffer strips along bodies of water and not encroach on those boundaries.

Conservation easements, CRP, fee title land acquisition, increased funding for SWCD's

Education

Public/private partnerships to assist with technical expertise and addressing funding.

Require inventory of existing practices, short term utilization of cover crops and other practices, and long term installation of non-point source nutrient controls based on Iowa Nutrient Reduction Strategy NPS scientific assessment best management practices (i.e. buffer strips, bio-reactors, etc.)

Promote rapid application of best practices, establish storm water tax for farms and development, baseline a state plan with biannual updates.

Reduce flooding - improve soil tilth awareness, Wildlife habit - satisfy the demand of property owners for WHIP

Farm Bill should not allow soil loss beyond what is allowable for sustainability of the soil and it's productivity. Price support payments should be discontinued and those funds should be used as incentives for ecosystem services that farms can provide.

Buffer's of natural habitat

1) Legislative changes at the state level to enable regional approaches to problem-solving (i.e. regional governance); 2) funding to purchase consv. Easements and re-establish natural habitat in strategic locations would contribute to several of the goals listed above. It needs to pay as much to conserve resources as it does to farm or develop them.

Stop development in floodplains/wetlands and work to restore these areas. Quality floodplain mapping to promote development out of floodplains/wetlands.

More public awareness and education for management practices.

New models of agriculture are needed

Restrict urban and industrial sprawl, economic development may be our worst offender

More research and proactive measures

Restore wetlands and use permanent conservation easements like Wetland Reserve Program

Implement landscape practices to retain soil, water and nutrients on site; this include instream practices.

Protect habitat

Regulations and conservation easements which consider the needs of humans and natural resources

Require soil conservation practices instead of relying on landowners to "do the right thing" for their downstream neighbors. The carrot isn't working, time for the stick.

Increase cover crop use -- perhaps through mandatory requirements. Increase water holding in the watershed through on-land practices (not reservoirs) to ease flooding and improve water quality. Improving recreation will build public support for many of the other goals, but may not be a goal for the watershed coalition itself.

I'm not really sure what would work.

Conservation easements for natural floodplain function.

Improved best management practices and regulations that help protect the land and water and critters within.

Truly sustainable agricultural practices - more farms, closed-loop systems, smart grazing practices, alternatives to row crops

Restoration of wetlands and permanent upland habitat

Don't know. For now, we need to find a mechanism to get farmers to adopt practices to reduce pollutants.

Implementation of BMPs to protect water quality as a condition to receive farm program benefits.

Purchase land or easements in the riparian and floodplain areas to protect. Increase adoption of BMPs to slow runoff and remove nutrients through a combination of incentives/penalties for not adopting these practices.

Convince local, state and Federal governments to put money into flood control and soil and water conservation

If people don't know - educate. If people know but can't - offer incentives and help overcome obstacles for adoption; If people know but won't- regulate and enforce

Larger easement and buffer areas. Large scale alterations have been done to our hydrologic systems - probably beyond the scope of repair. Large conservation easements to buffer the river and adopting new farm management practices like nutrient management and drainage management are our best options.

Fully implement and engage watershed management authorities, and provide funding for their use in watershed projects

Awareness/Education relating to land use

Regulations for agriculture and economic development.

Strong regulation and enforcement.

More public awareness

Build a reservoir to help control flooding and respond to drought.

1. Education, especially about long term consequences. 2. Firm enforcement of regs. 3. Separation from political interests

Levies

Increase conservation practice payments

IDALS Nutrient reduction Strategy

Stream buffers and wetland restoration

Educating both rural and urban landowners on their roles in protection

Best management practices, new regulations on agricultural discharge, floodplain development, etc.

Make the changes that are suggested appealing to all groups of people. wildlife ethus, ag producers, and recreational. Not just one type of group.

Cost share conservation

Reduce how close to a river or stream a farmer can farm

Education, financial incentives and rules and regulations in that order

Relocation of people and infrastructure away from flood prone areas

Stronger regulation to protect water quality against nutrient loading and pesticides.

Financial incentives for Farmers, federal; and state tax money for flood walls, best management practices in cities with incentives

Legislation to stop bad land use practices. we all have seen the terrible erosion.

Raising awareness - many people don't even realize water quality is a concern

Best management practices for land use/management, especially along all stream and river corridors

Restore vegetation to riparian zone of low-order streams

Get rid of corn ethanol

Regulations to change constructions/development. Have urban landscapes absorb water, then work on ag.

Education and demonstration. Perhaps money for easements on floodplain areas.

Expand development of various reservoirs, wetland restoration, etc. to help curb the fast runoff of surface water within the watershed to the Cedar River which threatens communities in the watershed of getting "washed" right off the map.

Reduce, stop or reverse development in the floodplain. Allow the river to reclaim more of its natural floodplain. Reduce stop or reverse conversion of conservation lands to row crops. Regulate intensive tile drainage. Regulate agricultural pollutants as point-source.

Need to somehow get people to work together for a common goal, need strong centralized local leadership.

Floodplain development should be to higher standards than the NFIP minimums

Coordinated educational programs

Control development in floodplains beyond federal and state minimums; require sustainable crop rotation to preserve topsoil; require buffer strips adjacent to blue-line streams as well as higher-order streams

Encourage adequate waterways and stream buffer zone. Field tile is not the culprit but is most helpful in controlling flooding etc.

Raise awareness and promote and pass adaptive legislation to protect and enhance our natural resources, economic viability, and overall health and welfare of the people.

Provide incentives to plant cover crops, promote measures to reduce urban runoff

Inform of important goals and voluntary participation

Crony government creates mono agriculture. If government was not involved we would have a diverse state.

Keep heavy rainfall/snow melt on the land. Terraces and grass waterways. Restore CRP.

Dredge the River and Sell the material and / or use for sanding the streets/roads in the winter, Educate People

New legislation

Provide permanent protection to strategically placed wetlands, prairies and river greenbelts. Promote BMPs for farming and enforce zoning to protect floodplains.

Work to stop chemical from entering river









Wetlands that provide habitat, settle soil and denitrify, and buffer flooding events

I support voluntary conservation practices and the nutrient reduction strategy





Diversify agriculture and adopt sustainable practices. Acquire natural areas for public purpose and avoid development on vulnerable lands and waters. Restore natural habitats to provide ecosystem services as well as benefitting the greatest array of public benefits.

Voluntary strategies
 Economic incentives, regulation
 Take agricultural land out of production, return it to wild life habitat
 Work towards a mandatory buffer set back along streams and rivers
 These issues will take more regulation to mitigate flooding and improve water quality, and more money to purchase conservation easements.
 Promote CRP plantings such as riparian buffers, increase CRP cost share incentives for landowners, adopt conservation easements on natural areas
 Encourage, through education and incentives, practices that create more natural floodplains and watersheds
 Best practices and easement purchases
 Over the next 4-5 years, significant focus and effort should be made in the Iowa Nutrient Reduction Strategy. We need to all stakeholders to engage in the process, and try to make it work.
 Somehow, somehow get our representatives in Des Moines and Washington DC to make this stuff a higher priority
 More tiling fields to slow down and filter water
 Develop CREP sites and more CRP to help increase filtration of water. More filter strips along creeks and rivers.
 Dredge the Rivers and sell the materials, increase bank restoration, and strip farming by farmers
 Awareness
 Set aside more land for wildlife habitat through govt purchase, easements, etc.

8. Within the past five years, have you been involved in any of the following types of activities? For farmers and large landowners, this could include activities on your own land. Please select all that apply.

#	Answer	Bar	Response	%
1	Watershed planning		106	55%
2	Protecting/restoring wetlands or wildlife habitat		99	51%
3	Improving water quality		117	61%
4	Reducing flood risks		98	51%
5	Farmland conservation		70	36%
6	Farmland best management practices		73	38%
7	Raising awareness about challenges in the watershed		130	67%
8	None of the above		15	8%

9. In what part of the Cedar River watershed was the activity located?

#	Answer	Bar	Response	%
1	Upper watershed		53	31%
2	Middle watershed		35	20%
3	Lower watershed		55	32%
4	Entire watershed		29	17%
	Total		172	

10. With what other groups or organizations did you work?

Text Responses
 Ducks Unlimited, Pheasants Forever, Iowa Natural Heritage Foundation
 DNR, COE, IFC, NRCS, local SWCD, etc.
 Cedar River Watershed Coalition, individual watershed organizations, watershed management authorities, county conservation boards, state / federal agencies
 Linn SWCD. Women, Food and Agriculture Network. Indian Creek Watershed Authority. on my own farm.
 Iowa Corn Growers Association
 Primarily the Cedar River Watershed Coalition and the Interagency Team, but I work with many groups.
 Indian Creek WMA and DNR and IDALS and NRCS and US Army Corps
 various agencies and governments within the basin
 County conservation boards, NRCS
 The Nature Conservancy
 Local government and Emergence management.
 conservation
 Flood Mitigation Board
 Soil and Water Conservation District, local communities
 NRCS, FWS, County Conservation

22 other county conservation board on education awareness
 NRCS,
 DNR
 Trees Forever
 Cedar River Festival
 Cedar River Festival Group, University of Northern Iowa, IOWATER
 The Nature Conservancy, SWCDs, NRCS
 NRCS, Conservation Coalition
 various
 Linn County, IDNR, USACOE, Linn SWCD
 Bremer County Conservation Board, Bremer County NRCS
 Indian Creek Watershed Management Authority
 Cities of Cedar Rapids, Marion, Robins, Hiawatha; Linn County and Linn Soil and Water Conservation District
 nracs, idals, Mitchell and floyd ccb
 Indian Creek WMA, IDALS-DSC, various local government and local SWC&D offices throughout the watershed, CCBs, Iowa Prairie Network,
 IDNR (Fisheries, Forestry, Lakes, Preserves), Friends of Rochester Cemetery
 Lime Creek Watershed Improvement Association, Indian Creek Watershed Management Authority, Iowa Flood Center
 City of Marion
 Coe College, Cedar Rapids/Linn County Solid Waste Agency
 City of Cedar Rapids
 US Army Corps of Engineers, Linn County Conservation Dept.
 Iowa DNR
 Conservation and DNR
 Iowa Whitewater Coalition, conservation groups
 other county conservation boards
 SWCD, PF, NRCS, DNR, County Conservation Board
 Scott County Conservation Board, Quad City Watershed Festival, IADNR, River Action Inc.,
 Iowa DNR, NRCS, Iowa County Conservation Boards
 City/Municipal actions
 Indian Creek Watershed Management
 Corridor Conservation Coalition, Farm Bureau, Indian Creek Watershed Authority, Linn Soil and Water Conservation District
 Natural Resources Conservation Service, Pheasants Forever, The Nature Conservancy
 NRCS, US Dept of AG, Iowa DNR
 USACE, NRCS, IFC, USGS, NSW, FEMA
 Corridor Conservation Coalition; Cedar River Watershed Coalition; Trees Forever; Indian Creek Watershed Management Authority
 NRCS-USACE-IDNR
 city council, city staff, property owners
 City of Cedar Rapids
 NRCS, conservation boards
 inspired as member of inhf
 Pheasants Forever, Whitetails Unlimited, NRCS, FSA
 Fisher and Farmers Partnership, Iowa Soybean Association, The Nature Conservancy
 Marion High school, Iowater
 County CCB's, NRCS, FSA, Nature Conservancy
 NRCS, FSA, INHF
 NRCS, SWCD, Landowners
 SWCD, NGOs, State and Federal agencies.
 Project A.W.A.R.E., Cedar River Watershed Coalition, Iowater, Iowa DNR, Benton County Conservation, Americorps NCCC
 County Conservation Boards, Soybean Association, Fish and Wildlife Service, local supervisors
 U.S. Fish and Wildlife Service
 SWCDs
 Upper Cedar Watershed Management Improvement Authority
 SWCD, County Conservation Board, Pheasants Forever
 League of Women Voters, DNR, Local Governments
 ISU Extension, NRCS and FSA, Several watershed projects
 Soil and Water Conservation Districts, The Nature Conservancy, Iowa Department of Agriculture
 FSA, NRCS, SWCD, WMA's, DNR
 Linn County Planning & Development
 Cities, Counties, Soil and Water Districts, DNR
 Ducks Unlimited, Pheasants Forever, Iowa natural Heritage Foundation
 Louisa County Supervisor, Louisa County Conservation, Louisa Development Group, Oakville Flood Recovery
 Iowater
 Muscatine County
 World Wildlife Federation Coca cola DNR NRCS
 Various municipalities
 ISU Extension...RC&D...NRCS.....Upper Cedar Watershed Mgt. Authority

Upper Cedar WMA
 CCB, SWCD,NRCS,EPA
 NRCS
 Upper cedar river watershed
 City of Waterloo Engineering Department, Cedar Falls Engineering Department, Black Hawk County Soil and Water Conservation District
 butler swcd
 DNR, NRCS, County Conservation, ISU
 SWCD,IDALS,NRCS<,EDF,IFC
 Farm Bureau Suggested we invite Bill Northey Sec of agriculture to one of our meetings, he came and spoke
 Upper Cedar Watershed Management Authority
 City of Cedar Falls, Cedar River Watershed Coalition
 FEMA, Iowa Homeland Security, black Hawk County Conservation boards, National Association of Counties
 Upper Cedar, Turkey River watershed authorities
 Iowa Rivers Revival; Winrock International
 NRCS as a landowner; City of Waverly; Iowa Natural History Association (wetland mitigation site survey)
 Helped burn off CRP land for Elm control for private/ volunteer water quality monitir for IDNR
 Practical Farmers of Iowa
 governmental agencies
 SWCDs, IDALS, EDF, IFC,Watershed Authority
 NRCS
 Linn Soil and Water Conservation District
 NRCS, Surveyors, ECICOG
 City of Cedar Rapids
 Soil and water conservation districts, commodity groups, elected officials, media
 City of Iowa City and developers within City limits
 individual effort
 Farm bureau
 Pheasants Forever, ducks Unlimited
 Cedar River Watershed Coalition, INRCOG
 Buchanan County Floodplain Administrator ... General Contractor J & J Construction
 Iowa Natural Heritage Foundation, Cedar River Watershed Coalition, FEMA, NRCS, Iowa DNR, Iowa DOT
 Conservation group
 Farm Bureau
 SWCD, Iowa Soybean Association, Pheasants Forever, Environmental Defense Fund, ISU
 Iowa farm bureau
 Ducks Unlimited, Pheasants Forever, Minnesota Deer Hunters Association, Shell Rock River, Cedar River and Shell Rock River Watershed
 Districts, MN Pollution Control Agency, Steele, Dodge, Mower and Freeborn County Governments, Soil and Water Conservation Districts
 and Natural Resource Conservation Districts
 TNC
 TIowa DNR, Cedar River Watershed Coalition, Trees Forever, NRCS, Pheasants Forever
 Corridor Conservation Coalition
 Louisa Co. Conservation Board, friends
 community leaders and volunteers, NRCS staff, Pheasants Forever staff, DNR Foresters
 USFWS, Corps of Engineers, City of Waverly, City of Cedar Rapids, City of Waterloo, USDA FSA and NRCS,
 RIO (I think that was the name of the organization after the 2008 flooding)
 NRCS, Pheasants Forever, Local Conservation Board
 Army Corp of Engineers, Farm Service Agency, Soil Conservation Office
 Local governments
 farm bureau
 on the benton soil conservation board
 Cedar River Watershed, Indian Creek Watershed, Iowa Rivers Revival, Iowa Water Trails Assoc.
 Training and General Contractor Activities with SWPPP
 Cities and Counties

11. In your opinion, what was the most significant outcome of the project?

Text Responses

Increasing awareness of the need for watershed protection.
 Developing watershed management plans that will help guide efforts and open doors for future funding
 Women landowners are open to conservation work but the are not being targeted very well
 Awareness
 Awareness, collaborationa and developing relationships with new people/partners
 Not completed yet
 Increasing public awareness and coordination among stakeholders
 Raised awareness of issues

Protection of life and water quality
Planning to mitigate the losses due to flooding
Awareness - With each project more public become aware of the challenges and opportunities. Many then want to be a part of the process.
Improved habitat and water retention.
Public awareness
Wildlife habitat, recreation, water quality improvement
Nutrient reduction and flood holding capacity
Discovering just how much we have changed the landscape and not always for the better
Garbage out of the river
Awareness of individual impacts on the overall watershed
Farmer engagement
Small wetland restoration
Nothing
BMPs being installed.
Increased awareness
The main goal of developing a Watershed Management Plan will be the most significant outcome. Also significant are the relationships between all of the different parties involved that will hopefully remain in tact to benefit future efforts.
Continuous planning on Indian Creek Watershed Plan
Initiated efforts to improve water quality
Typically, determining the most critical target locations for the installation of BMPs. That and educating and learning from landowners and colleagues.
Education, research
Public awareness
Raised awareness
Preservation and conservation of wetlands
Small scale watershed improvements in water quality
Land acquisition
Restoration and preservation of habitat
Educational outreach
Permanent structures that will have lasting impact
Awareness
Education. Getting people to recognize that use and are impacted by the Cedar River watershed in a variety of ways.
Minor improvements to small Cedar River watersheds, flood protection for critical municipal infrastructure
Awareness
Public awareness
Restoration of floodplain habitats
Landowner awareness of programs available and getting them to think about it
Implement the plan when developed.
There have been multiple projects, but so far the most significant outcome has probably been education / awareness of the issues and a broadening of the audience.
Keeping development out of floodplains where possible
Raised awareness of flood danger and steps that can be taken to mitigate damage
Raising awareness
Improve field water retention
Improved storm water runoff quality from urban pollutant loads
Wetland Restoration
Forming partnerships and restore fish habitat
Water quality awareness
Awareness of the problem
Protected land within the floodplain
Raising awareness
Increased information on the status of the Cedar's water quality and trends in water quality.
Awareness of the watershed and developing regular Cedar River cleanups
Educating the public by getting the information collected to them so they can be better informed about the importance of our efforts and how those efforts benefit them.
Improved upland habitat and wetland restoration
No specific project.
Raising awareness of resource concerns and implementation of BMPs
Protected a wetland, reduced run off of farm chemicals and top soil into area streams.
Getting people to voluntarily adopt and apply beneficial strategies on a watershed-wide basis
Hard to say
Developing functional, actionable watershed plans.
Establishment of Watershed Authorities, Watershed Projects/Practices implemented
Increased public awareness
Louisa County lost a lot of productive farm land to buy outs turned into wetlands.
Long term awareness

Levee built
Improved wildlife habitat
Cleaner water and less water moving off my farm
Local flood reduction plans
Increase area awareness and grants for improvement
Continued work toward the goals of the Upper Cedar WMA
Water quality and flood protection
Cover crop usage went up significantly
The forming of the upper cedar Coalition
Increasing awareness between human activities and water quality
Improved water quality
Promoting better and more responsible farming practices
Water Quality
I think awareness has been growing on flood mitigation and the need for water quality improvement on farms and cities
Less flooding
Funding and the 500 yr floodplain ordinance in Cedar Falls
To protect the land.
Generating funds to begin projects
Getting more people paddling on the Cedar; improving environmental performance in agriculture
Floodplain field is becoming a forest; advise on river use & planning; evaluated wetland mitigation sites
I got IOWATER to look a their web site malfunctions
Getting rowcrop land planted to permanent tree orchards
Awareness
Still ongoing - water quality for sure.
Public Awareness
Public awareness raised
Some increased awareness of the issues
New floodplain ordinance that exceeds federal and state minimum requirements
Learning how to use cover crops
Protect the land
More diverse farm
Reducing soil erosion, reduce local flood, which then reduced flow to the Cedar River
Sediment and Erosion Control
Permanent protection of natural areas
Water testing
Cleaner WATER
Watershed plan development currently underway
Improve water quality
Habitat and water quality improvements
Restoration of savanna flora
Restoring habitat and natural areas along streams and rivers
Coordinated messaging along entire watershed
I think that the quality of water coming off our property and into the Cedar River is very good.
Outreach to landowners on projects that can improve water quality, reduce severity of flooding, improve habitat, etc.
Restoring more of the natural landscape within the watershed
I don't think it amounted to much.
Wetland restoration
Significant reduction in soil erosion
Nothing yet, but at least we are moving in the right direction.
Increase awareness that we are making huge progress
Slowly rising level of public awareness and concern.
Erosion and Sediment Control
Comprehensive Plans and buyout of floodprone homes

12. What motivated you to get involved? Please select all that apply.

#	Answer	Bar	Response	%
1	Recent flooding event		70	42%
2	Regulatory requirement		26	16%
3	Availability of funding		45	27%
4	Interest in improving the Cedar River watershed		111	66%
5	Involvement of people I trust		48	29%
6	Suggestion of a friend or colleague		10	6%
7	Other (please specify)		35	21%

Other (Please specify)	
Increased tiling	
This is the primary focus of my job	
My job	
Educational opportunity	
Part of the job and it is important	
It is highly relevant in my job.	
Relation to job	
As a representative of Linn Soil & Water Conservation District	
My own conservation ethic	
Part of my job	
It needs to be done!	
Consultant	
It is my job to create and manage wildlife habitat benefits to the watershed are included with these practices.	
Partnerships are essential when work on large systems.	
It is my job.	
Part of my job	
Improve public lands	
DNR requirements	
Want to improve my farm	
Employment in that area	
CR 2008 flood	
Huge need	
Diatom research	
Good for many reasons.	
It's my job	
Desire to better understand the long-term effects of our interactions with the environment and resultant sustainability of our natural resources.	
Desire to improve and save soil which will improve water quality	
My Christian beliefs to take care of God's earth.	
Job Requirement	
Bought land for prairie restoration in Cedar River watershed	
Love of nature	
Reduce erosion of soil during high rainfall periods	
My career is in municipal public works and engineering	
Concern for health of all of our Iowa waterways.	

13. What would discourage you from participating in a watershed improvement project? Please select all that apply.

#	Answer	Bar	Response	%
1	Lack of funding		79	44%
2	Poor leadership		90	50%
3	No time to devote to the project		57	32%
4	Project doesn't offer clear benefits		80	44%
5	Distrust of people or organizations involved		56	31%
6	Questionable outcomes		72	40%
7	Other (please specify)		21	12%

Other (please specify)
I don't know that I would ever walk away from a potential improvement project, I would always do my best to support local efforts and help build relationships.
I need to see individual landowners taking responsibility for what they practice on their land. No time or interest in talking about it any more, or doing expensive edge-of-field water retention. It's not cost effective and won't make big enough impact.
Most groups look at what would help their area without thinking of the effect on the downstream. Flood walls are a great example.
Apathetic project coordination and/or citizenry
Can results be realistically achieved?
Organizations in charge of these activities in Iowa aren't really interested in environmental protection, but rather promoting agricultural interests
Difficulty connecting with Upper Cedar River watershed partners
Lack of action
disagree with approach
poor use of funds by large, bureaucratic agencies, i.e., Corps of Engineers
perhaps time
Don't play well with others
Lack of clearly defined objectives and means for attaining those objectives.
If someone from the government (a person who does no real work) tells what to do.
nothing
physical limitations
Lack of long term commitments
My participation has been in Dubuque County only.
Pre-determined outcomes.
Needs to include jurisdictions

14. In your opinion, what are the characteristics of a successful project. Please rate each item below on a scale of 1 to 5, with 1 = Least important and 5 = Most important.

#	Question	Least Important 1	2	3	4	Most Important 5	Total Responses	Mean
1	Achieved stated goals	1	8	23	80	75	187	4.18
2	Engaged the community	3	5	16	82	81	187	4.25
3	Provided multiple benefits	1	8	35	78	65	187	4.06
4	Provided measurable outcomes	2	5	27	79	75	188	4.17
5	Improved quality of watershed	1	0	13	49	124	187	4.58
6	Other (please specify)	1	0	1	1	6	9	4.22

Other (please specify)
on going efforts to repeat the project
Be open to adopting specific conservation practices on flatter farm ground such as grass where field fence lines continue to disappear.
Trust among partners
Long term benefits - next 100 yrs
River Dredging
jurisdictional control of the watershed through purchase

Statistic	Achieved stated goals	Engaged the community	Provided multiple benefits	Provided measurable outcomes	Improved quality of watershed	Other (please specify)
Min Value	1	1	1	1	1	1
Max Value	5	5	5	5	5	5
Mean	4.18	4.25	4.06	4.17	4.58	4.22
Variance	0.72	0.71	0.75	0.72	0.45	3.51
Standard Deviation	0.85	0.84	0.87	0.85	0.67	1.87
Total Responses	187	187	187	188	187	10

15. What are the key attributes of organizations that have successfully implemented conservation or restoration projects in the Cedar River watershed? Please select all that apply.

#	Answer	Bar	Response	%
1	Have sufficient funding		124	69%
2	Demonstrate results		129	72%
3	Engage broad coalitions		104	58%
4	Are well known in the watershed		55	31%
5	Have dynamic leaders		92	51%
6	Have a strong track record of working in the watershed		83	46%
7	Other (please specify)		16	9%

Other (please specify)



Landowners who are willing to cooperate
 Implementation in the ag portion depends on using NRCS, ISALS, SWCDs, and local commodity groups.
 don't know
 publicity
 Don't have good knowledge of projects.
 DOn't know
 unsure
 local people to encourage practices be installed
 Need to be a trusted or ability to gain trust of the producers and land owners
 Non-regulatory
 Please listen to those in agriculture that farm the land for years and know their farms!!
 do not know of any projects
 Align with Agricultural
 Strong collaborations with partners
 I don't think I know of any successfully implemented conservation or restoration projects in the Cedar River watershed
 Regulatory with money to fund the regulation

16. In your opinion, what organizations or individuals should be involved for a project to be successful? Please select all that apply.





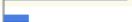

#	Answer	Bar	Response	%
1	Elected officials		113	60%
2	Soil and water conservation districts		165	88%
3	County conservation boards		149	79%
4	Farmers/farmer organizations		168	89%
5	Landowners/developers		173	92%
6	Non-profit conservation organizations		122	65%
7	State agencies		128	68%
8	Federal agencies		94	50%
9	Watershed organizations		150	80%
10	Regional planners/Councils of Government		117	62%
11	Other (Please specify)		20	11%

Other (Please specify)
Municipal governments
Not every project needs every entity listed above, but they're all important entities somewhere in the Basin.
IOWATER volunteers and river cleanup groups
Local citizens
Any groups that may have a stake in what happens with the Cedar River Watershed.
Cities
Ag producers involvement is vital. Need to use SWCDs and NRCS and DSC.
Individuals (homeowners, renters, voters); schools (teachers, students, administrators); designers (landscape architects, architects, engineers); religious community
urban residents of watershed
All the above, the more diciplines that come to the table the more success there will be. The key to success are people coming together to find common ground to move forward.
Even if one of these is involved, it would help show community support
The entire watershed needs to be on board
General Public
Professional Consultants
All can be involved, but the scale of each group's involvement is dependent on the location of the project
research scientists in private as well as public agencies
Local drainage authorities
Interested citizens
depends upon the nature of the project
Iowa State University

17. Are you or your organization actively involved with projects in the watershed?

#	Answer	Bar	Response	%
1	Yes		136	72%
2	No		53	28%
	Total		189	

18. How do you get other groups to support your projects? Please select all that apply

#	Answer	Bar	Response	%
1	Make personal contact with potential partners		112	86%
2	Provide funding		55	42%
3	Highlight common goals or mission		87	67%
4	Ask existing partners to reach out to their contacts		57	44%
5	Highlight track record of success		50	38%
6	Other (Please specify)		10	8%

Other (Please specify)
provide technical assistance
depends on the project
Promote awareness and education
peer pressure
Landowner trust is a must; they are the key to implementing proects on the ground
Believe in what your selling and have prove it will get accomplished
I work alone
Use education to inform others about problem and solutions.
shared interests, informal
Bring in Extension

19. How do you get the public to support your projects? Please select all that apply

#	Answer	Bar	Response	%
1	Broad media/messaging campaigns		56	43%
2	In-person meetings		87	66%
3	Reach out through partners and contacts		84	64%
4	Engage community leaders		77	59%
5	Build a broad coalition		59	45%
6	Engage elected officials		68	52%
7	Raise awareness among youth		26	20%
8	I do not generally reach out to the public for my projects		10	8%
9	Other (Please specify)		8	6%

Other (Please specify)

We generally use a combination of all these (survey application is not accepting more than one choice on this question)

in planning stage

I don't have very specific projects to refer to. Rather, the Cedar River Basin is a conservation priority in a more broad sense, and I may support the projects of others in various ways to the extent that I can.

Host an annual public event

education/awareness

You find local people who are trusted and willing to take a leadership roll.

Make an appointment to look around their operation

20. What is needed to strengthen the capacity of groups working to improve the health of the Cedar River watershed? Please rate the following choices on a scale of 1 to 5, with 1 = Least important and 5 = Most important.

#	Question	Least Important 1	2	3	4	Most Important 5	Total Responses	Mean
1	Funding	2	6	28	38	109	183	4.34
2	Leadership training	6	20	57	66	29	178	3.52
3	Technical assistance	1	6	24	84	67	182	4.15
4	Watershed plans with measureable goals	1	5	23	59	94	182	4.32
5	Other (Please specify)	1	2	1	1	7	12	3.92

Other (Please specify)

The groups that are currently working in the watershed are very strong, capable, and generally well-funded (though that is of course an on-going battle). Another issue is how to get new groups to form. In these groups, each of the above elements is extremely important.

Political Will and understanding of healthy watersheds

for the good of the whole watershed from upper through/to Mississippi

Action

Ability to implement positive change. If voluntary change doesn't work, political will and regulation may be necessary.

ability to implemt BMPs and other practices and the need to get landowners to change and implement practices because it is the right thing to do. Even without funding.

Cooperation (or coercion)

don't know

build awareness



time

Dredging Rivers



More dedicated staff

Statistic	Funding	Leadership training	Technical assistance	Watershed plans with measureable goals	Other (Please specify)
Min Value	1	1	1	1	1
Max Value	5	5	5	5	5
Mean	4.34	3.52	4.15	4.32	3.92
Variance	0.86	1.01	0.66	0.70	4.94
Standard Deviation	0.93	1.00	0.81	0.84	2.22
Total Responses	183	178	182	182	17

21. Are you aware of any formal watershed improvement priorities (e.g., land acquisition targets, water quality goals) that have been adopted for the Cedar River watershed?

#	Answer	Bar	Response	%
1	Yes		80	43%
2	No		105	57%
	Total		185	

22. Do you incorporate these improvement priorities in you work?

#	Answer	Bar	Response	%
1	Yes		53	73%
2	No, (If no, please explain briefly why not)		20	27%
	Total		73	

Yes	No, (If no, please explain briefly why not)
Catch basin study	I am involved, but the project area is out of my jurisdiction.
	not sure what to do
	I don't have a role related to the projects
	I disagree with them
	Not directly related to the work we do
	retired
	Not my area of involvement.
	Presently involved with wetland delineations
	Not applicable
	as county supervisor, it is not part of county policy
	seems they only want to fund practices that are highly visible
	This isn't my direct job
	Most are outside of my particular sphere of influence
	Retired
	involved at the conversation level
	Have not had the opportunity, yet, to work in areas where these have been adopted.
	I am a retired academic!

23. What specific watershed improvement priorities have you incorporated into your work?

Text Responses
Water quality - Nitrate reduction
There is a project on the Rock Creek Watershed going on in the county of Mitchell and we have money we can use for projects within that watershed
Nutrient Reduction Strategy
Subwatershed planning efforts.
Water quality bmp awareness and promotion.
Water quality improvements measured by Nutrient and Sediment Load Reductions
Stormwater management strategies within our campus grounds, reductions and elimination of pesticide and fertilizer applications to campus
Demonstrating stated goals
Help fund land acquisition
Educational awareness
Development of Cedar River TMDL for Nitrate
Prairie restoration, stream bank stabilization, timber management, rain garden construction.
Nutrient management to meet the EPA's reduction goals
Involvement in FEMA CRS program
Restore and manage wetlands and wildlife habitat for the benefit of wildlife, water quality, recreation, and flood prevention.
Wetland creation and enhancement
Lower Cedar...part of a coalition of partners that are strategizing on improvements in our part of the watershed
Nutrient reduction goals, water quality targets (TMDLs, water quality goals)
Joined the Cedar River Watershed Coalition. Own county parks along the watershed and constantly strive to improve this land
Targeting floodprone land along river corridors for easement promotion

I worked directly with the ag community. Best management Practices, Nutrient management from commercial fertilizers and manure, cover crops, Integrated Pest Management, etc
 Distributed storage for flood damage reduction
 Land management, CRP, Stormwater Management,
 Buffer strips, wetland development
 Buffer strips, water ways, wet land restoration, windbreak, quail buffer, food plots,
 Built a bioreactor
 Flood reduction and water quality improvement
 Enforcement of water quality regulations, public education, installation of BMPs (small scale)
 Best management practices on agricultural land
 Shallow water wetlands, cover crop, nutrient management, etc.
 Cedar River Clean up, Dry Run Creek Watershed Assessments
 Removing structures from the flood plain with deed restrictions. Adding additional restrictions to local flood plain ordinance.
 Wetlands restoration around Waterloo/Cedar Falls; Cedar River Water Trail; improved environmental performance in agriculture in pilot projects in impaired subwatersheds
 River water quality monitoring with the intent to improve water conditions
 Water Quality - flood reduction
 Linn County Comprehensive Plan update
 Wetland reconstruction and restoration; habitat improvement; public education
 None, just involved with some administrative duties, i.e., scheduling mtg. room, attending mtg.
 A very diverse conservation organic farm with wild life areas, trees, ponds, many different crops on the contour, grass waterways, and more things.
 Acquiring through purchase, lease, or easement natural areas that absorb, hold and slowly release water after rains or floods.
 In-lake water quality improvements. Wetland and grassland habitat protections and restorations. Minimum till farming and other best management practices.
 Storm water management; maintaining wetland areas.
 As a program officer, I provide leadership and analysis. I track possibilities and trends
 So far we have mostly concentrated on Flood Risk Reduction, but on my own land we have incorporated wetlands, native prairie, riparian buffers and other natural conservation measures.
 Beaver Creek Watershed improvement project for flood mitigation
 Preventive maintenance procedures to reduce sanitary sewer overflows, stormwater erosion and sediment regulations and control
 Promoting cover crops
 Buffer strips, riparian filters, conservation easements, no-till farming, cover crops, terraces, crop rotations

24. What is your vision for the Cedar River watershed?

Text Responses
 To protect the watershed and decrease flooding events. Increase water quality.
 Ultimately achieving adequate flood storage to reduce flood risk while simultaneously achieving other benefits such as improved water quality, wildlife habitat, recreational opportunities, and safe & resilient communities.
 I would like to see locally-led watershed groups form for all the Cedar River's sub-watersheds. These could include Watershed Management Authorities, citizen/farmer led watershed councils, SWCD-led projects, etc.
 Reduce sediment, clear water, reduce nutrient load, lots of wetlands, riparian areas, urban sites hold water on site, farmers reduce runoff by improving soil quality, lots of birds and fish
 Reduce flooding
 That we will decrease flooding and improve water quality by restoring natural areas
 Working together to protect the whole watershed
 Balance between conservation and economic/agricultural development
 A healthy watershed, with good water quality, expanded natural areas and an ability to hold and infiltrate water
 That local communities and landowners all along the basin adopt conservation practices at a level that actually improves the health of the watershed. That communities understand the value of natural areas and wetlands for reducing flood risk instead of turning to hardening of infrastructure to protect against flood risk. With climate change, the system is only going to increase in its flashiness. A widespread effort to restore natural vegetation on a very large scale will be needed to achieve this vision.
 Unknown at this time
 Improved water quality & habitat through education, best land practices and perhaps purchasing more public land along Iowa Rivers.
 Buffer strips
 More land acquired for public open space and more acquisition through conservation easements
 Flood control and water quality improvements that come about from land management, wetland restoration and flood plain improvements
 Increase buffers around all streams and rivers in watershed and increase number of wetland project within the watershed
 Balanced considerations for ag, natural resources, and development, balancing economic and environmental needs
 Recreational development through engineered flood mitigation
 To have a safe, swimmable and fishable river every lowan can enjoy
 Improved water quality.
 Less studies, more implementation

Maintain and improve the existing natural resource base.

Awareness and action upon the central theme of "we're all in this together". That citizens of the watershed understand that an individual action affects everyone within the watershed.

A coalition of groups working together to help mitigate future flooding

Healthy farms and healthy natural environments

A poster project for the process of rehabilitating the hydrology of the watershed to benefit ag, urbanites, and all of its ecological components.

Restoration of natural areas, resulting in more resilient communities (less flooding, better water quality)

Restore it to healthy, functioning, and sustainable state

Recreational attraction for boating, fishing and swimming.

Improve water quality along with wildlife habitat

A quality river that supports a quality life for its quality citizens.

Prepare a dynamic plan for implementing programs and projects to get public involvement to reduce runoff, soil erosion, improve water quality and natural habitat.

Agriculture will remain, but for this to be a long term solutions, agriculture will need to work with the native soils and drainage. In many cases this will include nativization of some areas and riparian zones. Engineered wetlands at the end of a drainage tile is NOT the answer.

To have good water quality and access for anglers, kayaking, canoeing, etc.

A balance of industry, agriculture and nature

Use wild lands (nature) to reduce flood impacts; get development out of the flood plain.

Unified coalition with funds directed to and managed by County conservation and SWCD for permanent projects on public and private property. Includes land acquisition and easements

As natural a watershed as possible, balancing development in a sustainable manner

Within 3-5 years adoption or installation of non-point source best management practices on private land within 10 demonstration watersheds of 50-100 square miles, WQ monitoring of these watersheds, and plan to increase scope and size of demonstration projects in the next 10, 15, 20, years, etc.

A plan with biannual updates that measures run-off rates during events that is owned and reported on to the public. This plan should be able to withstand the politicians who want to redirect funding and allow exceptions.

To have productive sustainable farms that practice the best management practices that keep soil in place and promote infiltration of rainfall, which in turn maintains good water quality. Quality natural areas incorporated into all farm plans that maintain a diversity of fish and wildlife.

A river that does not look like a milkshake and has fish

Individual responsibility; community action; regional cooperation

Limit development/ improve water quality/ provide water storage to reduce future large scale flooding

Prevent future flooding

Clean water for recreation

River with floodplain buffer areas for wildlife and floodplain storage.

Long term transition to perennial agriculture

It would be great to improve water quality but believe industry and cities are worst offenders with little oversight

Protect, restore and enhance the watershed.

A wide understanding by citizens and property owners that a healthy watershed improves both their quality of life and future generations.

To improve water quality and reduce flood events by using the best land management practices available.

A working watershed with a strong commitment to agriculture but just as strong commitment to retain water, soil and nutrients on the landscape.

Protected green space on both sides of the river

Better wildlife habitat (WRP easements) along the river which will slow down flooding and provide multiple benefits.

Upland protection funded up front instead of reacting to floods and paying to fix things up or move the problem down river.

A healthy river that supports ecological functions as well as human needs.

To get the river off the Iowa impaired waters list. Better farming practices

A clean and productive place for everyone to play, work and live.

Water quality that equals the water quality at time of settlement

I'd like to see an approach that uses a variety of practices. One size fits all approach will not work on varying landscapes and diverse stakeholder groups. Restoring wetland may be a better practice in one area while drainage water management may be better in another.

Sustainable agricultural production while minimizing off-site water quality impacts

Map the water flow and create regulations that affect building in the area and waste disposal.

People in the watershed will work together to solve the problems that we identify

A watershed that provide beneficial water resources to agricultural and urban communities, while allowing private citizens to enjoy the rivers, streams and lakes of the watershed.

Flood protection, water quality. Make the Cedar swimmable & fishable

Land management practices which reduce runoff and improve water quality.

to reduce flooding as much as possible

Pristine and healthy water quality because all lowans use best management practices.

It's not clear how it trickles down to affect small towns and how to pay for it

Improved Flood Control & flood mitigation measures

Cleaner. Swimmable. Return of native mussels. Much less ag run-off.

To start with small practices after these are installed organize fields days to explain practices and work up to larger scale

Cleaner Water

It is very early in the planning process. I would be happy with a set of consistent goal and policy statements throughout the watershed for various groups to work toward, even if the works are largely independent.

Reduce flooding and improve the water quality

A watershed with flooding limited to non-developed property, a well-established fishery, providing a variety of recreational opportunities to residents and tourists.

To help regenerate water tables with a quality water source, while having minimal effects on wildlife and easing the risks of flooding

Better water quality

To reduce flooding and improve water quality

Improved water quality for recreation and habitat

Clean water and healthy soils

Conservation practices and activities that enhance the environment and profitability of agriculture.

Rural and urban citizens working together to promote water quality and food mitigation, working to restore and develop wetlands and habitat for future generations

Less Flooding

Lead the state in understanding flooding events, their outcomes, and how we can prepare for them with wetland and conservation measures.

To restore proper farming and land use practices. Not all land is suitable for row crops. regulate land practices by the federal farm bill.

Reduction of the impact of the next 100 year flood.

Low impact restoration; buffer strips along entire length; continuing wetlands and habitat restoration; improved water quality that promotes multi-use recreation

Restoration of year around water flow in seasonal first order streams with water in which native fish survive

Move the corn farmers away from the river

Beautiful landscape that can absorb water due to planning and restoring some natural areas.

Significant improvement of watershed and bigger commitment by ag interests

Try to ease farming and urban activities out of the floodplain - move toward environmentally friendly agricultural practices.

Effective watershed management to protect public and private property, preserve natural resources, and provide year round recreational opportunities.

Clean water for life; a real community resource everyone can be proud of

Transformation to a watershed resilient to the effects of human changes to the environment

Improvement in people working as a community across normal lines [city and county]

Stable, healthy, viable watershed that promotes public recreation and management

An ecological healthy environment people can enjoy

Floodplain as green space as opposed to development. Keep life and property out of harm's way.

To balance economic development with environmental interests

Completed projects to aid in the reduction of flooding and increase water quality.

A national example of wise land-use choices that improves water quality for humans and wildlife and provides passive and active recreation opportunities.

To make the CR Watershed one of the cleanest in the nation but letting agriculture continue to provide food, fiber, feed and fuel for the world.

Restore all floodplains and wetlands to their natural pre-development condition.

Cover crops protecting farmland, permeable pavement in urban areas, river sampling to identify problems and show improvements

Restore water quality so I would eat fish that came from the river.

An area open for recreation and available for land uses suitable to enhance the bank stabilization.

Continue to Educate, Deepen Channels to allow water to not move widen

A balance between agriculture, development and natural areas that results in clean water, a diversity of wildlife, recreational opportunities while reducing the impact of major flood events.

Improvement in water quality | lower chemicals and less flooding

Farms producing with less erosion and cleaner water

Improve water quality

Economy serving the residents with a strong foundation in diversified and sustainable agriculture and other natural resource based ventures. Improved water quality including restored and sustainable fisheries and wildlife populations. High quality of life measures founded in outdoor recreation and pursuits.

Balance of natural areas and sustainable agricultural and urban areas

To provide a manageable watershed area throughout our county and the county's above us

Clear water, lined with land in wild life habitat

Collaborate with many partners to reduce flooding and improve water quality.

Improvement of water quality in the river

A healthier watershed in terms of water quality, soil quality, economy, and recreational opportunities

A beautiful natural corridor with high quality habitat for all types of in-stream and riparian species.

Reduced flooding through habitat enhancement

Collaborative effort by all stakeholders improving the water quality of the Cedar River through voluntary means.

Give as much of it back to mother nature as possible

25. Funding is often cited as an obstacle to implementing projects in the Cedar River watershed. What funding sources should be tapped to implement projects in the watershed? Please select all that apply.

#	Answer	Bar	Response	%
1	Federal grants (e.g., Wetlands Reserve Program)		162	88%
2	State grants (e.g., Resources Enhancement and Protection Program, Watershed Improvement Review Board)		169	92%
3	Local grants		129	70%
4	Iowa's Water and Land Legacy amendment, if adopted		133	72%
5	Private foundations		124	67%
6	Private investment fund		96	52%
7	Other (Please specify)		22	12%

Other (Please specify)
IWILL Has been adopted, it hasn't been funded
NGO and private vendors.
local investment/ownership in projects
Farmers Subsidy funds
everything
landowners
Watershed resident donations. Watershed project fundraisers.
Farm Bill, State Revolving Fund for municipal projects
While funding programs is important, maintaining the practices that are implemented is vital, need to change attitude not because of funding or threat of regulation.
Storm water utility fees; watershed management levy (would need to enable)
grants from urban beneficiaries
All the above should be tapped, don't limit oneself, there is never enough money.
FEMA
private donors, farm tax
owners of land have a responsibility to protect and preserve the land for the future stewards of the land.
property tax breaks or tax on well manage farms.
Adequate CRP rental rates
NFIP
Minnesota's Outdoor Heritage and Clean Water funds
all of above
agricultural partners
Again, it depends upon the nature of the projects and the goals that are set out.

26. Is there anything else you'd like to add about the Cedar River watershed?

Text Responses
If we did more plans that were based on watersheds and not just counties we would have better results.
No
Keep working to make a difference - you're doing a great job already!
We need to take an aggressive approach on protecting our nature resources before it is too late, stop giving money to fix city to fix flood damage and actually attack the areas that could prevent the damage, i.e. tile, lack of wetlands, building to close to rivers, channelizing rivers and streams, and lack of native buffer strips. We can do this, we just need to take action now.
Work with the river and not against it. The middle section needs major engineering solutions. Bridges, water retention ponds, dredging of wetlands, culverts, that allow for the water to follow a path of least resistance. Incorporating these techniques in a way to maximize recreation. (i.e lakes, ponds, for use)
Unfortunately top-down approaches have been the historical method. But I see the greater success coming out of locally led initiatives that don't necessarily conform to what government agencies require. We need to find ways to let folks drive what works best for their communities -- and if it works, don't break it.
Some small successes are taking place in different parts but much more needs to be done -- change is a slow process
Water & water quality have been taken for granted in Midwest
The Cedar River Watershed Coalition should remain in place as a central point of communication. Priorities should be developed within watershed management authority groups but these groups need to include (as voting members) members from County conservation as well as DNR
Breaking watershed into Upper, Middle, and Lower sections oversimplifies the relationships of a City to the watershed - Cedar Rapids is affected by contributions from upstream and can in turn impact the lower section - this survey did not recognize this interaction.
A sense of priority within the agriculture community to apply best practices. Funding can come from a reduction in ethanol mandates

and funding.

Using better floodplain mapping and regulations to limit development and restore wetlands for better water quality and water storage in flooding events.

We need to move away from annual commodity row crop agriculture

Good luck.

Elected officials need to step up and find funding to pay it forward.

No

We're trying

There is great potential to improve the watershed both in river and upland

To reduce damages from flooding, development needs to be kept out of flood plains.

We need widespread adoption of water quality practices to have a significant impact

The local governments seem to be unaware of the importance of doing something to protect it

Legislative support is very necessary to achieve goals along with acceptable directives

Everyone must be involved for the work to be successful.

Nearly 100% of elected officials would ignore long-term environmental concerns at the behest of business entities, including agricultural associations.

State needs more financial involvement

Get local people involved and not so many politicians or regulators

Awareness comes first then money and regulations if citizens decide to have them

The problem is farming practices. The county side is so sterile. Nothing grows but a corn or a bean.

It needs to be supported for a long time, lest we forget the last major flood.

The Cedar was listed on the Top 10 Endangered Rivers by American Rivers several years ago due to outdated flood management and impaired water quality. Shared investments in improved land use management now will yield multiple benefits for diverse stakeholders

I think your survey is aimed at the wrong demographic. Ask the people who live here, not the PhDs.

Farm Bureau and other corporate ag interests acknowledge challenge and be part of solution

Flooding is difficult to affect significantly - people need to be wise as to where they locate their homes and businesses.

There will be no one answer to all the problems. Can we sustain improvements in the amount of years it will take.

there are a lot more people talking about the health of the watershed, and there is a lot more funding for people to talk about the watershed, than there is money or people actually doing anything for the watershed.

Keep programs voluntary

Be sure to use good science not emotional rhetoric to drive the project, always looking at costs against the benefits

Not now

God help our country.

The river is an agricultural and urban sewer! Absentee landowners are allowing the land to be "mined" by farmers who don't give a darn about protecting the land.

I believe the watershed is an economic opportunity in terms of new residential development, with careful consideration of flood hazards.

It is important to make a change for future flood mitigation and plan for the potential floods

We must identify common goals and bring diverse groups and individuals together to find funding and design solutions to prevent the next big flood.

There remain huge disconnects between land use and economic losses due to natural events that have become more likely considering climate changes. Efforts need to involve land owners and local and regional planners to foster land use decisions that are likely to reduce potentials for future losses and minimize on and off site damages, including to the natural environment.

No

Landowners, partners and leaders need a long-term commitment and regulation to ensure that practices will be permanent

Continuing improvement is needed

The Cedar River is one of Iowa's best natural resources, and also home to many people. We still have the opportunity to protect, and restore its natural beauty for the benefit of all.

When it comes to flooding, there will ALWAYS be a bigger flood. Everyone needs to be aware of that and not think that if they didn't get flooded in 2008 they will never be flooded. And that awareness leads to all sorts of planning and regulations for the floodplain.

Without complete buy-in from the agricultural community, everyone is wasting their time.

Need information and education to land owners and renters

Non-farmers are largely oblivious to water-quality steps that farmers have undertaken