Dear colleagues at Housing and Urban Development,

In order to accommodate the reporting system for submitting our deliverables, I wanted to let you know that this document contains the University of Iowa Center for Evaluation and Assessment’s final evaluation report and evaluation guide.

For your reference, the report and guide begin on the corresponding pages within this document:

- Iowa Watershed Approach: Final Report – Page 2
- Iowa Watershed Evaluation Guide: Methods and Reflections – Page 237

Thank you,

Valerie Decker

Assistant Director, University of Iowa Center for Evaluation and Assessment
Iowa Watershed Approach: Final Report

July 28, 2022

As submitted to:
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Introduction

The Iowa Watershed Approach (IWA) was one of 13 projects selected in January 2016 under the National Disaster Resilience Competition (NDRC)\(^1\). The Iowa Watershed Approach (IWA) was “a collaborative project that brought together local, state, federal, and private organizations to work together to address factors that contribute to floods and nutrient flows.” IWA worked in rural and urban communities to reduce flood risk; improve water quality; increase resilience and quality of life, especially for vulnerable populations; and build local and state-wide collaboration and outreach in order to create a replicable program for the Midwest and the United States.

The IWA was a complex project supported by many partners whose goals were both discrete and collaborative. Despite the somewhat specific goals of each IWA partner group, the IWA was also a project that was developmental in nature. The course and progress of the IWA depended on factors both physical (hydrologic factors, weather, geology) and human (project coordinators, planning staff, consultants, and landowners) and the ways in which these physical and human factors combined to affect progress toward the project goals were different in each of the watersheds and communities where the project operated.

With the support of NDRC funds and IWA partners, IWA called for Watershed Management Authorities and designated Iowa communities to be the agents of change in nine designated watersheds across the state of Iowa.

Report format

This review, developed and informed by the work of the University of Iowa Center for Evaluation and Assessment (CEA), is intended to provide a summary of the accomplishments of the IWA over the course of the grant. CEA team members synthesized multiple data sources including interviews and surveys with stakeholders, meeting notes, and direct observations to produce a review that balances accuracy and brevity.

First there will be a brief synthesis of takeaways from IWA. Following that is a narrative description of the components of IWA. Third is a synthesis of data from key Watershed Management Authority stakeholders related to IWA’s four evaluation questions. Finally, the components which included stated outcomes in the proposal will be examined with respect to progress on those outcomes.

Additional information collected or compiled in Year 6 is included as appendices. An evaluation guide outlining the methods and lessons learned in the IWA evaluation is included at the end of this document.

The implementation of IWA ended on June 30, 2022. However, given the varied end dates for the different partner groups after the time-only extension, this report was written to include data collected through April 2022. Therefore, this report will not include the final efforts for IWA watersheds and partners. CEA team members’ efforts on IWA ended on July 29, 2022.

\(^1\) http://portal.hud.gov/hudportal/documents/huddoc?id=NDRCGrantProf.pdf
\(^2\) http://iowawatershedapproach.iowa.gov/
Executive Summary

Context

IWA was implemented within an environment of factors that both supported and hindered implementation (sometimes both). These factors fell into five broad categories: COVID-19 pandemic; weather and climate; landscape; policy and politics; and stakeholder motivation, priorities, and experiences.

Rural Resilience

The rural work of IWA was facilitated in eight watersheds through Watershed Management Authorities (WMAs) with support from HUD NDRC funds, state-level partners, and local partners. WMAs are groups that formally bring together the municipalities, counties, and Soil and Water Conservation Districts within the bounds of a Hydrologic Unit Code 8 (HUC-8) or smaller watershed to address water resources issues. Given their structure, the WMAs were and continue to be mechanisms for supporting collaborative water resources work outside between relevant political jurisdictions to address the problem where the flood risk starts to accumulate upstream.

Each IWA WMA was unique in terms of the local terrain, culture, priorities, strengths, and challenges. Each watershed functioned as a distinct entity, forging somewhat unique paths to accomplish the goals of IWA. To support and guide the work of the WMA, each group employed staff members and consultants.

WMA groups met approximately quarterly from fall 2016 to spring 2022 to conduct business and act on the work of IWA. WMAs had varying levels of engagement within their boards; however, at the end of IWA, all boards were continuing to have formal meetings at least annually.

Key informants and board members said that the focus of WMAs should be securing sustainable funding, especially for a project coordinator. WMAs began discussing funding after IWA ends at meetings between Summer 2019 and Winter 2021. As of June 2022, three of the eight WMAs had secured funding for coordination or administrative support.

Over the course of the program, IWA stakeholders noted successes, challenges, complexities, lessons learned, and ideas for the future. While the specific successes, challenges, and lessons learned are included within this report, it is worth noting that several stakeholders described the complexities of different activities or attributes of the program which made it difficult to decide whether they were strengths or challenges for the program. For example, often elements of the program which made it possible to secure buy-in from landowners on practices within the limited timeframe of the project meant that the coordinators could not strategically place specific types of practices to maximize flood impact within the budget provided. Instead, coordinators felt rushed to implement any practices could secure buy in and funding within the tight timeframe. In addition, there were some program

As of April 2022, all WMAs had met the following benchmarks:
- All eight had finished construction or were actively engaged in the construction of IWA-funded best management practices
- All eight WMAs reported that they had formally allocated the remainder of their IWA funds
- All eight had finalized watershed plans and Flood Resilience Action Plans
- All eight WMAs continued critical discussions about the long-term sustainability and financial viability of their organizations, and three WMAs had formally allocated funding to support WMA staff for the following year
components which were strengths in some watersheds and challenges in others or elements of the program which overall should be carried forward but had reported opportunities for improvement in future iterations.

The identified impacts of IWA have been organized into three categories in the following table: capacity building, community impacts, and landowner impacts. Given the technical nature of these metrics, CEA can only report perceptions of impacts from the perspective of program stakeholders (See Table).

### Reported watershed impacts from the perspectives of stakeholders

<table>
<thead>
<tr>
<th>Category</th>
<th>Reported Impacts</th>
</tr>
</thead>
</table>
| **Capacity building** | • Increasing knowledge and awareness of water issues, working at a watershed scale, and processes to act on water issues  
                      | • Building and strengthening structures for collaboration within their watershed and the state  
                      | • Improving or reaffirming processes and products  
                      | • Experience spending money allocated through IWA by the end of the project  
                      | • Experience conducting WMA meetings, many of which had a quorum to take official actions |
| **Community impacts** | Stakeholders across groups commented that either the program is the beginning of a much larger effort to improve water quality and reduce flooding in the state or it is too soon to tell what the impacts would be given that construction was wrapped up recently or the modeling was not finished  
                      | • Having funding for projects and implementing projects  
                      | • Reduced flooding in some watersheds  
                      | • Improvement in water quality  
                      | • Improved condition and safety of local roads |
| **Landowner impacts**  | Many landowners said it was too soon to know what the impact of their projects would be.  
                      | • Reduction in flooding  
                      | • Reduction in erosion  
                      | • Improvement in water quality  
                      | • Improvement in wildlife habitat  
                      | • Improvement in soil health  
                      | • Added resources for livestock (i.e., ponds)  
                      | • Added opportunities for recreation |

Despite the perceived importance to continue the work of IWA and WMAs into the future, board members across the IWA WMAs had a neutral level of confidence in their WMA’s ability to exist after IWA funding or to secure resources for a project coordinator (that is, they were neither confident nor unconfident, on average).

**Urban Resilience**

Three cities—Coralville, Storm Lake, and Dubuque—were identified as the focal points for IWA’s urban projects. Each urban infrastructure project was selected for its potential to reduce flooding impacts in low-to-moderate income communities in Iowa. The metrics and evidence in support of those metrics are included in the table below.
### Infrastructure project metrics and evidence

<table>
<thead>
<tr>
<th>Community</th>
<th>Metric</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coralville</strong></td>
<td>Protect properties</td>
<td>As described in the IWA newsletter, “This final step protects more than 178 acres of developed land with 116 properties, including homes, businesses, and critical infrastructure. Without these improvements, the flood risk remained the same, and properties in this area would have been vulnerable to future flood impacts.”</td>
</tr>
<tr>
<td><strong>Storm Lake</strong></td>
<td>Prevent flooding of homes and businesses</td>
<td>The infrastructure projects in Storm Lake are designed “to protect commercial and residential property from flooding.” Reflecting on these projects, the City Manager for the City of Storm Lake said, “The biggest thing that we’re able to show our public, our residents, and our city council, ... we’ve seen a remarkable reduction in flooding in the community.”</td>
</tr>
<tr>
<td><strong>Dubuque</strong></td>
<td>Reduce peak storm water flow and property damages from future flash flooding events</td>
<td>The primary goal of the project was to address urban flash flooding and mitigate damage that has been occurring in the neighborhood for more than a decade, and the completed project provides protection from a 500 year rainstorm.</td>
</tr>
<tr>
<td></td>
<td>Improve proximity to park or other green infrastructure</td>
<td>The upper part of the Bee Branch Creek Project resulted in the Bee Branch Greenway, a one-mile park along the Bee Branch Creek.</td>
</tr>
<tr>
<td></td>
<td>Improve water quality</td>
<td>There are several elements included in the infrastructure project that contribute to improved water quality in the Bee Branch Creek: native plants, features to treat and aerate the water (i.e., spillway, floating islands), pervious pavers, and detention basins.</td>
</tr>
</tbody>
</table>

Complementary with the infrastructure projects in Dubuque, The Bee Branch Healthy Homes (BBHH) resiliency program was intended to help low- or moderate- income home and property owners in Dubuque increase the flood resilience and safety of their homes through forgivable loans for structural improvements and home advocacy delivered through social workers. These metrics and evidence in support of those metrics are included in the table on the next page.

### Flood Resilience

The Flood Resilience Team (FRT) was assembled to explore innovative approaches to flood resilience. This broad mandate was operationalized into more concrete projects, goals, and deliverables, which evolved over the course of the program. The FRT worked with consultants to develop a community-wide Flood Resilience Action Plan for a community in each watershed and conducted outreach activities either to collect information to inform the FRAP, to share the results of the FRAP, or to share information about social resilience more broadly. In a complementary effort, Astig Planning, LLC developed a social resilience how-to-guide for FRT titled The Flood Resilience Guidebook for Planners.

Over the course of IWA, additional resilience activities were pursued by FRT:
- FEMA multijurisdictional plans and Flood mitigation elements for watershed
- Support the development and implementation of a Community Care Coordination System
- Bee Branch Healthy Homes Social Resilience Surveys Analysis
### Bee Branch Healthy Homes metrics and evidence

<table>
<thead>
<tr>
<th>Metric</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least one improvement in each home will increase the home’s resilience to flooding</td>
<td>Through BBHH there was a reduction in water intrusion and water damage at properties. Participants most frequently mentioned the improvements to their homes as the best part of their experience in the program and often described a reduction in water intrusion, especially in basements.</td>
</tr>
<tr>
<td>Home improvements will result in reduced mental stress associated with the life disruptions common during flood events</td>
<td>Less water intrusion means less time cleaning up basements, fewer expenses related to cleaning and repair, and fewer damaged items. Participants frequently mentioned deceased stress related to water intrusions and a general increase in comfort and wellbeing.</td>
</tr>
<tr>
<td>Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents</td>
<td>Reduction in dampness and musty odors resulting from reduced water intrusion, exhaust fan, air conditioning, and improved windows and doors will all contribute to improved indoor air quality. On asthma rates, one home advocate described how they were surprised to find few participants had asthma at the beginning of the program, and therefore resulting health outcomes were difficult to measure.</td>
</tr>
<tr>
<td>Home improvements will result in increased opportunities for resilient, affordable housing for these populations</td>
<td>The improvements made to homes as part of the program contribute to existing homes being made more resilient, therefore increasing the number of resilient homes available in Dubuque. These homes also benefited from the Bee Branch infrastructure improvements.</td>
</tr>
<tr>
<td>Improvements to housing structures will lead to measurable increases in property values</td>
<td>While the actual impacts of the improvements on property values will not be observable immediately due to the terms of the projects and the unusual housing market during the COVID-19 pandemic, aspects of the project will likely have an impact on property values. Upgrades to the homes represented money invested in the homes, make them more usable and enjoyable which should translate to increased property values.</td>
</tr>
</tbody>
</table>

### Dissemination

Starting in Year 4, various IWA partners reported sharing the lessons learned with audiences within and beyond the state, developing Best Practice Guides, or indicated their interest in sharing the story as opportunities arise. Outreach activities included presentations at local, regional, and national events, media articles, legislative materials, award nominations, practice tours, and meetings to share the lessons learned of IWA. To this last point, in Years 4 and 5, the IWA partners and communities engaged with stakeholders from North Carolina and Texas who sought to learn more about IWA. Each of these groups were hosted by the Iowa Flood Center and IWA for multi-day visits in Year 4, which included presentations from faculty, IWA partners, and PCs; tours of facilities and practices at various stages of implementation; and open dialogue about how to collaboratively and feasibly address issues such as flood response and recovery and water quality. Building on efforts from Year 5, partners had continued to engage with collaborators from North Carolina and Texas to share progress and lessons learned and to build collaborations in Year 6.
Activities and Outcomes

This section of the report is a synthesis of progress in IWA documented across all six years of the project, organized along the following broad categories: WMA milestones, project coordinators, plans, urban infrastructure projects, Bee Branch Healthy Homes Resiliency Program, IWA partner contributions and support, leverage partners, Flood Resilience Team, and dissemination and sustainability.

WMA Milestones

The rural work of IWA was facilitated in eight watersheds through Watershed Management Authorities (WMAs) with support from HUD NDRC funds, state-level partners, and local partners. WMAs are groups that formally bring together the municipalities, counties, and Soil and Water Conservation Districts within the bounds of a Hydrologic Unit Code 8 (HUC-8) or smaller watershed to address water resources issues. Given this structure, the WMAs were and continue to be mechanisms for supporting water resources work outside of traditional political jurisdictions to address the problem where the flood risk starts to accumulate upstream. Each IWA WMA was unique in terms of the local terrain, culture, priorities, strengths, and challenges. Each watershed functioned as a distinct entity, forging somewhat unique paths to accomplish the goals of IWA.

WMA groups met approximately quarterly from fall 2016-spring 2022 to conduct business and act on the work of IWA. To support and guide the work of the WMA, each group employed a grant administrator, project coordinator, and planning team. They also engaged engineers, construction contractors, archaeologists, and landowners in the watershed to implement eligible best management practices on the watershed landscape. WMAs had varying levels of engagement within their boards; however, at the end of IWA, all boards were continuing to have formal meetings at least annually.

As of April 2022, all WMAs met the following benchmarks:

- All eight had finished construction or were actively engaged in the construction of IWA-funded best management practices
- All eight WMAs reported that they had formally allocated the remainder of their IWA funds
- All eight had finalized watershed plans and Flood Resilience Action Plans
- All eight WMAs continued critical discussions about the long-term sustainability and financial viability of their organizations, and three WMAs had formally allocated funding to support WMA staff for the following year

Project Coordinators

An important aspect of the IWA was the presence in each of the IWA watersheds of a dedicated project coordinator (PC) who was responsible for coordinating the IWA work in the watershed. The WMAs conducted their own hiring process for the PC positions with input and support from IWA partners. The PCs hired by the WMAs had common educational backgrounds focused on the land and how it is used. They brought varied agency experience to their work (e.g., NRCS, US Fish and Wildlife Services, state and county conservation departments, AmeriCorps, and Pheasants Forever), but shared common interests related to working with people and having a positive impact on the land.

WMA PCs received consultation about how to get started on the IWA work from partner organizations (IDALS, IDNR, and UI IFC). Additionally, ISU EO organized multiple events with training sessions for the

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3 https://www.iowadnr.gov/Environmental-Protection/Water-Quality/Watershed-Management-Authorities
PCs including bi-annual Watershed Academies. In addition to support from the IWA partners and other stakeholders, the PCs also reported that a great source of support came in the form of interactions with other IWA PCs, both informally and formally. They described group meetings or conference calls as valuable opportunities to share critical information and support each other through challenges.

Project coordinators had many different roles over the course of the project. Categories of coordinator tasks included:

- Serving as the “boots on the ground” implementing the work of the WMA
- Conducting multifaceted outreach efforts
- Supporting practice implementation
- Participating in formal and informal professional development training opportunities
- Applying for grants to support the work of the WMA

**Plans**

Another important element of the IWA was the explicit designation of funds for IWA WMAs to secure watershed and flood resilience planning consultant services for both watershed-scale plans and Flood Resilience Action Plans. These efforts proceeded at different rates in each of the watersheds over the course of the grant. IWA partners worked to support the WMAs in the planning process.

**Urban Infrastructure Projects**

Three cities—Coralville, Storm Lake, and Dubuque—were identified as the focal points for IWA’s urban projects. Each urban infrastructure project was selected for its potential to reduce flooding impacts in low-to-moderate income (LMI) communities in Iowa.

- The **Coralville infrastructure project** was funded to reconstruct two stormwater pump stations\(^4\) and was completed in February 2018. These two stormwater pump stations were the final step in a collective set of actions outlined to protect the community from a flood which would reach “one foot above the 2008 water levels\(^5\).” That year, IWA reported that this project helped protect 116 properties, which included homes, businesses, and critical infrastructure.

- The **Dubuque Bee Branch Creek watershed project** includes infrastructure projects to improve sewer capacity and “complete the restoration of the Bee Branch Creek.”\(^6\) The project was completed in Fall 2021. In an interview, a team member from the City of Dubuque attributed the reduction in water intrusion in houses in the Bee Branch neighborhood to the infrastructure projects completed along Bee Branch Creek and the improvements made to the homes through the Bee Branch Healthy Homes Resiliency Program.

- The **City of Storm Lake** received infrastructure funding “to help make the community more flood resilient.” The projects funded included “upgrades to the wastewater treatment plant, reconstruction of streets with pervious pavement, and the construction of wetlands.”\(^7\) The project was completed in Fall 2021. In an interview, the City Manager for the City of Storm Lake said, “The biggest thing that we’re able to show our public, our residents, and our city council, ... we’ve seen a remarkable reduction in flooding in the community.” She also described improvements to water quality and a desire to keep making community improvements.

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\(^4\) https://iowawatershedapproach.org/resources/ghost/clear-creek/
\(^5\) https://www.coralville.org/795/Flood-Mitigation
\(^6\) https://iowawatershedapproach.org/resources/ghost/dubuquebee-branch-creek/
\(^7\) https://iowawatershedapproach.org/resources/ghost/north-raccoon-river/
Bee Branch Healthy Homes Resiliency Program

The Bee Branch Healthy Homes (BBHH) resiliency program in Dubuque, IA was intended to help low- or moderate-income home and property owners increase the flood resilience and safety of their homes through forgivable loans. BBHH is implemented by team members with the City of Dubuque, East Central Intergovernmental Association, and the Visiting Nurses Association (VNA) and primarily supports individuals through two program components: structural improvements and home advocacy.

- **Structural improvements** were made to participants’ homes to mitigate or prevent the damaging effects of water infiltration. As a result of the work done on Dubuque residents’ homes, BBHH team members and participants alike observed a reduction in water inundating homes, as well as improvements in physical health and financial well-being.
- Alongside the home improvements, social workers from the VNA serve as home advocates, providing support to community members and matching them with community resources based on their family’s needs. BBHH team members and participants agreed that the home advocates provided useful information about resources in their area.

In February 2019, the Dubuque Bee Branch Team released a video sharing the work of the BBHH program. As of April 2022, the final 25 housing units were under construction. Upon completion, the BBHH will have worked on 307 housing units and spent $8.5 million on home improvements.

IWA Partner Contributions and Support

IWA is supported by many partners whose goals within the scope of the project are both discrete and collaborative. IWA partners were selected because of their unique expertise and ability to contribute to the overall mission of the program. IWA partners have been integral in supporting the development and functioning of the WMAs and the overall implementation of IWA. IWA partners’ support for WMAs varied by their unique role and expertise, as well as the different types of support needed in each WMA. While the IWA partners’ self-reported contributions to the work of IWA were unique to the specific roles and functions of their organizations with respect to the IWA, many of their activities could be more broadly described as providing key resources and support to the project coordinators (PCs), as well as the members of the WMA boards or target communities.

Leverage Partners

Alongside the IWA partners, IWA leverage partners are a diverse collection of entities from across the state of Iowa who indicated their willingness to provide assistance to IWA in a way consistent with their unique expertise and mission. Leverage partners supported IWA project partners and local communities through technical support, planning, funding for practices, dissemination, and support and leadership for the WMA. At a different scale, a few leverage partners described how their organizations supported individuals or private landowners through outreach, technical support, funding for practices, and land protection.

Flood Resilience Team

The role of the IWA Flood Resilience Team (FRT) evolved over the program’s six years. The group was involved in the writing of the IWA proposal and was intended to explore innovative approaches to flood resilience. This broad mandate was operationalized into more concrete projects, goals, and deliverables, which evolved over the course of the program.

The FRT aimed to communicate the needs of socially vulnerable residents (including low to moderate

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8 Final update provided via email 4/19/22 from John Tharp, Grant Administrator
income residents) to community and state decision-makers and provide these residents with social and financial support to prepare for, respond to, recover from, and mitigate the impacts of floods.

The IWA Flood Resilience program strived to address their aims through three goals:
1. Measure, visualize, and communicate flood resilience resources
2. Enhance flood resilience content in formal watershed plans
3. Improve social resources for flood resilience

During year three and throughout the remainder of the program, FRT defined the following activities as their scope of work.
- Community-wide Flood Resilience Action Plans and Social Resilience How-to-guide
- Outreach and education in the form of presentations, trainings, and participation in WMA meetings
- FEMA multijurisdictional plans and Flood mitigation elements for watershed plans
- Support the development and implementation of a Community Care Coordination System
- Bee Branch Healthy Homes Social Resilience Surveys Analysis

The FRT worked with other IWA partners or consultants to carry out each of these activities. The first two activities are directly related to metrics defined in the original proposal to HUD’s National Disaster Resilience Competition (NDRC). The remaining activities were defined by FRT over the course of IWA and reflect additional efforts of the FRT team.

**Dissemination and Sustainability**

One of the overarching goals of IWA is to “develop a program that is scalable and replicable throughout the Midwest and the United States.” Starting at the beginning of Year 4, efforts to share the outcomes and lessons learned in IWA began in earnest. The UI IFC, project coordinators, and the Iowa Learning Farms played a central role in the dissemination efforts facilitating outreach about IWA to a range of audiences. The extent to which other IWA partners reported participating in dissemination and outreach was somewhat a function of their role in the project. Various IWA partners reported sharing the lessons learned with audiences within and beyond the state, developing Best Practice Guides, or indicated their interest in sharing the story as opportunities arise. An overview of Year 6 outreach activities is included as Appendix G.
Reflections from Key Stakeholders

In Fall 2021, the CEA team worked with the principal investigator, Larry Weber, and the Iowa Flood Center team to define questions of interest for the final report. These four overarching questions were integrated into the final data collection efforts with partners, leverage partners, WMA board members, WMA project coordinators, WMA consultants, and participating landowners.

The four questions are:

- What was the context in which IWA operated between 2016-2022?
- What did the overall implementation of IWA look like?
- What is the overall impact of IWA in Iowa?
- What aspects of IWA appear to be most replicable within and beyond Iowa?

Between Years 5 and 6, CEA reached out to the key stakeholder groups in the program (i.e., landowners; WMA board members, staff members, and consultants; partners; leverage partners) to document their perspectives of IWA as a whole. The responses from each group have been integrated here to provide the big picture of IWA from the perspectives of these key stakeholders. See appendices C, D, E, and F for additional details.

Given the nature of the stakeholder groups included in these interviews and surveys, the discussion focuses largely on the work of the Watershed Management Authorities and IWA partner groups. The discussion for components not discussed here (i.e., urban infrastructure projects, Bee Branch Healthy Homes Resiliency Program, Flood Resilience Team) can be found in Infrastructure Projects, Bee Branch Healthy Homes Resiliency Program, and Flood Resilience Team sections.

What was the context in which IWA operated between 2016-2022?

IWA was implemented within an environment of factors that both supported and hindered implementation (sometimes both). These factors fell into five broad categories: COVID-19 pandemic; weather and climate; landscape; policy and politics; and stakeholder motivation, priorities, and experiences.

- **COVID-19 pandemic**: Impacts of the COVID-19 pandemic which began in March 2020 and continued in some form through the end of the program
- **Weather and climate**: Impacts of the weather patterns during IWA, the August 2020 derecho storm, and climate change
- **Landscape**: Ongoing alteration of Iowa’s landscape, karst geology in northeast Iowa, and the scale of the water resources problems in Iowa
- **Policy and politics**: Opportunities within federal policy and grants to support water resources work, overcoming political divides, difficulty securing funding to address flooding especially at the state level, burdensome federal administrative requirements for the grant (i.e., permitting requirements), impacts of state policies on watershed work, and the Des Moines Water Works Lawsuit
- **Stakeholder motivations, priorities, and experiences**: Landowners were motivated to participate in IWA especially for flood reduction, community use of the river, community history of flooding and water quality, experience in the Iowa Watershed project, delays in IWA workflows, economic factors, and losing champions for watershed work

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9 The word stakeholder will be used within this report to describe any member of one of the groups listed above.
What did the overall implementation of IWA look like?

Over the course of the program, IWA stakeholders noted successes, challenges, complexities, and lessons learned in the process. This section is meant to serve as a complement the narrative description of the program provided in the section above. Specific details related to these responses are included in the individual summary reports which correspond to this section.

**Successes**

Stakeholders offered many reflections on what worked in IWA from the perspective of the Watershed Management Authorities and some related to partner support.

**Watershed Management Authorities.** Watershed Management Authorities (WMAs) are a “proven structure” for partners across the state to work together toward common goals. The development of WMAs and corresponding watershed management plans were considered a great accomplishment of IWA. There were many players working on IWA within the watersheds: WMA board members, project coordinators, grant administrators, hired consultants and contractors, local partners, and state-level partners. Generally, board members were satisfied with their interactions with their collaborating groups. To varying levels, WMAs successfully focused on flooding (IWA was described as a “Flood First” project), a broader scope of watershed resilience, and sharing modeling information to inform WMA work. Board members were satisfied overall with the accomplishments of their WMAs.

**Best Management Practices and engaging landowners.** Best Management Practice (BMP) funding through IWA was seen as an opportunity to “[get] actual flood reduction practices on the ground.” Landowners, board members, and consultants described positive impacts with the following groups in the process: project coordinators, contractors, engineers, local partners, state-level partners, members of the public, and landowners. Stakeholders described many successful or important aspects of the BMP process: level of cost-share, completed projects, timeline, design processes (i.e., collaborating with landowners, process flexibility), contracting processes, tools and methods for design and review, navigating the rules of the funding source, funding for local partners to consult on the project, meeting with landowners on their property to discuss projects.

**Watershed plans.** Board members and consultants reported that the development of the watershed plans was successful and that the resulting documents were useful. One consultant described working through a long process to develop a “good product,” and another described putting their watershed plan online to improve community access to the document.

**WMA outreach.** A consultant said using social media for marketing and outreach was a success.

**State-level partners.** Board members largely indicated that all state-level partner collaborations were very or moderately important to the work of their WMAs.

**Leverage partners.** Leverage partners supported IWA projects through support for partners and local communities (i.e., technical support, planning, funding for practices, dissemination, and support and leadership for WMAs) and support to individuals and private landowners (i.e., outreach technical support, funding for practices, and land protection).

**Dissemination.** A few stakeholders described the importance of sharing the story of IWA, both the successes and challenges. This dissemination will provide the big picture of this work statewide and
provide the opportunity for groups to learn from stakeholder experiences in IWA.

**Challenges**

Stakeholders offered many reflections on what did not work in IWA from the perspective of the Watershed Management Authorities and one related to partner support.

**Watershed Management Authorities.** Stakeholders identified challenges for WMAs both as entities and with respect to specific aspects of the work of IWA. With respect to the work of the WMAs as entities, broad themes of challenges included funding, collaboration, staffing, time, and building support with the public.

- **Funding:** Challenges securing funding for implementation, project coordinator, and monitoring sites. In addition, a board member pointed out that WMAs began as a no-cost collaboration which is now soliciting financial contributions to maintain viability
- **Collaboration:** Building the coalition, building trust, urban and rural divides, navigating competing agendas and conflict, transitions to virtual meetings due to COVID-19 restrictions
- **Staffing:** Losing the project coordinator during the project
- **Time:** IWA required time to ramp up and gain momentum, WMAs did not give the implementation of the Nutrient Reduction Strategy the time needed to be implemented
- Building support with the public

**Best Management Practices and engaging landowners.** Stakeholders identified challenges related to implementing BMPs in the IWA watersheds. With respect to BMPs, broad themes included delays in the process, communication about projects, locations of projects, time, methods and tools for consultants, funding, and opportunities for improvement within specific projects.

- **Delays in the process:** Delays in general as well as delays caused by navigating the review and permitting steps to get projects implemented (“red tape”), COVID-19 pandemic, and unsatisfactory contractors
- **Communication about projects:** Challenges related to setting expectations and insufficient communication around changes or questions with project landowners
- **Locations of projects within the watershed:** Narrow practice eligibility areas within the watersheds, siting projects and recruiting landowners, and karst typography limiting BMP locations within the Upper Iowa watershed
- **Time:** Watershed planning and designing projects simultaneously and learning curve in navigating agricultural BMPs
- **Methods and tools for consultants:** Methods and scale for review processes, land acquisition using imminent domain
- **Funding:** Additional federal processes cost extra for consultants, COVID-19 related impacts on supply chains and material prices, local match for the cost share was too much for some landowners
- **Opportunities for improvement within specific projects**

**Watershed plans.** Stakeholders described challenges in the process of developing watershed plans. The broad themes of the comments were related to funding, setting expectations, and board participation.

- **Funding:** Cumbersome for consultants to access funds for FRAP, planning budgets were insufficient
- Setting expectations for work deliverables for consultants
- Lack of local ownership in the watershed plan and planning process
WMA outreach. Board members were least satisfied with public engagement in water issues and WMAs’ influence on state-level policy.

Leverage partners. Leverage partners identified services that they could have provided which were not utilized during IWA: education, planning, and outreach resources.

Complexities
Several stakeholders described the complexities of different activities or attributes of the program which made it difficult to decide whether they were strengths or challenges for the program. Often elements of the program which made it possible to sell practices within the limited timeframe of the project meant that the coordinators could not prioritize using the plan, tools, and outreach to strategically place specific types of practices to maximize flood impact within the budget provided. Alternatively, there were some program components which were strengths in some watersheds and challenges in others. For example, certain watersheds had enough landowner interest to generate a waitlist for future programs while one was only able to recruit a small number of landowners to participate despite outreach efforts and funding.

Lessons Learned
While the specific details of lessons learned are included in each of the summary reports that informed this section, it is worth noting that stakeholders offered lessons learned related to the IWA model, WMAs (especially related to funding), BMPs, and watershed plans.

IWA model. It is important to integrate all aspects of water resources management – including decision structures and funding – into a holistic approach.

Watershed Management Authorities. Stakeholders offered several lessons learned related to funding as well as reflections on opportunities to strengthen collaboration and learn from other WMAs.
- Funding: Local, state, and grant funding will be needed to continue moving this work forward, keep consultants engaged, maintain staff for the WMA, and fund projects to leverage the interest of landowners; need more permanent state funding to address flooding; local funding is not sustainable for counties or SWCDs that may be involved in more than one WMA.
- Stakeholders offered opportunities to strengthen collaborations.
- Opportunities to learn what has and has not worked for different WMAs.

Best Management Practices and engaging landowners. Stakeholders noted that it is important to set expectations and communicate with all landowners and consulting groups and offered strategies for selling practices.

Watershed plans. Stakeholders offered strategies for writing watershed plans.

What is the overall impact of IWA in Iowa?
Based on an overview of anticipated outcomes for IWA conducted during Year 6, the identified

impacts of IWA have been organized into three categories: capacity building, community impacts, and landowner impacts. In addition, several stakeholders offered additional context within the discussion of impacts which will be included at the end.

Capacity building
Capacity building as described here happened within the WMA structures and IWA state-level partner groups. Impacts focused on knowledge and awareness, structures for collaboration, and processes and products.

Increasing knowledge and awareness
- Increased understanding of the importance and complexity of watershed-scale collaborations and WMAs
- Increased water literacy around flooding, water quality, soil health; the interconnectedness of these issues; and strategies to address them in Iowa at a watershed scale
- Increased understanding of the processes required to act on these issues (i.e., funding, staff efforts, collaboration, and public buy-in) and current challenges within the state
- Increased public attention and landowner engagement around flooding, water quality, and soil health
- Increased recognition outside of Iowa of the work of IWA and the need for watershed scale projects

Building and strengthening structures for collaboration
- Creating and engaging within WMAs as vehicles for water resources work across jurisdictions
- Building or strengthening collaborations among groups working in water resources issues in order to leverage different expertise, experience, and research areas

Improving or reaffirming processes and products
- Reaffirming the importance of projects coordinators in the work of WMAs
- Developing watershed plans and a model for future plans that integrates flooding and water quality
- Communication and outreach about BMPs for flood mitigation
- Discussions of the future of WMAs including navigating efforts to secure funding after IWA ends

Community impacts
Given the watershed scale of the practices funded in IWA, the community impacts largely focus on the projects themselves and the corresponding results of those projects. Within the projects themselves, stakeholders described having funding for projects and implementing projects, some larger than would have been otherwise possible without IWA. Additionally, stakeholders described impacts to flooding, water quality, and local roads because of these projects.
- Reduced flooding in some watersheds
- Improvement in water quality
- Improved condition and safety of local roads (including reducing damage and maintenance costs)

Landowner impacts
In Year 6, landowners were invited to describe how their practices were impacting their land. While
several landowners said it was too soon to know what the impacts would be, several described impacts that they have observed on their property.

- Reduction in flooding
- Reduction in erosion
- Improvement in water quality
- Improvement in wildlife habitat
- Improvement in soil health
- Added resources for livestock (i.e., ponds)
- Added opportunities for recreation

Additional context for impacts
Several stakeholders offered additional context within the discussion of impacts. These comments fell into four categories: impacts to be determined, scale of issues and efforts, opportunities to learn going forward, and importance of supporting this work going forward.

- **Impacts to be determined:** Stakeholders often referenced “potential” impacts and noted that the actual impacts will be determined by the Phase II hydrologic modeling or spring rains
- **Scale of issues and efforts:** Some stakeholders described that IWA was a “right step into the future” but that current impacts of IWA will be limited others noted that IWA was “additive” to ongoing water management work in Iowa
- **Opportunities to learn going forward:** Stakeholders described the importance of learning from the challenges and experiences in IWA and to use the measured impacts of IWA to understand the work that is still to be done
- **Importance of supporting this work going forward:** Stakeholders described that Iowa needs to maintain support for WMAs and find permanent funding to continue implementing projects

**What aspects of IWA appear to be most replicable within and beyond Iowa?**
The responses to this question largely came from stakeholders’ responses about what elements of IWA should continue in the future. While there were several recommendations for work or strategies that should continue, it is also worth noting that there were some challenges or conflicting opinions that emerged from related questions. This section will begin with elements that were largely seen as opportunities for the future and then will end with the discussion of nuanced perspectives or challenges that emerged in these discussions.

**Strategies that should continue**
Strategies that should continue ranged from big picture reflections on the scale of watershed work in the state to specific recommendations for changing communication and construction processes with future implementation funds. They are organized by the model of IWA then WMA and partner strategies (See Table 1).

**Challenges and nuanced perspectives**
In their responses, some stakeholders indicated challenges or nuanced perspectives related to future work based on the work of IWA. First, stakeholders reported many challenges to using the WMAs as the vehicles for water management work in the state (i.e., funding and board engagement). Additionally, a few individuals or small groups of stakeholders indicated a desire to return to the way that watershed
work was done in the past or to work against strategies which were otherwise considered best practices through IWA.

**Challenges to using the WMAs for water management work.** Although the need to continue to support WMAs and project coordinators was identified by the stakeholder groups, many board members indicated that they were not confident in their WMAs’ ability to exist after IWA funding or to secure

Table 1. Strategies of IWA that should continue into the future

<table>
<thead>
<tr>
<th>Component</th>
<th>Strategies</th>
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</thead>
</table>
| IWA model          | • Flooding and water quality should be addressed at the watershed scale  
                      • IWA should be adopted statewide  
                      • Decision makers and groups focused on water resources work in Iowa should learn from the experiences of the IWA stakeholders  
                      • Successful WMAs should continue to build on their IWA work to continue their success |
| WMA model          | • Support existing WMAs financially to support project coordinators and implement projects  
                      • Establish more WMAs in the state  
                      • Focus on education and public outreach because their buy-in is needed for future work  
                      • Maintain and expand member collaborations, especially between urban and rural stakeholders  
                      • Leverage experience and expertise of state-level and local partners |
| WMA BMPs           | • Continue to implement projects in IWA watersheds – landowners identified a continued need and interest in another program like IWA  
                      • Implement projects in new areas of the IWA watersheds  
                      • Make some adjustments to the IWA BMP process:  
                        o Increase outreach to landowners that could participate  
                        o Improve contractors screening and increase site visits during construction  
                        o Better navigate construction timelines with seasonal operations  
                        o Allow for flexibility in construction and material costs  
                        o For projects on public land, increase outreach about projects before they start |
| WMA planning       | • Planning can support future efforts and funding  
                      • Develop additional watershed management plans and Flood Resilience Action Plans |
| State-level partners | • Continue to strengthen collaborations  
                      • Balance flooding and water quality in professional work  
                      • Connect communities with funding opportunities  
                      • Provide support and resources to expand the WMA network |
| Leverage partners  | • Support efforts to secure public or private funding for projects  
                      • Provide communication and outreach about practices  
                      • Provide technical assistance |
| Dissemination      | • Publicize the work of the WMAs  
                      • Collectively organize at the state level around flood mitigation |

resources for a project coordinator. Specifically, stakeholders described challenges in securing funding to maintain the work of WMAs going forward: difficulty getting members to contribute financially to the WMA and the state government not supporting the WMAs. Additionally, several stakeholders identified concerns with respect to WMA participation: lack of representation from county conservation boards, conflicts of interest on the WMA board, divisions between rural and urban representatives, overly large size of the board, lack of attendance from some members, watershed issues not being prioritized within member entities, difficulties securing landowners for projects.
Conflicting takes on what was otherwise seen as best practices. A few comments from individual or small groups of stakeholders indicated a desire to return to the way that watershed work was done in the past or to work against strategies advocated for within IWA. These comments included developing and implementing plans at the HUC-12 or county level (rather than the HUC-8 level), adjusting water quality goals within the watershed plan to align with the Nutrient Reduction Strategy (rather than those defined by the EPA), and divide the watershed into rural and urban watersheds (rather than building those collaborations)
Metrics and Outcomes of IWA

The following sections of the report outline progress on the metrics defined in the NDRC proposal as well as progress on other outcomes defined by IWA partners over the course of IWA. The specific metrics described in this section are included as a list in Appendix H.

Watershed Management Authorities

Watershed NDRC Metrics

Each of the IWA watersheds had a set of metrics for documenting progress and success in the original NDRC proposal. While the language of the different metrics was not the same for each watershed, there are overarching themes across watersheds. Given the technical nature of these metrics, CEA can only report perceptions reducing flooding and improving water quality11, reducing soil loss, and improving recreation capacity from the perspectives of the project stakeholders. Each of these themes will be described across all IWA watersheds for the purposes of this summary1213.

This section draws from Appendices A, B, C, D, E, and F as well as previous annual reports.

Reduce flooding and improve water quality

While program stakeholders described some observed impacts of IWA practices on reducing flooding and improving water quality, stakeholders across groups commented that either the program is the beginning of a much larger effort to improve water quality and reduce flooding in the state or it is too soon to tell what the impacts would be given that construction was wrapped up recently or the modeling was not finished.

With respect to reported impacts in these areas, stakeholders offered the following:

- **Key informant**: One stakeholder described that would be reduced damage to local roads, reduced infrastructure maintenance costs, and improved condition and safety of roads because of on-road structures.
- **Consultants**: Two consultants indicated that the program is having a positive impact flooding and water quality with one respondent saying, “Terrific and targeted reduction of flood impacts and improvements in water quality.”
- **Board members**: Most board members indicated that they were satisfied with the work of their WMA and BMP implementation in addressing both flood mitigation and water quality issues.
- **Landowners**: Landowners described impacts on the flow of water or the holding capacity of the structures on their property and impacts related to water clarity or quality. For example, landowners said, “Water is retained on property long after a rainfall event. A great design delivering the required impact to the watershed” and “I am consistently impressed by how clear the water is in the pond as well as when it leaves.”
- **Leverage partners**: Two leverage partners said that IWA would have an impact on flooding issues in the state.

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11 Since many of the IWA practices were designed to reduce flooding with an additional benefit of improving water quality, these themes were often discussed together in response to questions about the impacts of the IWA reflections of these impacts are described here together.
12 Official reporting on IWA metrics is done by the Iowa Economic Development Authority.
13 Measured impacts of projects will be documented by other project partners.
Reduced soil loss
In the landowner survey, while about one third of respondents who wrote comments about the impacts of their projects noted that it is too soon to tell what the impacts would be, more than a quarter of respondents described impacts on their property related to a reduction in erosion. For example, one said, “Water that used to rush through a deep eroded ditch now eases into a pond basin reservoir to be gradually released via a 6 inch diameter overflow pipe into a wetland area.”

Improvements in recreation capacity
In the landowner survey, while about one third of respondents who wrote comments about the impacts of their projects noted that it is too soon to tell what the impacts would be, about one fifth of landowners described an increase in wildlife habitat (“We are already seeing the positive impact the project is making on our local wildlife and habitat creation.”) and one mentioned “added recreation” on their property.

Other measures of success or progress for the WMAs
In addition to the outcomes delineated in the proposal, team members from the Iowa Flood Center also identified measures of progress: whether the WMA spent their allocated IWA funding, whether the WMA had evidence of an engaged WMA, and improvements in watershed literacy.

Spending IWA funding
With respect to spending IWA funding in the IWA watersheds, there are two points in time for evaluating this outcome: budget reallocation in Year 4 and project completion in Year 6.

- **Budget reallocation:** On March 31, 2020, IEDA notified the IWA partners that a large portion of the grant funds for North Raccoon River Watershed Management Coalition and a small portion for the Upper Iowa River WMA and Upper Wapsipinicon River WMA watersheds would be reallocated for “additional stormwater practices in the Bee Branch watershed of Dubuque where practices have already been engineered and completed environmental review.”

- **Project completion:** As of August 2021, all seven WMAs reported that they had allocated the remainder of their funds or that they had sufficient landowner interest and were actively trying to balance funds available with potential projects. During WMA meetings in Year 6 ending in April 2022, all eight WMAs reported that they had finished bidding out their IWA projects, two had finished all construction, and the remaining five had construction underway. All WMAs anticipated completing their construction by June 2022. In addition, three WMAs (East and West Nishnabotna River, English River, and Middle Cedar River) noted that they had additional shovel-ready projects ready for future programs.

Evidence of an engaged WMA
In conversation with team members from Iowa Flood Center, an engaged WMA was defined by whether a WMA consistently had a quorum and was moving the work of their WMA forward.

Quorum
WMAs need to have a quorum in order to take formal action and conduct business. The attendance requirements for quorum are defined in each WMAs bylaws. In Year 6, groups had a quorum at 16 out of 18 WMA meetings (89%). This is an improvement over the previous years’ attendance (65% for year 5, 85% for year 4).14 See Table 2.

14 Whether or not a WMA had quorum at a given meeting was only tracked by CEA in Years 4-6.
Table 2. Breakdown of meeting and quorum frequency for Years 4-6

<table>
<thead>
<tr>
<th>Watershed</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Meetings</td>
<td>Quorum</td>
<td>Meetings</td>
</tr>
<tr>
<td>Clear Creek</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>East and West Nishnabotna River</td>
<td>2</td>
<td>2</td>
<td>3*</td>
</tr>
<tr>
<td>English River</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Middle Cedar River</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>North Raccoon River</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Upper Iowa River</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Upper Wapsipinicon River</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>20</td>
<td>17</td>
<td>23</td>
</tr>
</tbody>
</table>

*Note: During one meeting in Year 4, East Nishnabotna had a quorum and West Nishnabotna did not.

Moving the work forward

Key informants described that the model of IWA should or would be adopted statewide and that it was likely that the WMAs which have been successful will continue to be by building on the work done through IWA. Consultants gave complementary responses saying that establishing and maintaining the viability of the WMAs appear replicable within Iowa. Key informants described opportunities to build on the work of IWA when funding comes available. These individuals described having interested landowners, existing relationships with partners, and active local partners with experience in several elements of watershed work. Complementary with this, IWA leverage partners described that they would remain engaged in water management work in the IWA watersheds after IWA ends by providing support such as public funding, communication and outreach, and technical assistance. Key informants group also described several opportunities for WMAs to build on IWA in the future: leveraging planning to support future efforts and funding, securing funding to support a project coordinator, collectively organizing at the state level to maximize flood mitigation efforts.

Building on a primary identified focus areas for the future, key informants and board members said that the focus of WMAs should be securing sustainable funding, especially for a project coordinator. One board member wrote that the focus should be on “build[ing] on the momentum we have achieved and aggressively seek[ing] more funding for projects.” As described in Table 3, WMAs began discussing funding after IWA ends at meetings between Summer 2019 and Winter 2021. As of June 2022, three of the seven WMAs had secured funding for coordination or administrative support.

Table 3. Overview of timing for discussions about funding post-IWA

<table>
<thead>
<tr>
<th>Watershed</th>
<th>Beginning of conversations about funding post-IWA</th>
<th>Funds committed to support WMA staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Creek</td>
<td>Winter 2020</td>
<td>Fall 2021</td>
</tr>
<tr>
<td>East and West Nishnabotna River</td>
<td>Winter 2021</td>
<td></td>
</tr>
<tr>
<td>English River</td>
<td>Winter 2021*</td>
<td></td>
</tr>
<tr>
<td>Middle Cedar River</td>
<td>Summer 2019</td>
<td>Spring 2022</td>
</tr>
<tr>
<td>North Raccoon River</td>
<td>Fall 2020</td>
<td></td>
</tr>
<tr>
<td>Upper Iowa River</td>
<td>Summer 2021</td>
<td></td>
</tr>
<tr>
<td>Upper Wapsipinicon River</td>
<td>Winter 2020</td>
<td>Winter 2022</td>
</tr>
</tbody>
</table>

*Note: Deadline for application for FEMA BRIC funds.
Despite the perceived importance to continue the work of IWA and WMAs into the future, board members across the IWA WMAs had a neutral level of confidence in their WMA’s ability to exist after IWA funding or to secure resources for a project coordinator. Clear Creek had a high consensus of confidence that their WMA could continue to exist after IWA, North Raccoon River had a consensus of little confidence, and confidence in the remaining WMAs was neutral.

**Improvements in watershed literacy**

Looking back on their experiences participating on the WMA, most WMA board members reported learning about various water resources topics or building their awareness of what it takes to make improvements on water issues (flooding, water quality, soil health) in the state. This included information about water issues and mitigation strategies, the importance of funding, and the importance of buy-in from board members and members of the public. In interviews with stakeholders engaged in the WMAs, several stakeholders described that building awareness of and action for flood mitigation or other water resources work at the watershed scale were impacts of IWA. For example, one stakeholder said, “We’re looking past those geographical lines on a map. We can work past those for the betterment of all of us.” He described the importance of doing projects upstream to impact communities downstream in the watershed. He said that it makes good fiscal and management sense to “position those [projects] where they’re going to provide the most benefit.” He said that being able to cross those jurisdictional boundaries successfully will be the biggest impact.

**Infrastructure Projects**

**Infrastructure NDRC Metrics**

The IWA team defined metrics for each of the IWA infrastructure projects in the original proposal. Similar to the strategy in the Watershed Management Authority section, CEA can report on perception of progress for most of the metrics identified. A summary for each metric will be included following a brief description of the project.

This section draws from previous annual reports as well as video and media resources cited in text.

**City of Coralville**

The Coralville infrastructure project was funded to reconstruct two stormwater pump stations and was completed in February 2018. These two stormwater pump stations were the final step in a collective set of actions outlined to protect the community from a flood which would reach “one foot above the 2008 water levels.”

*Protect properties*

As described in the IWA newsletter in Year 4, “This final step protects more than 178 acres of developed land with 116 properties, including homes, businesses, and critical infrastructure. Without these improvements, the flood risk remained the same, and properties in this area would have been vulnerable to future flood impacts.”

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15 To date, CEA has not received any information from stakeholders about property values or job creation related to any of the projects.
16 https://iowawatershedapproach.org/resources/ghost/clear-creek/
17 https://www.coralville.org/795/Flood-Mitigation
18 https://mailchi.mp/3f51380b65a0/iowa-watershed-approach-newsletter
City of Dubuque Bee Branch Creek Restoration Project
The Dubuque Bee Branch Creek watershed project includes infrastructure projects to improve sewer capacity and “complete the restoration of the Bee Branch Creek.” A video showcasing the project can be found at this link. The project was completed in Fall 2021.

Reduce peak storm water flow and property damages from future flash flooding events
In the video referenced above, Deron Muehring, Civil Engineer with the City of Dubuque said that the primary goal of the project was to address urban flash flooding and mitigate damage that has been occurring in the neighborhood for more than a decade. He described that the completed project provides protection from a 500 year rainstorm.

This investment in the Bee Branch Creek Watershed has been directly related to the work of the Bee Branch Healthy Homes program (See Bee Branch Healthy Homes Resiliency Program section). In Years 4 and 6, the grant administrator for BBHH explained that the infrastructure improvements in Dubuque were complementary with the structural improvements in the healthy homes program to reduce water inundation within the homes in this community.

Improve proximity to park or other green infrastructure
In the video, Muehring described that the upper part of the Bee Branch Creek Project resulted in the Bee Branch Greenway, a one-mile park along the Bee Branch Creek. He said that the park provides:

- Access to greenspaces and water for recreation in a space that is safer than the city streets
- a venue for community members living in the area (i.e., young families, blue collar households) to meet one another and interact.
- A community connection to a trail system which connects all the way from Dyersville to the Mississippi River

Improve water quality
In the video, Muehring also noted that there are several elements included in the infrastructure project that contribute to improved water quality in the Bee Branch Creek: native plants, features to treat and aerate the water (i.e., spillway, floating islands), pervious pavers, and detention basins.

City of Storm Lake
The City of Storm Lake received infrastructure funding “to help make the community more flood resilient.” The projects funded included “upgrades to the wastewater treatment plant, reconstruction of streets with pervious pavement, and the construction of wetlands.” The project was completed in 2021.

Prevent flooding of homes and businesses
In an article from the Storm Lake Times Pilot June 10, 2022, the author described that the infrastructure projects in Storm Lake are designed “to protect commercial and residential property from flooding.” When the construction was still in progress in IWA Year 4, Keri Navratil, City Manager for the City of Storm Lake, said, “The biggest thing that we’re able to show our public, our residents, and our city

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19 https://iowawatershedapproach.org/resources/ghost/dubuquebee-branch-creek/
20 https://iowawatershedapproach.org/resources/ghost/north-raccoon-river/
council, ... we’ve seen a remarkable reduction in flooding in the community.” She described that their progress is not an indicator that the work is complete, but it does demonstrate that they are making an impact.

Bee Branch Healthy Homes Resiliency Program

Bee Branch Healthy Homes NDRC Outcomes

During year six, as IWA and BBHH neared completion, BBHH team members were asked about the program’s success in reaching the metrics laid out in the initial IWA proposal. This section summarizes their answers by metric. The discussion also draws on comments provided by BBHH participants when relevant.

This section draws from Appendices J and K as well as previous annual reports. A history of the BBHH program can be found in Appendix I.

At least one improvement in each home will increase the home’s resilience to flooding

Team members highlighted that through BBHH there was a reduction in water intrusion and water damage at properties. Improvements like sump pumps, gutters and downspouts, tuckpointing, and new roofs all contributed to reductions in water intrusion. This sentiment was echoed by the participants CEA spoke to throughout the program, who most frequently mentioned the improvements to their homes as the best part of their experience in the program, and who often described a reduction in water intrusion, especially in basements.

Home improvements will result in reduced mental stress associated with the life disruptions common during flood events

Team members again highlighted the benefits that come along with reduced water intrusion into homes. Team members described how less water intrusion meant less time cleaning up basements, fewer expenses related to cleaning and repair, and fewer damaged items. They also described how in some homes, basements were unusable prior to the improvements because of frequent water intrusion. When asked about the impact of the program on their lives, participants most frequently mentioned deceased stress related to water intrusions and a general increase in comfort and wellbeing.

Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents

Team members highlighted how reduction in dampness and musty odors resulting from reduced water intrusion, exhaust fan, air conditioning, and improved windows and doors will all contribute to improved indoor air quality. On asthma rates, one home advocate described how they were surprised to find few participants had asthma at the beginning of the program, and therefore resulting health outcomes were difficult to measure.

Home improvements will result in increased opportunities for resilient, affordable housing for these populations

Team members described how the improvements made to homes as part of the program contribute to existing homes being made more resilient, therefore increasing the number of resilient homes available in Dubuque. They also highlighted how these homes would benefit by the Bee Branch infrastructure improvements made as part of the IWA project and said that neighbors might be inspired to make similar improvements after observing BBHH projects.
**Improvements to housing structures will lead to measurable increases in property values**

While the actual impacts of the improvements on property values will not be observable immediately due to the terms of the projects and the unusual housing market during the COVID-19 pandemic, team members described the aspects of the project that will likely have an impact on property values. They described how the upgrades to the homes represented money invested in the homes, making them more usable and enjoyable, and expected these to translate to increased property values. Team members also mentioned that some upgrades (landscaping and new roofs, as an example) could improve the curb appeal of the homes. While participants were not asked directly about home values, six interviewed participants specifically mentioned increased home value as a positive impact from the program.

**Flood Resilience Team**

Although the work of the Flood Resilience Team changed form at different points in time during IWA, the team, partners, and funded consultants met the stated metrics as well as developing additional resources to inform watershed work in the future.

This section draws from Appendices M, N, O, P, Q, and R; previous annual reports; and references on the web cited in text. A history of the BBHH program can be found in Appendix L.

**Flood Resilience Team NDRC Outcomes**

In the National Disaster Resilience Competition (NDRC) proposal\(^{21}\), the authors specified resilience metrics for each watershed. Community Flood Resilience Metrics for each IWA watershed were written in the proposal. The following approximates the metrics given that the target areas or populations are different for each watershed: “Improved resilience to flooding, especially in [specified local area] area, through programs to promote awareness and develop a community-wide Flood Resilience Action Plan.” Programs to “promote awareness” have been broadly defined by the FRT to include outreach and education activities. Supporting evidence for the outreach columns of Table 4 is included in Appendix M.

### Table 4. Overview of actions to improve resilience to flooding in identified communities

<table>
<thead>
<tr>
<th>Watershed</th>
<th>Community</th>
<th>FRAP</th>
<th>FRAP Consultant</th>
<th>Outreach</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>General</td>
<td>FRAP-focused</td>
<td></td>
</tr>
<tr>
<td>Upper Iowa</td>
<td>Freeport</td>
<td>Website, Plan</td>
<td>Luther College</td>
<td>✓</td>
</tr>
<tr>
<td>Middle Cedar</td>
<td>Vinton</td>
<td>Website, Plan</td>
<td>Iowa Valley RC&amp;D</td>
<td>✓</td>
</tr>
<tr>
<td>Clear Creek</td>
<td>Coralville</td>
<td>Website, Plan</td>
<td>Astig Planning LLC</td>
<td>✓</td>
</tr>
<tr>
<td>Upper Wapsipinicon</td>
<td>Quasqueton</td>
<td>Website, Plan</td>
<td>Northeast Iowa RC&amp;D</td>
<td>✓</td>
</tr>
<tr>
<td>English River</td>
<td>Iowa County</td>
<td>Report, Grant proposal</td>
<td>French-Reneker-Associates, Inc.</td>
<td>✓</td>
</tr>
<tr>
<td>North Raccoon</td>
<td>Gowrie</td>
<td>Report</td>
<td>UI Iowa Flood Center</td>
<td>✓</td>
</tr>
<tr>
<td>East and West</td>
<td>Riverton</td>
<td>In Progress as</td>
<td>JEO Consulting</td>
<td>✓</td>
</tr>
</tbody>
</table>

Based on a review of FRT products and activities, the FRT has worked with consultants to develop a community-wide Flood Resilience Action Plan for a community in each watershed and conducted outreach activities either to collect information to inform the FRAP, to share the results of the FRAP, or to share information about social resilience more broadly. In a complementary effort, Astig Planning, LLC, the developers of the Coralville FRAP, were also hired to develop the social resilience how-to-guide for FRT: The Flood Resilience Guidebook for Planners which was completed in IWA Year 5. The guidebook was intended to focus on innovative practices and lessons learned and is intended for a national planning audience. The guidebook discusses “an approach for implementing a FRAP and provide additional examples on how to do so within a context of compounded disasters” and “aims to help planners build strategies that are innovative, flexible, and engaging for building community resilience during challenging times.”

Other Activities
Over the course of IWA, additional activities were prioritized by FRT. While these activities were not originally defined in the NDRC application, they reflect the efforts of FRT.

**FEMA multijurisdictional plans and Flood mitigation elements for watershed plans**
Built from a partnership between the FRT and the Iowa Department of Homeland Security and Emergency Management (HSEMD) which started in Year 1, the teams collaborated to develop processes for integrating flood mitigation elements into watershed plans which would support a watershed approach for federal funding applications (identified in Years 3 and 4 as developing “a process for multijurisdictional flood mitigation project planning in Iowa”). While the multijurisdictional plans were originally intended to be directly informed by a new type of watershed plan, an HSEMD team member stated he does not anticipate that the flood mitigation information in the watershed project plans will be “specific enough to get flood mitigation dollars.” Regardless, during Years 2 through 4, both HSEMD and FRT provided materials to planners, which included components previously identified to be important for hazard mitigation funding applications.

In Years 3 through 6, FRT, HSEMD, and collaborators in the Iowa Flood Center developed, refined, and tested a process for a watershed approach for federal funding applications. This effort included the development of a methodology to determine if acceptable economic benefit-cost ratios could be achieved using proposed IWA flood mitigation practices to produce an analysis that is “credible and actionable from FEMA’s perspective.” In year 4, FRT and HEMD began actively pursuing multijurisdictional flood mitigation project applications to submit to FEMA’s Building Resilient Infrastructure and Communities (BRIC) program for the January 2021 and 2022 deadlines. The collaboration produced applications for federal funding on behalf of Dubuque County, Dyersville, Vinton, and Iowa County (See Table 5).

While only one of the proposals was awarded with its first application for funding, an HSEMD team member noted that the design and engineering work that went into the application for FEMA funding can now be reused to pursue funding through different sources including state flood recovery fund. He said that HSEMD plans to continue efforts to support Iowa communities in pursuing these applications. As one of their deliverables of IWA, HSEMD is in the process of refining their Strategies for Flood Resilience Report which will be hosted on the HESMD website in the future. Their report outlines what state and federal agencies can do to help communities with watershed approach flood reduction.
Table 5. Table of applications for federal funding using a watershed approach which was assembled by CEA and updated by a team member with HSEMD in November 2021.

<table>
<thead>
<tr>
<th>Community</th>
<th>Initial grant program</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dubuque County</td>
<td>NRCS Watershed and Flood Prevention Operations (NRCS WFPO)</td>
<td>Awarded</td>
</tr>
<tr>
<td>Dyersville</td>
<td>FEMA Building Resilient Infrastructure and Communities (BRIC)</td>
<td>Not selected, In the process of resubmission for the 2022 FEMA BRIC deadline (as of 11/2021)</td>
</tr>
<tr>
<td>Vinton</td>
<td>FEMA Hazard Mitigation Grant Program (HMGP)</td>
<td>Application not submitted; project funded through other means, Vinton may choose in the future to apply for an expanded project to FEMA BRIC or HMGP</td>
</tr>
<tr>
<td>Iowa County</td>
<td>FEMA BRIC</td>
<td>Not selected, Submitted for FEMA HMGP, currently under review</td>
</tr>
</tbody>
</table>

Support the development and implementation of a Community Care Coordination System

The development of a Community Care Coordination System that integrate flood risk information into an existing care coordination tool was the culmination of discussions which started in Year 1 with team members from the Hawkeye Area Community Action Partnership. The effort progressed through discussion and collaborations with United Way of East Central Iowa, Linn County Public Health, and Signify Community. Signify Community (formerly TAV Connect) is an online platform for care coordination produced by Signify Health and used by many organizations that provide community care in Iowa. The collaboration with LCPH sought to add a new tool for care coordination to the Signify Community platform. This new tool will allow care providers to identify, within their current platform, those at risk of flooding or who have experienced flooding in the past. With this new feature in place, care providers will be better able to understand the needs of vulnerable community members and better coordinate their care.

In February 2021, LCPH reported that the new feature had been implemented in Signify Community and that a training module for the new workflows has conducted virtually. They also shared that the new tools have been used by team members at the Hawkeye Area Community Action Program (HACAP) and had been integrated into HACAP’s system without any serious issues. In an April 2021 report, the team member provided additional details about the types of needs the new system helped address, including removing debris and damaged furniture, carpet, and/or drywall, water removal, mold mitigation, and construction and repairs. In this report, the team member also shared that other community-based organizations had undergone training to use the new feature, including the Catherine McAuley Center, the Eastern Iowa Health Center, the Abbe Center for Community Mental Health, the Community Health Free Clinic, Waypoint Services, and other team members at Linn County Public Health.

Bee Branch Healthy Homes Social Resilience Surveys Analysis

The analysis of the Bee Branch Healthy Homes Resiliency Program surveys was still in progress as of June
Appendices

Appendix A - Individual Watershed Summaries

This section contains an overview of the activities and outcomes within each watershed in Year 6. Each summary is supplemented by a timeline of the process milestones achieved since the inception of the IWA. For a more comprehensive report of WMA meetings, see Appendix B. Note that some IWA related updates or activities happened uniformly to all WMAs such as having the opportunity for a time-only extension or Iowa Flood Center announcing that they have practice signs ready or that they are working with the project coordinators or engineer on information to model the impact of IWA practices. These types updates are not included in the individual summaries unless they were referenced directly by the WMA staff as influential in their process or decision making.

Clear Creek Watershed Coalition

The Clear Creek Watershed Coalition (CCWC) met three times during Year 6. All three meetings were conducted in-person with a call-in option. The coalition had a quorum at all three meetings.

As of April 2022, construction was complete for three bid packages with construction underway for packages 4-7. John Rathbun, Project Coordinator, reported that bid package 7 was their last for IWA. He said that they have obligated all but $27,000.

Astig Planning LLC received an award at the APA Iowa Chapter Annual Conference for their work on the Coralville Flood Resilience Action Plan.

During the October 2021 coalition meeting, Rathbun announced that the coalition was awarded a 4-year Iowa Partners for Conservation grant from NRCS. He described that this grant will cover the efforts of a project coordinator (outreach and water quality sampling) through September 2025. As a result of this award, the board decided not to formally ask the member entities for contributions until the end of the NRSC grant. In anticipation of a future ask, the board recalculated the funding contributions for the
member entities to take into account updated census information.
In addition, the CCWC or its member entities have the following projects underway:

- Repair of a fen at the headwaters of Clear Creek (funded by federal infrastructure funds)

Over the course of the year, the CCWC identified the following challenges or impacts of challenges in their watershed:

- Increases in prices for construction materials
- A contractor seeding non-native grasses and not correcting the mistake

**East and West Nishnabotna Watershed Management Coalition**

The East and West Nishnabotna Watershed Management Coalition (EWNWMC) met three times during Year 6: two coalition meetings and one project tour. The two coalition meetings were conducted in-person with a Zoom call-in option. The coalition had a quorum at both meetings.

As of March 2022, a member of the JEO team reported that all packets had gone out to bid, construction on five packets was complete, three were in progress, and one to be started (anticipated construction would be wrapped up in May 2022). The team member said that they currently have a small buffer of $32,000 remaining. The team member noted that there are additional projects which are shovel-ready but there is not enough IWA funding.

Cara Marker-Morgan told the board to anticipate another field day to see completed projects in the future.

In March 2022, team members from JEO and IFC described current efforts on their Riverton Road Mitigation Study, the EWNWMC Flood Resilience Action Plan. They reported that the project will wrap up in June 2022.

In January 2022, Cara Marker-Morgan presented to the North Raccoon River Watershed Management Coalition.

In December 2021, the EWNWMC convened a committee to suggest a multiyear plan for the future focus of the WMA and funding the WMA after IWA funding ends. In March 2022, a member of the committee shared updates and survey results. He said that the takeaway message was the funding from
the state would be beneficial. He reviewed the findings from the survey which included data about who should lead, what focus areas should be, sources of funding, and specific project needs.

In addition, the EWNWMC or its member entities have the following projects underway:
- Iowa Silver Jackets East Nishnabotna PL-566 study
- Grant for Hamburg Wetlands
- Iowa Flood Center’s efforts to provide more detailed flood mapping
- Economic Development Authority project in Pacific Junction and Hamburg to create a land use plan and visioning plan

Over the course of the year, the EWNWMC identified the following challenges or impacts of challenges in their watershed:
- The coalition does not have any communities with a large tax base to provide funding for a project coordinator
- Building buy-in with communities upstream in the watershed since the only areas eligible for IWA funding were in the southernmost portions of the watershed
- Getting input from the member entities about the direction of the WMA or potential projects
- Learning curve associated with installing bioreactors which are not common in that part of the state

English River Watershed Management Authority

### English River Watershed Management Authority Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hired PC (Bailey)</td>
<td></td>
</tr>
<tr>
<td>90/10 costshare began</td>
<td></td>
</tr>
<tr>
<td>Contractor meeting</td>
<td></td>
</tr>
<tr>
<td>Watershed plan completed</td>
<td></td>
</tr>
<tr>
<td>Construction began</td>
<td></td>
</tr>
<tr>
<td>Project application finalized</td>
<td></td>
</tr>
<tr>
<td>Approval of 1st application</td>
<td></td>
</tr>
<tr>
<td>1st Bid Packet</td>
<td></td>
</tr>
<tr>
<td>FRAP Began</td>
<td></td>
</tr>
<tr>
<td>Redistribution of IWA Funds</td>
<td></td>
</tr>
<tr>
<td>Last bid packet</td>
<td></td>
</tr>
<tr>
<td>All IWA funds allocated</td>
<td></td>
</tr>
<tr>
<td>Time-only extension</td>
<td></td>
</tr>
<tr>
<td>FRAP Completed</td>
<td></td>
</tr>
</tbody>
</table>

The English River Watershed Management Authority (ER WMA) met once and provided one email update to the board. The coalition meeting was conducted via Zoom. The coalition had a quorum at the meeting.

In November 2021, Jody Bailey, Project Coordinator, said that 403 structures were put out to bid through IWA. She said that three bid packets are complete and five are under construction. In an email in February 2022, Bailey said that the WMA has $1 million in shovel-ready projects without current funding, and she is regularly contacted by landowners wanting to participate.
The WMA board was anticipating a tour of completed projects in summer 2022.
As of February 2022, Bailey said that their FEMA grant application that was submitted was still pending.
In addition, Bailey said that the WMA is working with Iowa State Representative David Seick to advocate for sustainable state funding for WMA coordinators after IWA is complete. She encouraged board members to advocate for this and to put in a good word about WMAs in conversations with legislators.

Middle Cedar Watershed Management Authority

Middle Cedar Watershed Management Authority Timeline

The Middle Cedar Watershed Management Authority (MCWMA) met three times during Year 6. All three meetings were conducted in-person with a Zoom call-in option. The WMA had a quorum two out of three meetings (At one meeting, the group met quorum mid-way through the proceedings).
In January 2022, Jennifer Fencl, Grant Admin and Project Coordinator, reported that all construction and seeding is finished. Fencl described that several partners provided local match for IWA projects: IDALS, IFC (through an EPA grant), TNC, agribusiness, and IDNR prairie partners). She said that there were projects that went through the design and review process that were not constructed. She said that she passed that information to IDALS to see if they are interested to fund those projects. She said that they were curious to receive that information. During the April 2022 meeting, a board member noted an issue with overspending the IWA practice budget. Fencl said she was working with IEDA and another IWA watershed to navigate the issue.
In April 2022, Fencl introduced an opportunity to contract with EOR, the former planning team, to conduct targeted outreach out their watershed plan and create summary documents. The board indicated support but did not have a quorum to vote. In addition, she reported progress in assembling outreach banners and a “brag book” using their remaining planning funds.
Fencl described that she and board members are working with IFC to plan an IWA celebration meeting and tour in Vinton, IA. In addition, Kate Giannini, IFC, said that they are planning a future tour for US Army Corps of Engineers to see the project in the watershed.
After revising their funding formula numbers in October 2021, as of April 2022, Fencl reported that the board has raised $39,000 out of their goal of $50,000 for member contributions for the WMA. The board informally voted to have ECICOG develop materials describing their role as grant administrator given the
current budget available.
In addition, the MC WMA or its member entities have the following projects underway:

- Ongoing project with North Iowa Agronomy Partners
- Cedar Rapids Clean Water Partnership (formerly “Edge of Field Blitz”)
- Cedar Rapids Source Water RCPP
- Dry Run Creek mitigation project in Cedar Falls

Over the course of the year, the MCWMA identified the following challenges or impacts of challenges in their watershed:

- Consistently achieving quorum at quarterly meetings
- Funds overspent by the WMA for IWA projects

North Raccoon River Watershed Management Coalition

<table>
<thead>
<tr>
<th>North Raccoon River Watershed Management Coalition Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>90/10 costshare began</td>
</tr>
<tr>
<td>Hired PC (Agua)</td>
</tr>
<tr>
<td>Hired Planner (EOR)</td>
</tr>
<tr>
<td>Watershed plan completed</td>
</tr>
<tr>
<td>Redistribution of IWA Funds</td>
</tr>
<tr>
<td>FRAP began</td>
</tr>
<tr>
<td>1st Bid Packet</td>
</tr>
<tr>
<td>Time only extension</td>
</tr>
<tr>
<td>WMA formed</td>
</tr>
<tr>
<td>Hired Engineer (EOR and WHKS)</td>
</tr>
<tr>
<td>Began discussing funding Post-IWA</td>
</tr>
<tr>
<td>Construction began</td>
</tr>
</tbody>
</table>

The North Raccoon River Watershed Management Coalition (NRRWMC) met three times during Year 6. All three meetings were conducted in-person, in one case in three separate in-person locations, with a Zoom call-in option. The WMA had a quorum two out of three meetings.

As of April 2022, Tyler Baumbach, Engineering Consultant, said that one of the four projects was still under construction and Cara Elbert, Grant Admin, said that they will spend their remaining funds by the end of the project.

With respect to funding for the WMA after IWA ends, in January 2022, the board chair led a discussion about pursuing EPA 319 funding to leverage their watershed plan’s current nutrient reduction goal (this was a point of conflict in a previous year). In support of this, in April 2022, Kyle Ament, IDNR, said that he submitted an addendum to their watershed plan to answer questions from the US EPA about how the watershed plan could qualify them for EPA 319 funding. He said that once EPA approves their plan, they will need to develop a plan of work for a potential coordinator. During a meeting in October 2021, the board chair indicated that coalition members need to contribute to the coalition, but the conversation did not come up in subsequent meetings.

In addition, the NRRWMC or its member entities have the following projects underway:
• Gano noted that many member entities are doing “millions of dollars of actions” happening in the watershed with much of the work described in the watershed plan
• IDALS Farmer to Farmer grant
• Black Hawk Lake Watershed Project funded by “many sources” including IDNR and IDALS
• Duck’s Unlimited and IDALS Water Quality Initiative project
• Carroll County RCPP

Over the course of the year, the NRRWMC identified the following challenges or impacts of challenges in their watershed:
• Consistently achieving quorum at quarterly meetings
• Stakeholders working to obstruct the business of the WMA
• Playing unemployment costs for a project coordinator that was dismissed

Upper Iowa River Watershed Management Authority

The Upper Iowa River Watershed Management Authority (UIRWMA) met two times during Year 6. All both meetings were conducted in-person, and one had a Zoom option with poor audio quality. The WMA had a quorum at both meetings.
In December 2021, Matt Frana, Project Coordinator, said that they had three bid lettings and that construction was still in progress and should be finished in spring 2022. He described having support from IDALS (local match for wetland project and Winneshiek County (American Rescue Plan) to stretch their IWA funds.
In October 2021, Frana said that there have been a few opportunities for outreach: County Roadside Management Conference talk about on-road structures and Virtual Field Day.
In December 2021, Josh Balk, IDNR, gave a presentation about how WMAs can move forward after IWA funding ends. In addition, during that meeting, the board broadly discussed opportunities to work with the Northeast Iowa RC&D in the future and indicated that they would circle back to the conversation.
In addition, the UIRWMA or its member entities have the following projects underway:

- New IDNR project coordinator in the Trout Run Watershed

Over the course of the year, the UIRWMA identified the following challenges or impacts of challenges in their watershed:

- Shortages in pipe due to COVID-19 supply chain issues which have resulted in higher than expected costs

Upper Wapsipinicon River Watershed Management Authority

The Upper Wapsipinicon River Watershed Management Authority (UWRWMA) met four times during Year 6. All four meetings were conducted in-person with a Zoom call-in option. The WMA had a quorum all four meetings. During their meeting in February 2022, the board unanimously voted to include electronic participation and voting in their bylaws.

In February 2022, Luke Monat, Engineering Consultants, reported that all construction (28 projects) wrapped up with anticipated final seeding in spring 2022. Tori Nimrod and Ross Evelsizer, Project Coordinators, reported that the WMA had spent or allocated all of their IWA funds. In April 2022, Adam Weiss, IFC, presented the findings of their Phase II Hydrologic Assessment.

In February and April 2022, Nimrod facilitated discussions about an upcoming practice tour. In November 2021, a board member emphasized the WMAs of Iowa is an opportunity to advocate for WMAs at the state level.

In August 2021, Evelsizer presented the Quasqueton Flood Resilience Action Plan.

In February 2022, Nimrod and Evelsizer said that their efforts have been covered for an additional fiscal year which will allow them to coordinate with member entities about potential projects. Complementary with that, the group decided that the coordinators should send a budget request for fiscal year 2023. Also in February 2022, Evelsizer said that he and Nimrod are in conversation with other PCs, the Center for Rural Affairs, and the Iowa Flood Center in an effort to make a request to the Iowa legislature for funding for WMAs. Evelsizer encouraged board members to contact their legislators.

In addition, the UWRWMA or its member entities have the following projects underway:
- Flood mitigation and recreation projects in the City of Independence
- Project in Bremer County related to arsenic in private well water

Over the course of the year, the NRRWMC identified the following challenges or impacts of challenges in their watershed:
- Identifying potential projects for grant applications
Appendix B – WMA meeting summaries by watershed

Clear Creek

Meeting 1: October 20, 2021

The meeting achieved a quorum and approved the agenda and the last meeting’s minutes.

- John Lundell ran the meeting.
- John Rathbun (project coordinator) provided updates on practice implementation and bid packages.
  - $1.4 million in IWA funds left to spend, which should cover remaining bid packages and engineering (budget has been adjusted to account for increasing costs, especially of piping)
  - Bid Packages Updates
    - Bid packages 4 and 5 have been approved
    - Bid package 6 includes Coralville practices that will be advertised for bidding on November 9th
    - Bid package 7 is nearing the end of its tier 2 review, with the goal of bidding in January 2022
  - The WMA was awarded a NRCS grant (Iowa Partners for Conservation), a four-year grant
    - Funds will be used for promoting soil health, rotational grazing, moving fencing away from streams, water sampling, conservation planning, and conservation outreach
    - John Rathbun shared that his goal is to host seven outreach days or workshops in order to talk informally about possible using of this funding
    - John Rathbun will split days between working on IWA and NRCS through the end of the IWA in June 2022
  - A contractor on a project seeded non-native grasses and flowers and was unwilling to correct it—a different contractor has been hired to fix the issue.
- Jennifer Fencl (ECICOG) provided updates on the Clear Creek Watershed funding process
  - Jennifer Fencl shared that with the IWA extension, the NRCS grant, and local match money project coordinator John Rathbun will be covered through September 2025.
  - The funding formula for member entity contributions was updated with 2020 census data. As a result, Coralville’s contribution decreased slightly, while North Liberty’s increased slightly, and Tiffin’s nearly doubled.
  - The funds will help pay for a full time project coordinator, outreach, and monitoring for implementing the watershed plan.
- Announcements and events
  - Kate Giannini (IFC) shared that Astig Planning received two awards at the APA Iowa Chapter Annual Conference for their work on the Coralville FRAP and Guidebook. Additionally, IFC’s Phase II reports should be finished by May 2022.
  - A representative from Impact 7G, an environmental consulting firm in Coralville, shared that the firm is working on creating a mitigation bank for three sections of the stream and stated that letters of support from the WMA would be beneficial in getting the project off the ground.
John Lundell agreed the WMA should submit a letter, will have John Gehring sign it.

Next meeting set for January 19, 2022.

Meeting 2: January 19, 2022

The meeting achieved a quorum and approved the agenda and the last meeting’s minutes.

- **John Gehring** ran the meeting.
- Nominating new WMA board; full slate approved
  - Tracy Mulcahey Chair
  - Mayor Megan Foster, Vice Chair
  - Kasey Hutchenson, Secretary/Treasurer
  - Jody Bailey, Johnson Co. SWCD Representative
- **John Rathbun** (project coordinator) provided updates on practice implementation and bid packages.
  - Bid Packages 4 and 5 were bid out last fall and are being constructed this winter and early spring.
  - Bid Package 6’s preconstruction meeting will be scheduled soon
  - Bid Package 7
    - Five total projects- pond; flood plain reconnection/prairie planting/rock chute; WASCOB; 2 WASCOBs; pond
    - The last three packages came in higher than expected due to supply chain issues, so bid package 7 may not be able to fully fund all practices
    - 2 Jiras properties
    - Estimated cost is $252,000, most of which should be covered by IWA funds.
      - Funds from CGA bill and EPA grant can help cover the rest if needed. Plan is to put up a base bid for some of the projects and then price the others as add-ons in order to match available funding as closely as possible.
    - Overall, 34 practices installed, treating 959 acres. Projects include 11 ponds, 3 grade stabilizations, and 1 each of dry pond, rock chute, WASCOB, fringe wetland, and grassed waterways
      - Full $3 million IWA grant will be spent.
      - Iowa Partners for Conservation Grant funds have not been spent yet; bidding, water sampling, and construction will begin in March.
- Announcements and events
  - Valerie Decker shared Clear Creek’s data from the 2021 Board Member Survey
  - The Iowa Water Conference has been postponed until Fall 2022.
- Next meeting set for April 20, 2022.

Meeting 3: April 20, 2022

The meeting was run by Tracy Mulcahey (Chair, City of North Liberty) and started with confirmation of a quorum, a round of introductions, and the approval of the agenda and the previous meeting’s minutes. Ten individuals were in the room and two on the phone (12 participants total).

- **John Rathbun** (Project coordinator) provided updates about IWA. He said that construction is underway for bid packages 4-7. He said that the last bid package bids came in high, but their budget will be OK. He said that they have obligated all but $27,000 and that will be spent by the end of June.
• Rathbun provided an update about the Iowa Partners for Conservation (IPC) grant. He said that they have match dollars from communities for that grant and that he has already done two water quality sampling trips. He said that he will phase into this new grant as he phases out of IWA.

• Jennifer Fencl (ECICOG) provided financial updates. She said that her team recalculated the funding formula for the different entities’ contributions following the release of the 2020 census data. However, those types of contributions will not go into effect until 2025 (because of the IPC grant). The board decided to vote on the recalculation at the next meeting.
  o Discussion topics: Potential impact of the IPC grant on the funding formula, potential feedback from members whose contributions increased with the new data

• Announcements and events
  o Rathbun provided the following updates on behalf of Kate Giannini (IFC)
    ▪ IWA celebration meeting and tour on June 14, HUD is expected to attend
    ▪ The IWA video has been released and features a Clear Creek landowner
    ▪ IFC is making progress on Phase II Hydrologic Report, expect a presentation at the July meeting
    ▪ IFC is a sub- awardee of a new NOAA-funded grant, CIROH
  o Amy Foster (Alternate for Coralville) provided an update about a project funded by the federal infrastructure funding to repair a fen at the headwaters of Clear Creek.
  o Foster also updated the group about the work of the local watershed coordinators in rebranding stormwater programs and updating erosion and sediment control ordinances. She hopes to provide a presentation at the next meeting.
    ▪ Discussion topics: excited to see the fed, property manager’s expertise in this type of work

• The group set the next meeting for July 20, 2022

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**East and West Nishnabotna**

**Meeting 1: September 15, 2021**

In lieu of a coalition meeting, in September 2021, the East and West Nishnabotna Watershed Management Coalition hosted a practice tour. Approximately twenty individuals attended the bus tour. Attendees included board members, state partners, local partners, and consultants.

The first stop on the tour (and the site of the introduction by Cara Marker-Morgan) was at Bob Waters’s property.

• Cara Morgan (PC, Golden Hills RC&D) introduced the tour and shared some highlights about the project with the group.
• Kate Giannini (IFC) provided an overview of the Iowa Flood Center and IWA.
• Bob Waters (the property owner) provided his perspective on the project.
• Caleb (engineer, JEO) provided some specifics about the project.

**Discussion topics:** partnerships and collaboration, impact of the cost share on out-of-pocket costs, project buy-in among family members, projects eligible for IWA, impacts of practices downstream, character of loess soils, vegetation plan and management

The second stop was the site of a future a grade stabilization structure.

• Paul (the landowner) described some details about him and the project.
Morgan and Caleb took turns providing updates about the project.

**Discussion topics:** specific details of the practices, whether the program did work that impacts perennial streams/stream mitigation.

After lunch Morgan provided an overview of the bioretention cell at the Malvern community center. Lance walked the group through the development of the bioretention cell.

**Discussion topics:** specific details of the practice and existing structures.

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*Figure 1 Similar problem to Bob Waters's without weir*

*Figure 2 Bob Waters's Bendway Weir taken in 2021 by Valerie Decker*
Meeting 2: December 14, 2021

The meeting achieved a quorum for both East and West Nishnabotna and approved the agenda and the last meeting’s minutes.

- **Cara Morgan** ran the meeting.
- Three volunteers were approved to join the nominating committee to select a new WMA board for election at the March meeting.
- **Cara Morgan** proposed a 2022+ Vision Committee who would meet separately in order to suggest a multiyear plan for funding the WMA after IWA funding ends, as well as proposal for what the WMA should focus on after the IWA funding (ex: education and outreach, landowner projects, infrastructure projects, urban projects, etc.)
  - After a brief discussion four volunteers agreed to join the committee.
  - The group discussed efforts to secure regular funding from the Iowa legislature for WMA coordination across the state, which are largely taking the form of individual presentation to legislators rather than as a collective force. **David _____** suggested that counties within the existing WMAs show support for these efforts.
- **Jake Miro and Cara Morgan** provided updates on practice implementation and bid packages.
  - All IWA funding is currently allocated, leaving additional projects ready but unfunded.
  - 15 projects in total (14 landowner and 1 county), but most landowners did multiple practices on their properties (over 100 total structures when counted this way)
  - Nine total bid packages
    - Packages 1-4 are 100% complete
    - Packages 5-8 are under construction with completion dates in December, April 2022, and May 2022
    - Package 9, Mills Co. Project, will be bid in January
    - A $25,000 buffer is left in the budget in case final bids come in higher than expected.
      - Recent bid packages have received as many as six bids, and costs have actually gone down, despite supply chain issues.
  - **Cara Morgan** emphasized the teamwork necessary to get all of these projects planned, funded, and implemented, as the group reviewed a number of photos from completed and in progress projects across the watershed. She especially highlighted the installation of the first bioreactor in southwest Iowa in 10 years. Morgan described how the installation was a challenge due to limited knowledge on how to install bioreactors, but it has come together well and will reduce nitrates by 30-50% for 15 years for limited cost.
  - An attendee asked who will monitor the project and especially the native vegetation being seeded at many of the projects. **Cara Morgan** shared that the projects have a 10-year contracts (20 years for ponds) with the various counties to monitor projects and confirm prairie germination. There is also a one-year warranty on the prairie seeing to ensure germination.
- Announcements and Events
  - **Kevin N** (IEDA) shared updates on his work in Pacific Junction and Hamburg with federal Economic Development Administration funds to create a land use plan and visioning plan. The project focused on community and the design of resilient and dependable infrastructure (including broadband access that also restores natural processes. He shared that they collaborated with the Iowa Flood Center to run flood simulations.
  - **Jeff Geerts** (IEDA) shared that Ann Schmid recently left IEDA and that the office is currently short staffed. He also shared that over 300 practices have been installed in the watershed.
  - **Larry Weber** (IFC) described IFC’s efforts to provide more detailed flood mapping to allow communities to be able to accurately predict which areas will flood for planning purposes and for navigating active flooding. The project has funding to keep the system active for the next two years and IFC is hoping to find more funding going forward.
- A question was asked about collaborating with other states to pursue a more stable Missouri River. Weber agreed and described an MOU signed with Iowa, Nebraska, Kansas, and Missouri to collaborate and plan. He said that there were currently conversations but not much action beyond work to establish a Flood Center in Missouri.
  - Dan Gilles shared an update on the Riverton Road Project.
    - A main road near Riverton floods frequently, and JEO and IFC are collaborating on potential plans and sources of funding to address the issue.
  - MAPA update (Grant) – working with county and golden hills for applications – working on one final environmental review that they bid for the last project, at this point it's finalcnail admin, final tier 2 admin work, federal labor standards for contractors, that’s about it – they should have a small buffer when everything is bid out.
  - SWIPCO (alexis) – freemont co projects – east nish projects are moving along – they’ve all been bid out, just financial tracking and construction projects; construction is going well and fast.
  - A representative from IDNR shared that the office is continuing to keep an eye on available funding opportunities and that there has been an increase in the state revolving fund recently.

Meeting 3: March 16, 2022

The meeting began with the transition of the chair position and the approval of the agenda and the last meeting’s minutes. Bob XXX ran the meeting with support from Cara Morgan.

- Alexis (SWIPCO) reported that all bids are in for IWA projects that that these are being reviewed with JEO in order to manage how much money is left in the budget. She said that two bid packages are complexly finished. She said that they will need to do a budget amendment to move money from the West Nish to the East.
  - Discussion topics: The Nish Coalition was able to spend all of the allocated money, board member would like to see a financial breakdown of the spending from the grant, IFC will report on the impacts of the projects.
- [Near the end of the meeting] ??? (MAPA) said that Alexis gave a good update.
  - Discussion topics: financial audits of the work of the coalition.
- Cara Morgan (Project coordinator) facilitated an election of officers. [I have no notes about the specifics of this.]
- Morgan provided some brief project coordinator updates. She said that she is working toward her deadlines for IWA and working on the PL566 study with the Silver Jackets. She noted that if they can keep the water in the upstream parts of the watershed, that will help everyone. She anticipates that their work will focus further north after IWA. She also reported that a grant was approved for Hamburg for wetlands.
- Richard (???) and Cara provided updates from the East and West Nish Coalition Visioning Committee. Richard said that they sent surveys to everyone and made a trip to Des Moines. He said that the takeaway message was the funding from the state would be beneficial. He reviewed the findings from the survey which included data about who should lead, what focus areas should be, sources of funding, and specific project needs.
  - Discussion topics: PCs are mostly funded in areas with metro areas with large tax bases, specific areas that could benefit from projects, importance of focusing on the upstream parts of the watershed to improve buy-in from the communities up there, planning opportunities, projects get more difficult to do if you have to cross property boundaries.
- Jake Miro (JEO) reported that the coalition is nearing the end of IWA with 9 total bid packages. He said that 5 are complete, 3 are in progress (anticipated finish in April), final project to be finished by May 31, and that they have a small buffer of $32k left. He and Morgan noted that they had very few changeovers over the course of the project which they were pleasantly surprised with. He shared some photos of finished projects.
  - Discussion topics: Anticipate another field day to see projects.
• Bradley Hoefer (???) provided updates about the Iowa Silver Jackets East Nish PL-566 program. He described that this project includes hydrologic and hydraulic modeling of PL-566 structures in the East Nish watershed. This is a collaborative project with Golden Hills, the coalition, HSEMD, FMEA VII, IFC, NRCS, and USACE. He described the purpose and location of their study area. He said that they will provide information based on the updated model about the inundated properties then do some community outreach. He said that their study would benefit from additional gages. He said that the project will be wrapped up in the summer.
  o Discussion topics: who the Silver Jackets are, who else should be tuned into this study and its findings, who will pay to fix PL-566 structures, necessity to balance flooding and water quality, opportunities to leverage funding based on this work
• Adam Rupe (JEO) and Dan Gilles (IFC) provided updates about the Riverton Road Mitigation Study. They described that they are building off of a case study which was part of the watershed plan. They are looking at more frequent, smaller events that are the cause of most of their flooding to consider mitigation options. They described the need to consider alternatives in the context of what is feasible based on land ownership as well as costs and cost benefit ratios for feasibility. The project will wrap up in June 2022.
  o Discussion topics: whether the model takes into account projects upstream, benefits that can count in the benefit cost ratio, types of practices that will provide flood mitigation at the bottom of a watershed, the previous application to FEMA’s BRIC program, existing levees in the area
• Kate Giannini (IFC) provided updates related to the new IWA video, the June 14th IWA celebration, inclusion of IWA as a model for the nation in a publication by the Urban Institute, and the continued monitoring and maintenance of hydro stations after IWA ends
• Valerie Decker (UI CEA) provided a verbal update about the board member survey and requested that the project coordinator and the board chair consider participating in an interview about their experiences in IWA
• Someone announced that the western part of the state received a $3M Farmer to Farmer grant and they want the coalition to be involved
• At the end of the meeting, Morgan encouraged all the board members to keep bringing ideas to grow beyond IWA

English River
Meeting 1: November 18, 2021
The meeting achieved a quorum and approved the agenda and the last meeting’s minutes.
• Ryan Schlabaugh ran the meeting.
• The two-year terms for Ted Oswald, Mike Phillips, and Jack Seward were expiring. Each was re-nominated and approved.
• Budget and Project Updates
  o Jody Bailey shared that 403 total structures were put to bid through the IWA grant (13 ponds, 2 buffer strips, 311 WASCOBs, 22 grassed waterways, 11 storm water detention basins, 14 terraces, 11 wetlands, 11 grade stabilization structures, and 8 prairie plantings). Bid packets 1, 4, and 5 have been completed, while packets 3, 6, 7, 8, and 9 are underway
  o Ryan Schlabaugh shared that they are on track to spend 100% of the construction funds, with all construction dollars committed to projects. He said there are additional shovel-ready projects that will have to be funded through funding from another source, possibly the FEMA grant that has been submitted.
• Announcements
  o Jody Bailey (project coordinator) shared that the Parnell City Council recently voted to join the English River WMA.
Joe Klingelhutz (Sustainable Iowa Land Trust) shared information about SILT and his role. He wanted the board and any landowners to feel free to reach out to him for free consultation about the work of SILT and cost share programs for food farming in the state.

Kate Giannini (IFC) shared that the IWA is on track to install over 800 practices across the state, and that 50% of those are from the English River. She congratulated the WMA on their relationships within the watershed and the work they have accomplished. She also shared that Allen Bradley is currently modeling the impact of the practices in the watershed and will have measurable results for flooding and water quality to share soon.

Next meeting set for February 17, 2022.

Meeting 2: February 17, 2022

In place of a meeting, Ryan Schlabaugh (board chair) and Jody Baily (project coordinator) opted to share updates via email.

- The WMA is working with state representative David Seick of Glenwood to advocate for sustainable state funding for WMA coordinators after IWA funding is completed. Jody Bailey indicated that an estimated $5.6 million a year in state funding could enable each of Iowa’s 27 WMAs have a full-time watershed coordinator. She encouraged board members to advocate for this and to put in a good word about WMAs in conversations with legislators.
- The WMA has $1 million in shovel-ready projects without current funding, and the FEMA grant application that was submitted is still pending. Bailey emphasized that she regularly is contacted by landowners wanting to participate but awaiting funding for their projects.
- The WMA is planning a gathering of board members and area legislators at Lake Iowa in summer 2022 to tour completed projects and discuss the IWA in general.

Middle Cedar WMA Meeting Summaries

Meeting 1: October 21, 2021

The meeting with run by Mary Beth Stevenson (Vice Chair, Cedar Rapids) and began with roll call and introductions. Jennifer Fencl said that they were one person short of a quorum. [Later in the meeting, there were enough board members in attendance for a quorum and they acted accordingly.]

- Stevenson noted that the group reviewed the minutes, but they could not be formally approved because they didn’t have a quorum. Stevenson thanked Jennifer Fencl (grant admin and acting project coordinator) for assembling the notes from the April meeting since that work happened in the midst of Rodenberg’s transition. [Minutes were approved after a quorum was achieved.]
- With respect to the North Iowa Agronomy Partners, the board decided by consensus that the group can continue their work as if they had a no-cost extension. Sherm Lundy noted that they need to act during the next meeting. [The no-cost extension was approved after a quorum was achieved.]
- Sean McMahon (Iowa Ag Water Alliance) said that he is willing to support a fundraising committee for a project coordinator. McMahon also shared updates about two RCPP awards in the Middle Cedar watershed.
  - Discussion topics: ways that this committee can coordinate with the funding formula committee, keeping the watershed management plan front and center in future work, additional board interest in being on a fundraising committee.
- Clark Porter (IDALS) gave an update about the Middle Cedar Saturated Buffer Project (formerly Middle Cedar Blitz Project). He provided some background on the project including the fact that IDALS is committed to funding the first round (60-80 saturated buffers) with Cedar Rapids as the fiscal agent. He suggested the following roles for the WMA in the effort: communication and outreach and potentially providing financial support for the landowner contribution for the projects.
Discussion topics: Ways that small financial contributions to projects can make a big difference, access to slides after the presentation, need to keep SWCD/NRCS folks updated on this work, potential for this project to translate to water quality improvements

• Stevenson provided an update on the Cedar Rapids Source Water RCPP. She said that this is a $7M RCPP with 11 different partners. She said that the project is in the beginning stages. She said that they have their partnership agreements with NRCS and that the next step is funding agreements with the different partners and hire a conservation agronomist.

• Fencl provided IWA updates
  o She shared a slide that to date the Middle Cedar WMA has installed 75 practices, had 7 bid lettings, and has three potential projects in the wings. She said that they are waiting to see how the bills come in before they decide on the final three projects.
  o Fencl described that several partners provided local match for IWA projects: IDALS, IFC (through an EPA grant), TNC, agribusiness, and IDNR prairie partners).
  o Fencl shared photos of project sites and Don Knospe provided project details.
  o She said they are hoping to do a project tour in Spring 2022

• Discussion after Fencl’s presentation: interest to see statistics and impacts of IWA projects, the reports they are expecting to get from IFC, leveraging the work of the watershed to get additional support for projects or to fund a coordinator, deadline for construction (June 2022)

• Fencl provided an update from the Funding Formula FY2023 Budget Committee Proposal. She said that they updated the formula and hope to have a more “palatable” proposal for members. The group wants to continue the WMA and they want to start by funding grant administrative services in order to access grant writing for future funds. She shared the updated table for member contributions. She also provided the committee with a work plan for the grant administration services.
  o Discussion topics: whether someone can come and present to their local board, request for updated numbers and a deadline for response, action items for the next meeting, request for an email to share with their local boards, desired timelines for budget requests, need for a formal request letter, the formula that was used for the updated numbers, appreciation for Fencl’s work on this, optimism that the new numbers seem more successful

• Stevenson said that they have remaining money in the IWA planning budget for an outreach booklet to give to decision-makers to show successes. Josh Balk provided some ideas.

Meeting 2: January 20, 2022

The meeting was run by Mary Beth Stevenson (Vice Chair, Cedar Rapids) which began with a review of current contact information for board representatives and alternates, the confirmation of a quorum, and the approval of the previous meeting’s minutes.

• The board discussed the need to elect officers. Sherm Lundy said that he had discussed the current chair and vice chair with the chair. The board approved the current slate of offices for chair and vice chair and noted that Jennifer Fencl (ECICOG) operates as the secretary and treasurer.

• Fencl said that the City of Cedar Falls requested a letter of support for a recreation enhancement project funded by EDA with a component of bank stabilization and reconnection to the flood plain. In advance of the meeting the board had 8 yes votes and 1 no vote. The group voted to support the letter.
  o Discussion topics: recreation is important in the watershed, desire to hear from Cedar Falls if their project is funded, use of the MC watershed plan to support the Cedar Falls application

• Valerie Decker (UI CEA) presented the results of the WMA board survey.

• Clark Porter (IDALS) reported that they are rolling out their buffer blitz project. He said that the 28e agreement has been approved with Cedar Rapids as the fiscal agent. He said that he and Stevenson have been visiting communities in the watershed to talk to local boards and answer questions.
  o Discussion topics: who will be doing the design work, efforts to get sites together for the blitz

• Stevenson said that she does not yet have an update for the Source Water RCPP. She hopes to have more information for the next meeting.
Fencl provided an IWA update:
- She talked to Don Knopes with WHKS and all projects are complete unless there are significant seeding issues or unexpected erosion issues.
- She said that they are figuring out how much money the project has left. She said that they are working to see if they have funding remaining for one last grade stabilization project.
- Fencl said that there were projects that went through the design and review process that were not constructed. She said that she passed that information to IDALS to see if they are interested to fund those projects. She said that they were curious to receive that information.
- She said that ISU EO provided a really nice outreach plan and social media outreach plan. She said that she will share that information.
- She said that the IWA project is wrapping up and that she is working with Kate Giannini and Catherine Delong and Stevenson to plan the IWA celebration in the MC watershed. This is an opportunity to show off what the watershed has accomplished.

Josh Balk (IDNR, Dry Run Creek) reported that the broke ground on a mitigation project in Cedar Falls. He said he'd share photos at a future meeting.

Fencl provided an update about financial commitments from members based on the new funding request. She wanted to discuss some of the questions that have come up. She said that she has heard questions about who owns land after a project is installed (private landowner) and the length of the financial ask (annual). She asked folks to let her know if they want her to present to their local boards.
- Discussion topics: MC WMA included in budget, how often they will be asked to contribute and who can be asked to contribute (not SWCDs), progress in getting to the total they are hoping for, next steps in reaching out to local boards, gratitude for Fencl for assembling the materials and having meetings with these boards, checking in with fundraising progress in April and making decisions about services from there

Fencl provided an update about their outstanding watershed management plan funds. She said that the funding has to be used for outreach activities. They are working on display banners and a “brag book.” She said that they are stalled in getting quotes for the brag book. Decided (informally) to move forward with the quote that they got.
- Discussion topics: Desire to see updated photos of projects now that they’ve been finished for a few years, what projects will be included (not only IWA), which projects will be highlighted in the book

The group set the date for the next meeting

Meeting 3: April 21, 2022

The board chair, Chris Schwartz, asked Jennifer Fencl (ECICOG) to conduct the meeting. The meeting began with a review of attendees. At a mid-point in the meeting there were 5 individuals in the room and 18 online (23 total). With 12 board members in attendance, the group was 3 members short of a quorum.

Mary Beth Stevenson (Vice Chair, City of Cedar Rapids) provided an update of the newly renamed “Cedar Rapids Clean Water Partnership” (formerly “Edge of Field Blitz”). She said that field work is underway and that they are actively recruiting participants for the program.
- Discussion topics: incentives for landowners to participate, communication strategy for the program, level of interest, collaboration among coordinators and SWCDs and tracking deliverables

Fencl provided an update about the IWA grants and projects.
- She described that all construction and seeding is finished. She said that they need to check on the seeding for a few sites this spring. Her team is working on the final payments for projects.
- With some support from Kate Giannini (IFC) she announced that there will be a final IWA celebration meeting and tour on June 14 in the Middle Cedar Watershed (Vinton).

A board member from the Benton County, the fiscal agent for IWA, brought to the board’s attention that the WMA has overspent their funds by several hundred thousand dollars (he said $715k, Fencl said
The group discussed the reasons, repercussions, and potential strategies to solve the problem. Fencl said that she is working with IEDA and another watershed to balance the books.

- Fencl reported that the board has raised $39k of their goal of $50k for member contributions to the WMA.
- Fencl introduced an opportunity to contract with EOR to conduct targeted outreach about the watershed plan and create some summary documents. She said that the outreach would be about the plan and how communities can use it. She said that at least one community is already using the plan. Without a quorum, the board voted unanimously in support of the contract with EOR and Fencl will solicit the additional votes needed electronically.
- Several board members described a need to adjust the bylaws for quorum because achieving quorum has been an ongoing problem. They decided to take this up formally at the next meeting.
- Fencl said that the group has been getting support from University of Iowa to assemble a banner and a “brag book” that will describe what has been done and what can be done in the watershed.
  - Discussion topics: extensive comments about a board member’s personal dislike of a specific project and how it should not be included among the successes of the project
- Fencl said that there is another opportunity to extend the NI Agronomy Partners’ contract through the IAWA partnership for one final quarter. The board made informal votes (consensus) to follow up with IAWA and extend the contract if funding is left and, if funding is left after the next quarter, consider creating awards for participants in the program. Fencl will solicit the additional votes needed electronically.
- Fencl said that member entities are asking for a process for paying their membership contributions starting in fiscal year 2023. The board discussed developing a proposal for a process. Stevenson said that she hopes that ECICOG will continue their role as the administrator for the WMA. The board voted informally for ECICOG to develop those materials in anticipation of them serving as the administrator for the next year. There were 2 nay votes. Fencl will solicit the additional votes needed electronically.
- Public comment
  - Sherm Lundy (board member) mentioned again the need to address their issues with quorum. He said that it will take 2 meetings to change the bylaws.
  - Giannini provided the following updates
    - Field signs are ready to go out
    - IWA video is finished and online
    - IFC will present the findings from their Phase II reports at the next meeting
    - June 14 IWA celebration event
    - Future tour for the USACE team in the Middle Cedar watershed
    - IFC’s part of CIROH (NOAA funded center)
- The next two meetings were set: June 16 and July 21.

North Raccoon

Meeting 1: October 8, 2021

The meeting was run by Jonathon Gano (NRRWMC Chair). The meeting began with recognition that there was not a quorum, but the group acknowledged that they did not have any voting items on the agenda.

- Cara Elbert gave a financial update. She reported that to date, the coalition has spent 54% of their $2.4M funds remaining for IWA.
- Tyler Baumbach (WHKS) gave project updates which included that the Buena Vista County project will wrap up June 2022.
- Matt Lechtenberg (IDALS) spoke about the IDALS Farmer to Farmer Grant and emphasized supporting innovative practices and prioritizing renewable resources.
• **Ethan Thies (IDNR)** presented on the multi-partner Black Hawk Lake Watershed Project funded by many sources including IDNR and IDALS. One goal of the watershed project is to increase public understanding of Black Hawk Lake water quality problems through field days, community presentations, producer contact, mailings, and the media. The cost share program will also support the adoption of on-field, edge of field urban, and lake practices largely to support water quality practices.
  
  o In response to the conversation, a meeting attendee noted that he has land in the watershed and appreciated the efforts in sediment reduction.

• **Gano** directed the conversation to the future and next steps. Related to financial sponsorship, Gano said the coalition members need to contribute to the coalition, specifically with regard to the funding owed to Buena Vista County for unemployment costs for the former project coordinator. Gano also mentioned that there are communities interested in joining in on the coalition. Across both domains, he invited input to navigate a path forward for the coalition.
  
  o In response to Gano’s remarks, a meeting attendee noted that the coalition is a way to bring funding together. [What seems to be implied here is that the members shouldn’t have to contribute.]

• **Tim Palmer** gave a quick update on opportunities within the American Rescue Plan Act as an opportunity for resources for infrastructure protection. He invited the group to keep this in mind and focus on environmental needs in the watershed.
  
  o **Sean McMahon** agreed and provided more details about how those funds could be spent. In addition, he said there could be additional funding opportunities through Emergency Watershed Protection Program (USDA) and future RCPP grants (NRCS).

• **Roger Wolf (Iowa Soybean Association)** asked the NRRWMC leadership to share information about a partner meeting. He said that ISA is interested in making future investments in the watershed and that the public is interested in learning more about the watershed-approach to water resources management.

• **Public comment**
  
  o **Kate Giannini (Iowa Flood Center)** announced that IWA received an American Water Resources Association Award.
  
  o A meeting attendee encouraged everyone to talk to their entity and ask them why they haven’t been at meetings. This individual said that he wholeheartedly believes that this coalition needs to stay together and remain in communication with each other. He highlighted issues of participation and the importance of the cause. He said that outreach will help solve the issues and encouraged entities to vote or send proxy votes.
  
  o **Jared Strong (Iowa Capital Dispatch, news media)** noted that he participated in the meeting and plans to continue attending meetings.
  
  o **Chris Henning (Board member and landowner)** asked about specifics on attendance and who counts for quorum.

**Meeting 2: January 21, 2022**

The meeting was run by Jonathon Gano (Des Moines) and began with roll call, a discussion of the board membership, confirmation of a quorum, and the approval of the previous meetings’ minutes. As part of the beginning of the meeting, Gano brought a discussion to the board from Don Etler about board appointments related to reestablishing appointments for the board and the “good-faith” effort for gender balance. The board and a former partner (Bonini, citizen formerly with DNR) had an extensive, technical discussion about these clarifications. Following the discussion Gano stated that the majority of the membership has been faithfully reappointing their members to represent them on a board of directors; assuming a good faith effort on gender balance, those appointments are valid and effective. He said that if that is the case, he’ll accept the quorum and conduct business at this meeting.

• **Cara Elbert (NWI Planning)** said that they have spent approximately 50% of their total grant amount and that they are working with the county attorney to purchase the White Family site.

• **Tyler Baumbach (WHKS)** reported that they are working on the construction for four sites. He said that weather permitting that they would start construction for two sites in February.
Mike Shannon and Anninia Rupe (Duck’s Unlimited) shared a project that they are doing with IDALS on a WQI project. Shannon said that they are working in the northern part of the North Raccoon Watershed and wanted to share their process. Rupe shared the specifics of the projects they are working on. Their group is focused on the protection, restoration, and enhancement of wetlands. Partnering with IDALS to capture tile drainage in order to improve water quality and create habitat.

- Discussion topics: whether the maps or potential projects are available to review, who will be leading outreach to landowners and the necessity to build relationships, finding a process to connect local SWCD offices with IDALS for outreach

Cara Marker-Morgan (Project coordinator for the East and West Nish Coalition) provided an overview of their watershed work. She discussed the project’s background, the development of the coalition, their IWA funded projects, green infrastructure projects, challenges, planning efforts, supplemental studies, planning beyond IWA

- Discussion topics: specifics of bioreactors, types of projects to consider in the future, funding sources available, future funding for the project coordinator, rain barrels as a “gateway” to green infrastructure, importance of outreach to children

Valerie Decker (UI CEA) presented the results of the board member survey

- Discussion topic: Gano noted that he has a realistic understanding of working in the watershed. He also said that much of the dissatisfaction with the coalition was likely due to losing their coordinator.

Theo Gunther (ISA) provided an update about the RCPP. He said that this is a 5-year project in Carroll County. He said that the goals are for cover crops, reduced tillage, bioreactors, oxbow restoration, saturated buffers, and nutrient removal wetlands. He said they were selected for RCPP in April 2020 and wetland planning started in fall 2021. He said that they anticipated starting landowner sign up and practice implementation in spring 2022. He anticipates more information in the future.

Gano led a discussion about potential EPA 319 funding through IDNR. He said that this funding was the rationale for the contentious point in the WMA: setting their water quality improvement goals. He said that they may be able to broaden their talent pool for a project coordinator with 5 years of funding. Gano said that he’s been in conversation with IDNR to answer questions they had about the plan.

- Kyle Ament (IDNR) volunteered to be the point of contact between the coalition and EPA to meet the criteria to make the plan eligible for 319 funding. Ament said that his team will create an addendum document to explain issues that EPA raised.
- Steve Hopkins (IDNR) noted that this is the first time that EPA has considered an alternative plan for the state of Iowa.
- The board approved to have Ament write a document to clarify EPA’s questions about the watershed plan.

Meeting 3: April 22, 2022
The meeting was run by Jonathon Gano (Des Moines) which began with the review for quorum and approval of the previous meeting’s minutes. There were 9 in person and 22 online (total of XX participants). They had a quorum and could do business (21 members).

- Gano described that Katie Rock has served as secretary for six years and recently stepped down from her position on the board. They will need to have a special election at the next meeting for the position of secretary. He requested interest for that position. He said that they can elect someone who is not a board member, and it’s a 2-year term. Special election in July.
- Gano wanted to form a nominating committee to solicit interest for executive board positions and encourage rotation. In the past they have balanced upstream and downstream, that’s a good charge to recruit candidates from the upstream parts of the watershed. The board voted to create a nominating committee.
  - Discussion topics: Interest to serve on the committee (2x), need officers that can drive trust and understanding (representation from upstream counties or SWCD)
- Tyler Baumbach (WHKS) provided updates on the construction. He said that construction kicked back off in the last month (1 still under construction). He walked through a map and overview of the projects and photos of the construction sites (constructed wetland, grade stabilization, streambank restoration, oxbow restoration or construction). The projects were close which was good for construction.

  o Discussion topics: character of the projects, components, and their purposes; opportunities for plant design standards; total drainage area draining the wetland; measurement strategies and future opportunities for on-site monitoring (N, biodiversity, flooding, ...); phase II hydrologic reports; costs of the projects and contracting procedures; considerations of the impacts of the projects; Buena Vista County’s purchase of the White Family Trust property

- Cara Elbert (NWIPDC) provided the treasurer’s report. They’ve spent 72.88% of their total grant funds. The last quarter’s expenses will include engineering, purchase of the White Family Trust property, and contractor payments. All invoices need to be dated June 30, 2022. NWIPDC would be interested in serving as a grant administrator in the future.

  o Discussion topics: Purchase and management of the White Family Trust and their CRP; any extension opportunities and anticipated spend down; previous de-obligation of funds earlier in the program; reimbursement of Buena Vista County for unemployment for previous PC; appreciation for Cara and NWIPDC

- Gano provided an overview about member activities in support of the plan since the presenter was not able to be in attendance. He described that a lot of members are doing a lot of work in the watershed plan. There are millions of dollars of actions happening in the watershed. He encourages the group to track those actions against the watershed plans.

- Quick updates showcasing activities in the watershed

  o Keri Navratil (Storm Lake) – Storm Lake Wetland – She described a project to improve water quality goals for the City of Storm Lake also working outside of the city limits ($67M). Applied for a FEMA BRIC grant for water quality projects. Waiting to see if the project will be allowed. She thanked the group for support in the application.

  ▪ Discussion topics: Determination of locations, who will serve in the design role

- Kyle Ament (IDNR) provided an update about the EPA 319 funding update. He submitted an addendum to clarify the intentions of the plan focused on further explaining work in priority HUD 12s and potential practices to address comments from EPA. Hope to hear from EPA in the next week or 2. EPA is supportive of this, confident that they will hear from them shortly. After that, the group will need to figure out a plan of work. There will be an RFP to IDNR for accessing those funds. IDNR’s idea was to utilize Ethan to work on Black Hawk Lake and North Raccoon as PC. That would offer some stability to the coalition.

  o Discussion topics: Encouraging that we are this far in the process, EPA office of water is aware of this watershed, focus areas identified in the watershed plan and nitrate goal reductions, opportunities to rename HUC12s as an opportunity for local engagement, practices identified in the watershed plan for the priority HUC 12s

- Meeting adjourned at 11:17 AM.

**Upper Iowa River WMA**

**Meeting 1: October 7, 2021**

The meeting was run by John Beard and began with the approval of the minutes from the previous meeting.

- Matt Frana (Project coordinator) provided updates about the IWA projects. He reported that they have had three bid lettings.

  o He described having support from IDALS (local match for wetland project and Winneshiek County (American Rescue Plan) to stretch their IWA funds.

  o Matt anticipates that they will be able to fund one or two of the remaining three projects that are three the tier II review process.
He said that there have been shortages in pipe due to COVID-19 supply chain issues. He said that as a result the supply costs have been higher than anticipated. He still anticipates that most work will be wrapped up this fall.

He described a few opportunities for outreach: County Roadside Management Conference talk about on-road structures and Virtual Field Day

- Board discussion after Frana’s presentation: potential funding from infrastructure bill in Congress, leveraging the success of IWA projects (impacts and positive impact on local economy) to secure additional funding, the ability of IWA to build public support and awareness for mitigation work, changing member representative
- Josh Balk (IDNR) offered to share some potential next steps for the WMA after IWA ends. He said that all WMAs are working on next steps.
- The group set the next meeting

Meeting 2: December 16, 2021
The meeting with run by John Beard and began with the approval of the agenda and the previous meeting’s minutes. (The audio was very poor for the Zoom attendees for this meeting)

- Matt Frana (Project coordinator) gave updates.
  - He shared that he took a position as the project coordinator for the Turkey River Watershed and IDALS is open to Frana helping the WMA finish up the IWA work.
  - He said that there are several projects that will be constructed either by the end of the month or in spring 2022.
- Board discussion after Frana’s presentation: what caused delays in the construction timeline, coverage of Matt’s salary during his transition, who will do site visits to the projects, anticipated additional costs after construction is complete
- Frana discussed potential roles for the Northeast Iowa RC&D to cover any tasks that would otherwise be done by a project coordinator
- Board discussion after Frana’s comments: Sharing successes through virtual fields days, maps, or other forms of outreach, RC&D’s bandwidth to support the work of the WMA (looking for grants, supporting meetings, and water quality monitoring), collaborative roles for Frana and the RC&D through the end of the project, who can support coordinator work after IWA ends and where these people could be housed, budget left ($13k) and opportunities to spend it (being cautious that there were extra costs associated with some of their recent projects), opportunities to move money among the IWA watersheds if needed, potential timeline and cost impacts from supply line issues, the engineer’s plan to retire after IWA work is over, Mark Jensen’s departure from the board, Megan serving as the project coordinator for the Trout Run Watershed, project signs to be installed
- John Balk (IDNR) provided a presentation about how WMAs can move forward after IWA funding ends. His slides addressed the history of the WMAs, the number of WMAs in the state, the importance of collaboration and regional planning, funding opportunities (grants, state, local, and private). He said that there have been recent opportunities for funding including the infrastructure bill, the Gulf of Mexico Farmer to Farmer, and NRCS initiatives like RCPP. Some WMAs think that project coordination is important but it’s difficult to fund. He said that IDNR is looking at providing grants for watershed signage.
- The group anticipated having their next meeting in April 2022.

Upper Wapsipinicon WMA Meeting Summaries for Year 6
Meeting 1: August 24, 2021
The meeting was run by Don Shonka (Chair & Representative for Buchanan County) and began with the approval of the agenda and the previous meeting’s minutes. There were 10 individuals online and 16 in person (26 total attendees).
• Ross Evelsizer (Project Coordinator & Northeast Iowa RC&D) presented the Quasqueton Flood Resilience Action Plan (FRAP). He described that the FRAP was part of IWA and documented Quasqueton’s history of flooding, past actions, and future opportunities. He described that their team conducted surveys, went door to door, and solicited photos to support their FRAP. He said that the FRAP includes some recommendations and that the team has reached out to relevant landowners about their willingness to make changes that will improve flooding in the community. He distributed copies of the finished project and said the report is also available online.
  o Discussion topics: Next steps and a potential project for Quasqueton, the role of the RC&D in getting community perspectives, disconnect between what was being done and what community members knew about, costs for the city of the plan
• A project coordinator (?) provided updates about construction progress and bid packets. They reported:
  o Twenty-eight projects are “in the works”
  o Eighteen are constructed with seeding either complete or to be completed this fall
  o Five will be constructed this summer
  o Bid packet went out last week for two structures for construction this summer
They said that after that there are still three projects to bid out. They are waiting to see how much funding is available. They are trying to hit a moving target since they are working from estimates.
• Dan Jensen (Shive-Hattery) reported that they have made good construction progress in the last months. He said that they are starting to seed within the fall seeding window. He shared photos of the projects. He said that landowners are happy.
  o Discussion topics: Process for seeding, IWA timeline extension, logistics of paying RC&D on IWA work, co-benefits of flooding projects on water quality
• Tori Nimrod (Project Coordinator and Northeast Iowa RC&D) updated the group that letters were sent to members asking for a voluntary donation of $600 annually for the WMA. She said that this funding will cover RC&D’s efforts and water quality sampling. She said that they have raised $12k of their $18k goal.
  o Discussion topics: Additional logistical details, opportunity to cover the PC to provide continuity for the WMA, benefits of having the RC&D as the coordinator rather than a full-time staff person, role of the PC, opportunities for COVID-19 relief funds, progress in the Wapsi, willingness among the board members to speak to member entities that have questions
The board voted to send a second letter asking for voluntary donations.
• Kate Giannini (Iowa Flood Center) announced that her team is working on a report documenting the flood reduction and water quality benefits at the HUC 12 level.
• Giannini also shared the following updates:
  o Antonio Arenas-Amado left UI to be a faculty member at Iowa State University though he is continuing his work on IWA
  o IWA was awarded an American Water Resources Association Project Award
  o The Iowa Finance Authority has announced water quality funding
• Breanna Shea (IFC) described that there are many conferences coming up this fall. She encouraged folks to stop by and visit with the IFC team at the conferences.
• Kip Ledage (Bremer County) shared a project in Bremer County around arsenic in private well water.
• Shonka confirmed that everyone is okay with reaching out via email to set the dates for meetings.
• Evelsizer suggested that everyone contact their local legislators about funding for WMAs so that the entities do not have to cover the bill.
• Shonka invited anyone who is interested in serving on the WMA executive board to let him know. He said that he will stay engaged even after he steps down as chair.

Meeting 2: November 17, 2021
The meeting was run by Don Shonka (Chair & Representative for Buchanan County) and began with a round of introductions and the approval of the minutes from the previous meeting. During the introduction, there were 19 individuals in attendance (not tallied by in-person versus Zoom).
• Dan Cohen (Buchanan County Conservation) provided updates about the Buchanan County Conservation projects happening; highlighted the 41 parks, natural areas, and river access points in the county; and provided an overview of the progress on the Fontana Nature Center Master Plan.

• Shonka facilitated a review of the WMA bylaws. In the conversation, the group discussed the current threshold for a quorum, and decided to formally vote the add electronic attendance to the bylaws. The group will formally vote on the change at the following meeting.

• Shonka facilitated the election of officers that will serve through June 2023. The board unanimously passed the slate of nominees: John Kurtz (City of Independence as chair), Kip Ledage (Bremer County as vice chair), and Duane Meinhost (secretary/treasurer).
  o Shonka commented that the Northeast Iowa RC&D makes serving on the executive committee very easy.
  o Shonka stepped down after serving in the role of chair for seven years.

• Shonka facilitated a review of the technical committee members. The list hadn’t been reviewed since 2018. He described that this group meets as needed and that there are not currently any tasks on the table. The group updated the group with technical experts and planned to recruit additional members when there is a need. The board approved the new technical committee.
  o Ledage commented that it looks good on grant applications to have a technical committee.

• Tori Nimrod (PC, Northeast Iowa RC&D) provided updates on the IWA projects. She said that the first four bid packets are finished and that 90% of the remaining work will be completed in fall 2021. Brian (?) gave a brief update about the on-road structures.
  o Discussion topics: impacts of on-road structures and other practices, locations of the projects, plans for a project tour, funds remaining, whether funds are available for additional signs, opportunities for outreach about the practices (video tour, interpretive signs, kiosk at Cedar Rock State Park), impact of IWA funds on Buchanan and Delaware Counties, timeline for the remainder of IWA, member contributions for the WMA and timing of the next request.

• Ross Evelsizer (PC, Northeast Iowa RC&D) guided a discussion about grant opportunities and preliminary project planning. He requested that board members let his team know if they have ideas for projects in their areas. He said that he and Tori can help solidify the ideas and work on identifying grant or other funding opportunities. He said that this can be an opportunity to work in parts of the watershed that were not eligible for IWA funds.
  o Discussion topics: planning as an option for a funding request, how to use the watershed plan to inform next steps, opportunities for group brainstorming within the WMA or member entities, maintaining momentum, implementing studies done by university graduate students in the past, possible projects, challenges to doing this type of work in an agriculture-heavy watershed, flood forecasting resources (IFC, NWS) available, necessity of additional stream gauges, the importance of IFC

• Shonka invited any additional comments from the group
  o Rick Wulfekuhle announced that Larry Weber (IFC) received an American Water Resources Award and reemphasized that IFC needs to be a partner for the WMA
  o Ledage said that WMAs of Iowa is an opportunity to advocate for WMAs at the state level. Shonka said that he participates in WMAs of Iowa but that they had fewer meetings during the pandemic. He said that he’s willing to participate in that group.
  o Someone announced that Mayor Jim Erb, a champion for watershed work, passed away
  o Valerie Decker (CEA) said that she’ll share survey results at the next meeting
  o Kate Giannini (IFC) reported that her team is working on the Phase II Hydrologic Reports
  o Cohen said that the State Association of Counties is focused on resilience, water quality, and water quantity (flooding) right now
Meeting 3: February 8, 2022
The meeting was run by John Kurtz (Chair & Representative for the City of Independence) and began with the approval of the agenda, introductions, and the approval of the minutes from the last meeting. During the introduction, there were 19 individuals in attendance (21-in person, 11 online).

- Chad Humple (Chickasaw County Conservation) provided an introduction to the Twin Ponds Nature Center and the Chickasaw County Conservation. He described that they manage 37 areas and conduct outreach and education programming.
- Kurtz facilitated a discussion to update the bylaws for the WMA. The group unanimously voted to include electronic participation and voting to the bylaws.
- Luke Monat (Shive-Hattery) provided updates about the IWA projects. He reported that the remaining construction wrapped up within the last couple weeks and that he anticipates some final seeding in spring 2022. He said that they had three or four contractors out at any time. He shared photos of projects. He said that construction went well overall and that they got 28 projects done.
  - Discussion topics: Funds left, opportunities for additional signs for projects
- Tori Nimrod and Ross Evelsizer (PC, Northeast Iowa RC&D) provided updates about IWA projects. They reported that the WMA has spent or allocated all funds. They said that their efforts have been covered for an additional fiscal year which will allow them to coordinate with member entities about potential projects.
  - Discussion topics: Funding opportunities through the Water Infrastructure Fund and NRCS WFPO, opportunities to share potential projects with PCs, funding opportunities for smaller communities without engineering resources, opportunity to implement a graduate student project done six years ago, modeling of the impacts of IWA projects
- Nimrod facilitated a discussion about a project tour or field day related to the IWA projects. The group discussed attendees, stops, modes of transportation, time of year, and format. Nimrod said that she would assemble a list of possible stops to discuss at the next meeting.
- Nimrod asked the group if the time is right to send a letter asking for donations for the 2023 fiscal year. Kurtz said they should send it and Shonka suggested sending the request in the fall the year before to be considered for the budget. The group discussed who had contributed and potential opportunities for a stormwater utility. Evelsizer said that member contributions can be leveraged in grant applications.
- Valerie Decker (CEA) provided an overview of their board member survey results and invited the group to participate in part two of the survey.
- Kurtz invited additional announcements or comments from the public
  - Dan Cohen (Buchanan County Conservation) and Steve H (IDNR) provided updates about the DNR Creek Signage Project.
  - Steve H announced that Miranda had been hired as the new Northeast Iowa Basin Coordinator.
  - Kate Giannini (IFC) announced the Iowa Water Conference delay, the upcoming IFC legislative breakfast, and the IWA celebration on June 14.
  - Evelsizer said that he and Tori are in conversation with other PCs, the Center for Rural Affairs, and the Iowa Flood Center in an effort to make a request to the Iowa legislature for funding for WMAs. He said this was a process initiated by Cara Morgan (PC, Nish). He said that that they are developing a fact sheet. He said they are asking for $100k per HUC 8 annually.
    - Evelsizer’s update was followed by discussion of the scale of the request, whether there is a bill to support, points of connection with other similar conservation efforts, the role of PCs, and the importance of sharing successes with elected officials
  - A board member asked about the status of water quality sampling. Nimrod said they have not received the data yet. She said that her team will do the sampling this year.

Meeting 4: April 12, 2022
The meeting was run by John Kurtz (Chair & Representative for the City of Independence) and began with confirmation of a quorum, approval of the agenda and the previous meeting’s minutes, and a round of
introductions. Mid-way through the meeting there were 13 individuals online and 17 in person (30 total attendees).

- Tori Nimrod (Project Coordinator & Northeast Iowa RC&D) provided a report of the WMA’s water quality monitoring from 2021. In her report, she described that while only a few days exceeded the EPA drinking water threshold for Nitrate (dry year), most sites were over the EPA threshold for E. coli and Phosphorous. She cautioned that they do not have enough data yet to know if the river is improving or deteriorating.
  - Discussion topics: whether to expect a spike in Nitrate this year, timing of the water quality sampling
- Nimrod facilitated a discussion about a practice tour. She shared a proposed route and asked for feedback and said that she will follow up with landowners on the route after the board approves. The board informally approved the proposed route.
  - Discussion topics: presence of signage for practices, status of specific projects, date, format, partner support for the event, who will attend, whether there will also be a WMA meeting, logistics for stops
- Adam Weiss (Iowa Flood Center) presented the findings from their phase II hydrologic assessment. In his presentation he provided an overview of IWA, GHOST modeling, the Upper Wapsipinicon watershed, and example projects. He concluded that the projects achieved a lot at the local scale (especially the on-road structure) but said that they need more practices to have an impact at the HUC 12 watershed scale.  He said that they need a lot of funding to have a measurable impact. He said that there is tremendous need; IWA was good but so much more is needed.
  - Discussion topics: Cost of flood damage in 2008, how small reductions can help people, need to continue to do this work
- Todd Sherrets (City of Independence Floodplain Manager) provided an update on flood mitigation and recreation projects in the City of Independence.  Sherrets and Kurtz provided maps and information about planned projects in the city and how they could potentially help communities downstream.
  - Discussion topics: necessity to convert low header dams for safety reasons, opportunities to learn from other communities that have created kayaking paths, connection to other partners that could provide support or answer questions (USGS, IDNR)
- Public Comment
  - Dan Cohen (Buchanan County Conservation) shared information about the Upper Wapsipinicon and its strengths. He also encouraged the group to complete a lawn pledge.
    - Discussion topics: Measurement of increase in use of natural areas as a result of the pandemic
  - Kate Giannini (IFC) gave a few updates
    - IWA final video is online
    - Weiss and Antonio Arenas-Amado (formerly IFC, currently Iowa State University) did the hydrologic reports
    - IWA will wrap up in June 2022
    - Successful legislative breakfast
    - IWA celebration tour June 14, 2022
    - Announcement about CIROH
    - A board member asked about the IFC budget and whether they need any community support
  - Valerie Decker (UI CEA) thanked the group for their participation in the board member survey
  - Staff and board members circled back to the magnitude of the damage after the 2008 flood and its comparison to what is being asked for mitigation from the modeling analysis.
  - Miranda HAES (IDNR) announced that she is the new basin coordinator at IDNR.
Introduction
As part of the evaluation of the Iowa Watershed Approach, in September 2021 and January 2022, staff members from the University of Iowa Center for Evaluation and Assessment conducted interviews with IWA partners, WMA chairs, and project coordinators. This third set of key informant interviews were designed to capture stakeholder perceptions of IWA, their visions of watershed work going forward, and any remaining thoughts they had about IWA.
The responses to this interview largely center on the WMA-focused activities and players within IWA. Additional information will be provided for other program components in the final report.

Executive Summary
Out of 23 possible interviews, CEA was able to conduct 17 interviews for a response rate of 74%. Interviewees represented seven partner organizations, six watersheds, and three roles (partners, WMA chairs, and project coordinators). The results from the interviews are reported here and within the body of the report in alignment with the three primary evaluation questions of IWA.

What did the overall implementation of IWA look like?
At a high-level, stakeholders shared positive reflections of IWA. One noted that IWA provided an opportunity for partners across the state to work together for common goals and establish a model. Another emphasized that IWA had shown that change can be made in the state: “If you work hard, hustle, you can make change... you can’t deny that now... because it just got done.”

Activities
The activities of IWA were largely defined in the context of the Watershed Management Authorities for this set of interviews. For the purposes of this report, the activities of the WMAs are defined as WMA engagement, selling best management practices, watershed planning, and building awareness.
Stakeholders described that while the WMAs are a “proven” structure and the only mechanism for working across jurisdictions on flood risk, different WMAs had different strategies and levels of success related to engagement. Stakeholders described strengths and challenges with respect to the processes of selling practices in the IWA watersheds. Topics included:
- Landowner interests for participation or specific types of practices
- 90% federal and 10% local cost share level
- Offering a variety of practice types
- Meeting landowners on their land in addition to scoping practices using maps
- Time impacts on prioritization, wait times for landowners, and project pacing
- Karst geology meant flood structures may not work
- Pandemic impact on supply chains and material prices
• Purposes of ecology- and recreation-focused projects can be at odds
• Prairie challenges: not a priority for landowners; requires coordinated, ongoing maintenance
• Navigating the process for stream mitigation permitting
• Tier II Reviews

Several stakeholders described the complexities of different activities or attributes which made it difficult to decide whether they were strengths or challenges for the program. Often elements of the program which made it possible to sell practices within the limited timeframe of the project meant that the coordinators could not prioritize using the plan, tools, and outreach to strategically place specific types of practices to maximize flood impact with the budget provided.

In addition, stakeholders reported that certain watersheds had enough landowner interest to generate a waitlist for future programs while one was only able to recruit a small number of landowners to participate despite outreach efforts and funding.

At a high level, a stakeholder described the creation of the WMAs and the creation of watershed management plans as one of the greatest accomplishments of the IWA. They described both successes in this process (i.e., successful efforts to develop plans, hosting the plan on the web) and challenges in the process (i.e., planning and designing practices simultaneously, coordinating many contributors).

Stakeholders described some specific conditions or activities of the program which have supported community awareness of the work of IWA and the WMAs.

- Emphasis on flooding
- Importance of a broader scope of watershed resilience
- Importance of sharing the message with the support of local decisionmakers
- Sharing modeling information

**Players**

Stakeholders described many players working to implement the work of IWA in the watersheds: WMA board members, project coordinators, hired consultants and contractors, local partners, and state-level partners. Given the varied experiences of the interview participants, especially since many of them served in the roles they were describing, there were nuances with respect to the accomplishments and challenges to engagement or implementation.

**IWA Dissemination**

A few stakeholders described the importance of sharing the story of success IWA or challenges for a specific watershed as the project is wrapping up. One said that it’s valuable to have a group telling the story of IWA to provide a big picture of this work statewide, “That’s a story we want to tell.”

**What is the overall impact of IWA in Iowa?**

Stakeholders described impacts of IWA from their perspectives. Impacts included:

- Creating WMAs as a vehicle for water resources work across jurisdictions
- Constructing and facilitating communication about best management practices for flood mitigation
- Building or strengthening networks which are opportunities for leveraging different expertise, experience, and research areas in this work
- Physical and measurable impacts on the landscape in the form of larger projects than would otherwise have been possible, reduced damage to local roads, reduced infrastructure maintenance costs, and improved condition and safety of roads, and potential flood reduction benefits to be determined by Phase II hydrologic modeling or the spring rains
- Recognition outside of Iowa for the work of IWA and the need for watershed-scale projects
- Increased understanding of flood mitigation at a watershed scale

Several stakeholders commented that although there were impacts of IWA, the program is the beginning of a much larger effort to improve water quality and reduce flooding in the state.

**What aspects of IWA appear to be most replicable within and beyond Iowa?**

Stakeholder responses addressed three major themes related to the replicability of IWA within and beyond Iowa: building on IWA, future funding efforts, and lessons learned.
Building on IWA
When considering building on IWA within and beyond Iowa, stakeholders described that the model of IWA should or would be adopted statewide and that it was likely that the WMAs which have been successful will continue to be by building on the work done through IWA. More broadly, a few stakeholders described that IWA would serve as a replicable model for doing watershed-based work or for flood mitigation in the Midwest and nationally. For example, one stakeholder said, “In the Midwest, with staffing and implementation dollars, things can happen... I think it just goes to show that this model works... With financial support and a little bit of leadership, any watershed could get some projects on the ground.”

Beyond IWA as a model, stakeholders described several opportunities for WMAs to build on IWA in the future:

- **Planning can support future efforts and funding**: Responses addressed the value of watershed plans, Flood Resilience Action Plans, and having projects designed and ready for when funding comes available. One stakeholder suggested that new watersheds beginning this should “start with funding for a plan.”

- **A need to collectively organize at the state level** around flood mitigation to maximize benefits of watershed work in Iowa.

- **Opportunities to build on the work of IWA when additional funds come available**. These individuals described having interested landowners, existing relationships with partners, and active local partners with experience in several elements of watershed work.

- **An ongoing need for project coordinators** and their role within WMAs: connecting with landowners, supporting landowners as they navigate programs, advocating for effective practices in the community, facilitating collaboration, educating the public, and completing WMA-identified projects.

In addition, state-level partners described that they see their organizations building on their experiences through improved collaboration, balancing flooding and water quality priorities in their work, connecting communities with funding opportunities, providing support and resources to expand the WMA network, building on lessons learned in IWA, and expanding geographic areas served by their organizations.

**Future funding efforts**
Stakeholders described needs, strategies, and challenges for funding project coordinators and other WMA efforts into the future. Specifically, stakeholders said that WMAs need to continue to support project coordinators to maintain momentum in their coalitions and discourage staff turnover among the coordinators themselves.

- **Opportunities for funding included**: writing grants for state or federal funds, IDALS or other state agencies providing funding, leveraging private partnerships, and local member entities (specifically those with more resources) providing funding

- **Challenges to funding included**: some local jurisdictions cannot contribute enough for the WMAs to be self-sustaining, restrictions on how state agency funds can be used, challenges in requesting funding if you have already been awarded funds through IWA, opposition to state funding for IWAs, and pressure of having a coordinator apply to fund their own position

**Lessons learned**
Over the course of the interviews, stakeholders offered several lessons learned in their experiences of IWA. These lessons covered topics from strategies for selling practices and writing plans, opportunities to strengthen collaborations, understanding what has and has not worked for WMAs, funding needs, and IWA operations.

**Parting thoughts**
In May 2022, each of the planning partners was given an opportunity to share any parting thoughts based on their experiences of IWA. One of the planning partners emphasized the following three points in his response:

- Start the process with finding out where the flood impacts are then moving upstream from there
- A watershed approach to flood reduction will only be realized where the watershed area upstream from the flood impact is relatively small
- We need a consistent focus on reducing flood damage rather than peak flow
Report format and purpose
After a brief introduction, this report is organized by three evaluation questions:

- What did the overall implementation of IWA look like?
- What is the overall impact of IWA in Iowa?
- What aspects of IWA appear to be most replicable within and beyond Iowa?

Supplemental information has been provided in the appendices to this report. Those appendices will be hyperlinked in the text for quick reference.

In her comments, one stakeholder noted that any advice she would give to someone wanting to engage in watershed work would be specific to their role and expertise. With that in mind, any user should consider their own context when reflecting on takeaways from this report.

Methods
The interview protocol was developed in alignment with the evaluation questions for IWA and in conversation with team members at the Iowa Flood Center. The protocol was designed to allow for a 30-minute interview focused on the overall implementation of IWA, its impacts, and what aspects seem to be most replicable. The interview protocols are included in this report as Appendices M, N, and O.

After individuals had agreed to be interviewed, but prior to the interview, all potential interviewees were informed of the topics to be included in the interview, the process for completing the interview, and how and with whom their interview content would be shared. They were told that the interviews would be recorded and transcribed, and that CEA staff would write a summary of the interview. After the summaries were created, the summary was sent by email to each interviewee with a request that they review the summary for accuracy and completeness. Interviewees were told they could edit the interview summary in any way they desired to make sure that the interviews accurately conveyed what they had intended to say. After interviewees were given the opportunity to comment and review the revised summary, individual summaries were combined to create a combined summary.

Analysis reflects a focus-group style analysis, items with more discussion get more detail generally but those frequencies are not included. This is because of the complex nature of the comments from the long interviews with the three groups of stakeholders. This report has been written to accurately capture the nuances of the conversation without specific frequencies.

Participation
Between September 2021 and January 2022 IWA partners, board members, and projects coordinators were invited to participate in this final round of key informant interviews. Of the 23 possible, CEA was able to conduct 17 interviews for a response rate of 74%. Interviewees represented seven partner organizations, six watersheds, and three roles (partners, WMA chairs, and project coordinators).

Given the nuanced and interrelated nature of the interviews as well as to improve readability and protect anonymity, participants from all groups will be identified as “stakeholders.” Since the purpose of this report is to provide an overview of IWA during its final year, the experiences of individual partners and watersheds will not be distinguished. However, in some special cases, watersheds or partners groups will be identified. This has been done in conversation with key stakeholders at the University of Iowa Iowa Flood Center in order to improve the usability of the information.

Representatives from nine IWA partner organizations were invited to participate in the interview. Of the nine groups invited to participate, seven participated in an interview. The partners that participated in an interview are listed in Table 1.

Table 1. IWA partner participation in interviews

<table>
<thead>
<tr>
<th>Partner organization</th>
<th>Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iowa Department of Agriculture and Land Stewardship</td>
<td></td>
</tr>
<tr>
<td>Iowa Department of Homeland Security and Emergency Management</td>
<td>✔</td>
</tr>
<tr>
<td>Iowa Department of Natural Resources</td>
<td>✔</td>
</tr>
<tr>
<td>Iowa Economic Development Authority</td>
<td>✔</td>
</tr>
<tr>
<td>Iowa State University Extension and Outreach</td>
<td>✔</td>
</tr>
</tbody>
</table>
Within the watersheds, the WMA chair and project coordinator from each of the seven IWA WMA was invited to participate. Of the fourteen individuals or duos invited to participate, eleven participated in an interview. These participants are identified by watershed in Table 2.

Table 2. IWA WMA participation in interviews

<table>
<thead>
<tr>
<th>Watershed</th>
<th>WMA chair</th>
<th>Project coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Creek</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>East and West Nishnabotna</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>English River</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Middle Cedar River</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>North Raccoon River</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Upper Iowa River</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Upper Wapsipinicon River</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

*Note: In the Middle Cedar and North Raccoon River Watersheds, the IWA-funded project coordinators are no longer active in the project. In those cases, CEA invited someone with knowledge of the work of project coordinators.
Program context
Stakeholders described many contextual factors that have influenced IWA in both positive and negative ways (sometimes both). Some factors were unique to individual watersheds and others impacted watersheds across the program. An overview of these factors is included in Table 3 below. See Appendix A for additional details.

Table 3. Factors influencing IWA

<table>
<thead>
<tr>
<th>Factor</th>
<th>Positive, negative, or both influence on IWA</th>
<th>Individual watersheds or cross watersheds</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19 pandemic</td>
<td>Both</td>
<td>Cross watersheds</td>
</tr>
<tr>
<td>Weather (wet weather before and fair weather during IWA)</td>
<td>Positive</td>
<td>Cross watersheds</td>
</tr>
<tr>
<td>Community use of the river</td>
<td>Positive</td>
<td>Cross watersheds</td>
</tr>
<tr>
<td>Community history of flooding or conservation</td>
<td>Positive</td>
<td>Cross watersheds</td>
</tr>
<tr>
<td>Overcoming political divides</td>
<td>Positive</td>
<td>Cross watersheds</td>
</tr>
<tr>
<td>Experience in the Iowa Watershed Project</td>
<td>Positive</td>
<td>Individual watershed</td>
</tr>
<tr>
<td>Karst geology</td>
<td>Negative</td>
<td>Individual watershed</td>
</tr>
<tr>
<td>Losing champions</td>
<td>Negative</td>
<td>Individual watershed</td>
</tr>
<tr>
<td>Des Moines Water Works Lawsuit</td>
<td>Negative</td>
<td>Individual watershed</td>
</tr>
</tbody>
</table>
What did the overall implementation of IWA look like?

IWA model

More in Appendix B

Several stakeholders made positive comments about the IWA or the model of IWA. These individuals used the words “solid,” “great,” “worked really well,” “very successful,” and “really needed.” In addition, one stakeholder mentioned several times that IWA was an opportunity for partners across the state to work together for common goals and establish a model. Another stakeholder emphasized that IWA had shown that change can be made in the state: “If you work hard, hustle, you can make change... you can't deny that now... because it just got done.” One stakeholder expressed his pride in the outcomes that IWA has delivered within a context of complicated and competing political interests.

Activities

WMA recruitment and engagement

More in Appendix F

Holistically one stakeholder said, “The WMA structure is proven...Whether you call it a WMA or whatever, I think getting cities, counties, and SWCDs] grouped together is key.”

A stakeholder noted that even though WMAs have limited resources, capacity, and authority; they are a mechanism for supporting water resources work outside of each jurisdiction. He said, “The whole point of the IWA is working outside of your jurisdiction on the landscape where the flood risk starts to accumulate at very small levels then compounds as the watershed progresses downstream... The ability to work [upstream] is entirely dependent on having a vehicle for doing that. So far, the only thing that can do that is the WMA.”

Stakeholders from two WMAs described different experiences in recruiting and engaging board members in their organizations. One recruited quickly then experienced challenges in participation and the other grew closely to build trust and credibility. The representatives from one watershed described successes in recruiting a large number of jurisdictions which subsequently became a challenge since the group became “unwieldy” and the number of members made it difficult for the group to obtain a quorum to conduct quarterly business. The representatives from another watershed described efforts over time to solidify the legitimacy of the WMA in the eyes of the members and potential members and build their WMA membership over time. These representatives talked about how funding opportunities, incorporating local guidance, and intentional communication with the local stakeholders helped to build trust and credibility.

Best management practices

More in Appendix C

Stakeholders described strengths and challenges with respect to the processes of selling practices in the IWA watersheds. In some cases, a stakeholder or different stakeholders would describe a specific activity or attribute as both a strength or a challenge. The items described by the stakeholders are included in Table 4.

Several stakeholders described the complexities of different activities or attributes which made it difficult to decide whether they were strengths or challenges for the program. Often elements of the program which made it possible to sell practices within the limited timeframe of the project (i.e., the cost share level, having a variety of practice types available, and landowner interest in practices that were not as impactful on flooding) meant that the coordinators could not prioritize using the plan, tools, and outreach to strategically place specific types of practices to maximize flood impact with the budget provided.

<table>
<thead>
<tr>
<th>Activity or attribute</th>
<th>Strength, challenge, or both for selling practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landowner interests for participation or specific types of practices</td>
<td>Both</td>
</tr>
<tr>
<td>90% federal and 10% local cost share level</td>
<td>Both</td>
</tr>
<tr>
<td>Offering a variety of practice types</td>
<td>Both</td>
</tr>
<tr>
<td>Meeting landowners on their land in addition to scoping practices using maps</td>
<td>Strength</td>
</tr>
<tr>
<td>Time impacts on prioritization, wait times for landowners, and project pacing</td>
<td>Challenge</td>
</tr>
<tr>
<td>Karst geology meant flood structures may not work</td>
<td>Challenge</td>
</tr>
<tr>
<td>Pandemic impact on supply chains and material prices</td>
<td>Challenge</td>
</tr>
</tbody>
</table>
Purposes of ecology- and recreation-focused projects can be at odds with challenge.

<table>
<thead>
<tr>
<th>Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prairie challenges (not a priority for landowners; requires coordinated, ongoing maintenance)</td>
</tr>
<tr>
<td>Navigating the process for stream mitigation permitting</td>
</tr>
<tr>
<td>Tier II Reviews</td>
</tr>
</tbody>
</table>

In addition, stakeholders reported that certain watersheds had enough landowner interest to generate a waitlist for future programs while one was only able to recruit a small number of landowners to participate despite outreach efforts and funding.

Watershed planning

More in Appendix D

At a high level, a stakeholder described the creation of the WMAs and the creation of watershed management plans as one of the greatest accomplishments of the IWA.

Planning successes

- Successful efforts to implement the planning process
- Hosting the plan on the web so that the information is available to the public, organized all in one place, and can be updated as needed

Planning challenges

- Planning and designing practices at the same time meant that watersheds could not use planning to inform their design and implementation
- Coordinating a large number of contributors lead to fatigue

Building awareness

More in Appendix E

Stakeholders described some specific conditions or activities of the program which have supported community awareness of the work of IWA and the WMAs.

- **Emphasis on flooding**: Specifically, a few stakeholders described the importance of the emphasis of flooding in supporting landowner and public buy-in. One stakeholder said, “[Flooding] affects everybody and so [if] we can show that we can effectively mitigate that through landscape management, that’s a pretty powerful story to tell.”
- **Importance of a broader scope of watershed resilience**: a few stakeholders emphasized the importance of a broader scope of watershed resilience, focusing in on the integration of topics that are often discussed separately—flooding, conservation, nutrient reduction, sediment and water quality, and soil health—in order to “[increase] resiliency of our landscape.”
- **Importance of sharing the message with the support of local decisionmakers**: One stakeholder specifically emphasized the importance of having a coordinator sharing the message of a potential practice (i.e., on-road structures) while having the support of local decision makers to emphasize the importance of these practices to the public.
- **Modeling information**: One stakeholder said that having modeling information (i.e., hydrologic modeling, ACPF, IFIS) helped provide reassurance that the flood-focused projects will have an impact (More in Appendix L).

Players

WMA board

More in Appendices F and L

Successes

In addition, stakeholders described:

- Communities’ roles in leading WMA efforts either by forming WMAs before the start of IWA or serving as the chair despite informal dissatisfaction with his community “steering the ship.”
• Finding that group of board members that are “willing to [a team member’s] back... support your decisions and everything like that”
• Board cohesiveness, consistence, and dedication to the coalition
• Efforts to build trust and credibility among the member entities
• The importance of having local staff members or state-level organizations to guide their decision making and work
• Board belief that the WMA is the right structure for working on improving water quality and reducing flooding in the watershed
• Explicitly including flooding into the conversation within the watershed since “flooding has no constituency. No one is in favor of flooding as the status quo. Everyone wants to prevent it.”
• Securing funding in advance of IWA to conduct a comprehensive watershed assessment
• Securing funding near the end of IWA in order to cover some on-road structures that the WMA was not sure they would be able to cover with their remaining funds

**Challenges**

• keeping entity energized when participating on the WMA is only a small part of what each of the member representatives have as their job responsibilities
• challenges with participation in the WMA either in terms of meeting attendance or participating in the planning process
• an effort that did not feel “grassroots driven” and “overcoming distrust between jurisdictional members” in light of the “looming legacy of the Des Moines Water Works lawsuit.”
• The loss of interest after the group loses resources
• Navigating the work of the WMA when members were willing to leave the WMA if the board collectively decided to use a specific newspaper as their newspaper of record

**Project coordinators**

More in Appendix G

*Project coordinator roles*

Stakeholders described the following general categories of tasks for project coordinators working IWA or other conservation-programs in Iowa:

• Serving as the “boots on the ground” implementing the work of the WMA defined by the program or the WMA.
• Conducting multifaceted outreach efforts with WMA boards and member entities; partners, collaborators, and local champions; landowners; and members of the public
• Supporting practice implementation through developing a system to navigate the IWA process, communicating with and recruiting potential landowners, maintaining communication and supporting participating landowners through the steps of the process, and serving as a point person to help landowners navigate the different programs, resources, and funding sources available
• Participating in formal and informal professional development training opportunities about program processes, outreach strategies, and technical or practice information
• Applying for grants to support the work of the WMA and their own positions

A couple stakeholders described the benefits of project coordinators connecting with one another via conference call during IWA to share successes, challenges, resources, and guidance. One stakeholder mentioned that this benefitted the coordinators because they got support from colleagues with different areas of expertise (i.e., fish and wildlife, landscape work, and community development) while another highlighted that this benefitted the WMAs more broadly because the calls served as a way to learn from the other WMAs.

One stakeholder repeatedly emphasized collaboration with all the different parts of the project as beneficial. He described building relationships with local and statewide partners in this work. For example, he said, “It’s been a really amazing experience creating different relationships with landowners and partners ... that are working all the
time getting things done and helping out with the project. It’s been really cool.”

Project coordinator challenges
In addition to future funding, stakeholders identified the following challenges for project coordinators during IWA.

- **Timing of training**: Given the length of the program, different WMAs moving at different speeds, changing processes, and some processes only needed once or twice a year, some training was provided to project coordinators and grant administrators too early or before the processes were adequately defined.

- **Changing or losing the project coordinator**: Landowner recruitment and maintaining the momentum of the WMA may have gone more smoothly if the coordinator had not changed part-way through the project.

- **Stress of the job**: Project coordinators were under pressure on a short timeline to make the program successful in their watershed. While the time-only extension alleviated some of that pressure, it is possible that separating outreach to landowners and administrative work (permitting, cultural assessment, environmental review) into separate roles could benefit the productivity in both areas.

- **Unclear who will do ongoing management**: With project coordinators departing near the completion of projects, it is unclear who will be doing ongoing management and where IWA landowners should turn with questions.

WMA consultants and contractors
Several stakeholders made positive comments about the work of WMA consultants on the project. One included the consultant in his comments about his pride in working with people in his watershed. Another stakeholder expressed pride in the work of a consultant team. He said that they worked hard and did good quality work. Another commented that a consultant team has “done an outstanding job of being able to engineer project in a very efficient manner and also be able to do those in conjunction with the landowners, and they’ve done a great job of being able to allow us to budget successfully those projects.” Another said, “The contractors have been super easy to work with and really want to get a good job done.”

Recognizing the amount of work expected of engineering consultants in the work of IWA, a stakeholder said that they contracted engineering services beyond what they originally anticipated and reflected, “I think we can confidently say that the money we spent contracting that [additional] engineering really helped us move along faster.”

A few stakeholders noted challenges related to the WMA consultants on IWA
- **Too many watersheds**: A stakeholder noted that a grant administrator was working on three watersheds and it’s likely that workload was too heavy to handle all three
- **Trained grant administrators too early**: A stakeholder said that given the five-year scope of the program, some training was provided to grant administrators too early
- **Contractor challenge**: A stakeholder said that one of the biggest hurdles was that they had a contractor that made a mistake and refused to correct it

Local partners
More in [Appendix H](#)
In addition to the board members and staff members working on the WMA, several stakeholders highlighted the roles of local partners in watershed efforts. Stakeholders described largely positive experiences working with these local partners though, a few described more nuanced experiences. Holistically, on stakeholder made very positive comments about his local partners: “I’m really most proud of the people in our region. I don’t know what it is, maybe it’s in the water or something, but people in our region and our counties up here—their response to this project has been just wonderful…“All these great people…this group pride. [This is] something that was a gathering of a lot of different people, different backgrounds, and, you know, we did it!”

Stakeholders noted the following supports from local partners in this work:
Northeast Iowa RC&D: Stakeholders described the ways that the Northeast Iowa RC&D have been a resource to the watershed before the WMA was formed and during IWA and how they anticipate they will continue to be a resource in the future: providing guidance, watershed planning, providing grant administration, and serving as project coordinators.

County engineer: One stakeholder described that the county engineer has been an enthusiastic supporter and conducted outreach for on-road structures to other county engineers and the public.

NRCS/SWCDs*: A few stakeholders described that local NRCS/SWCD offices supported the work of IWA though collaboration with the WMA on watershed issues and hosting a project coordinator.

Local project coordinators: One stakeholder described that a coordinator has been hired for a HUC 12 watershed in his watershed which he described as a “critical little watershed.”

Local governments**: A couple stakeholders described largely positive experiences working with local governments on IWA.

Nuanced experiences
* Another described needing to build trust with the local SWCD offices. He said their WMA had to work with the local SWCDs to build a relationship and make it clear that they were working toward “a common goal,” but that ultimately, he included them as a useful resource.

**One stakeholder described that their lead county had in influential role in the WMA but missed an opportunity for providing a strong foundation for the work of IWA in their watershed.

IWA partners

More in Appendices I, J, and L

Several stakeholders commented on the operations of IWA. While most comments focused on the challenges of IWA work in the context of the structure of the grant proposed and federal requirements, a couple stakeholders recognized the leadership of IWA in their comments.

Leadership of IWA

A couple stakeholders recognized the leadership of IWA. Two recognized the leadership of the Iowa Flood Center team with one specifically recognizing the importance of having an academic institution at the helm. He said that the agricultural community does not always trust the DNR and that “Larry Weber [Professor at the University of Iowa and Principal Investigator of IWA] has more street cred than anybody else in the state when it comes to watershed work. He’s easy to listen to. He’s non-threatening. And, [he’s] established a vehicle that we can talk about these things.” Another stakeholder expressed pride in the work done by the Iowa Flood Center, the Iowa Economic Development Authority, Iowa Department of Homeland Security and Emergency Management, and the Iowa Department of Natural Resources saying, “We simply could not have done it without them.”

Challenges to IWA work in the context of the grant program

- A few stakeholders noted specific situations where the federal requirements of the grant were challenging to the process. Generally, one stakeholder highlighted the difficulty in fitting IWA into HUD’s requirements and said that while the work completed was valuable, continuing the work would be less difficult if done with a funding source better aligned to the project’s activities. Specifically, stakeholders identified that the procurement requirements required the project coordinators to put all project out to bid which is not practical for repeated projects like those in IWA and projects on the ground being hindered by the administrative steps involved including landowners backing out after becoming fed up with the administrative burdens.
- A few stakeholders recognized that additional communication with IWA partners and community partners was needed. These individuals described how better communication early in the grant process would be beneficial.

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22 It is worth noting that within IWA team members from the Northeast Iowa RC&D served as local partners, consultants, and project coordinators. Many of the participating stakeholders mentioned this group by name in their responses about useful resources or successful collaboration.

23 In their interview, partners were invited to give specific feedback about what they would have done differently in IWA if they knew then what they know now. The responses from stakeholders in this section are largely the result of those responses from project partners.
have led to increased community buy-in and decreased delays and confusion among these important
groups.

- One stakeholder identified that difficulties arose in a specific watershed related to priority funding areas.
  He described that since many funds were directed to the priority areas, other communities in the
  watershed often questioned how they would benefit from participating in the WMA.

### IWA support for WMAs

Stakeholders described supports provided to WMAs through IWA. At a high level, these supports included technical expertise and resources and leadership and operational support.

- Technical expertise and resources: Stakeholders described technical expertise and resources provided to WMAs through IWA. At a high level, these supports included measuring the impacts of IWA, technical expertise, outreach support, access to grant funds, and professional development opportunities.
- Leadership and operational support: In a few instances, stakeholders described holistic supports for their work on IWA including leadership and operational support.

With regard to measuring the impacts of IWA on the landscape, a stakeholder described the Iowa Flood Center’s development of the GHOST model which would soon be able to “not only attribute every gallon of water at a particular location back to the land that it came from but attribute every pound of nitrogen at any location in the river network back to the land that it came from,” which is something “no one else in the world has done.” Stakeholders specifically mentioned Iowa Flood Center, Iowa State University, Iowa Department of Natural Resources, Iowa Department of Agriculture and Land Stewardship, Iowa Homeland Security and Emergency Management, Tallgrass Prairie Center, and University of Iowa Center for Evaluation and Assessment.

### IWA partners’ most important contributions

Partners were invited to consider their organizations most important contributions to IWA. The responses are meant to be highlights of each group’s role. Partners described contributions related to defining the vision and implementation of IWA, bringing groups together, providing information or technical assistance, and supporting planning efforts or funding applications.

- Defining the vision and implementation of IWA: Three partners highlighted complementary roles with respect to the vision and implementation of IWA by creating the vision of IWA, bringing partners together, and leading the proposal effort; providing resources and guidance as well as reassurance to partner organizations at the beginning of the project; and providing the structure necessary to secure funding from HUD.
- Bringing groups together: One partner highlighted their role in bringing groups together which included supporting the creation and work of the watershed management authorities.
- Providing information or technical assistance: Representatives from three partner groups highlighted their experience providing information and technical assistance to project communities or stakeholders.
- Supporting planning efforts or funding applications: Three partner groups described ways that they supported planning efforts or funding applications through supporting the development of watershed management plans, guidance a process to integrate local hazard mitigation planning to the scale of the HUC 8 watershed and supporting community efforts to use plans to apply for federal flood mitigation funds.

### Flood Resilience Team

A stakeholder provided several reflections on the work of the Flood Resilience Team in IWA. He expressed pride in the Flood Resilience Action Plans, the Planning Guide developed by Astig Planning on behalf of the Flood Resilience Team, and in submitting a FEMA BRIC application in collaboration with a colleague at Iowa Homeland Security and Emergency Management. To that last point, he said, “Even if it doesn’t get funded, the fact is people now know about that program.”

Related to challenges, the stakeholder described how efforts to visualize the geography of social vulnerability in IWA areas did not produce useful results.
IWA Dissemination

More in Appendix L

A few stakeholders described the importance of sharing the story of success IWA or challenges for a specific watershed as the project is wrapping up. One said that it’s valuable to have a group telling the story of IWA to provide a big picture of this work statewide, “That’s a story we want to tell.” Related to challenges, a stakeholder emphasized the need to tell the story of North Raccoon and learn from this experience. He described that he’s been in contact with the Storm Lake Times which he thinks is the appropriate media source to tell that story.

What is the overall impact of IWA in Iowa?

Creation of the WMAs as a success

More in Appendix F

Stakeholders emphasized the success of the WMA model. One partner described the creation of the WMAs and the creation of watershed management plans as one of the greatest accomplishments of the IWA. At a local level, a stakeholder said, “We would not be where we’re at today had we not done the WMA. There’s just no way we would have done it.” He described starting to work on river efforts twenty years ago, and a frustration with not knowing what they could do. He said, “Now I look at it and I think, ‘Boy, I feel a lot better about it now.’ We still have a long way to go, but we’re seeing some progress, and I really feel good about that.”

Successes in practices

More in Appendix C

- Building practices: Working with people in the watershed to build projects; Committing all dollars allocated to the watershed to practices and the efforts to make this possible
- Introducing on-road structures: “The honor of bringing a newer practice to an area where it hasn’t been done before was a pretty big deal... The original though was that they’re never going to work in this area because it’s too flat, and [we’re] actually proving that they can.”
- Happy landowners: Having happy landowners is a success
- Awareness of new types of practices: WMA board members have been exposed to more practices they may not otherwise have known about which could lead to more attention, recognition, and funding
- Flood reduction as a motivation: Specific landowners “were pretty well invested to begin with [i.e., habitat, soil erosion], but the fact that they would be able to help their downstream neighbors was really important to them in the end.”
- Cultural shift: “I’m pleased as I drove around the county to see a greater embrace of soil health measures like cover crops; “The conversations about conservation practices are happening right alongside the yield and the prices and everything else. I think that’s just becoming part of the farming conversation.”

Awareness – See Appendix Awareness

Stakeholders described many impacts of the outreach efforts of IWA. Specifically, stakeholders described new partnerships, improved understanding or awareness of water issues, and the potential for awareness to be a precursor to future action.

- Improved understanding or awareness of water issues: Stakeholders described different ways that participating communities have come to understand water issues, either generally or specific to IWA including increasing “watershed literacy” and understanding and support for conservation, awareness that planning and upstream practices can proactively address flooding issues while also providing benefits to water quality and wildlife and high levees are not the only strategy, and landowners noticing the work done through IWA and the support that they’re getting from members of their communities
- Partnerships: A few stakeholders described how IWA provided an opportunity for new groups to engage in WMAs, specifically cities and counties, to support water resources work or for state-level partners to increase their community connections to provide information and resources.
Potential for awareness to be a precursor to future action: A few stakeholders described the future actions that could come from an increased awareness of these issues. Stakeholders described future opportunities to generate funding within the community, recruit landowners, and implement practices. One stakeholder described that if ever there was another program to fund these types of projects, there should not be any issue finding interested landowners.

Networks

More in Appendix L

Several stakeholders said networks and connections which were built or strengthened through IWA should continue into the future despite the funding source. They described that this would be a way to continue to leverage different expertise, experience, and research in this work. One stakeholder said, “We can continue the communication networks. It doesn’t always need to be a big project and lots of funding. It needs to just be good communication and valuing each other’s expertise that we bring. Keeping that together would be a way to move one of the strongest components forward.”

A couple stakeholders specifically mentioned that there was a sense of being part of a team or “camaraderie” being part of IWA. One said, “I would say that I’m just proud that we participated. We were able to be part of this bigger effort and there were so many moving pieces at so many different levels.” He reflected that this was a large and sometimes frustrating effort, but “[that] we had a small part of that and hopefully influenced [the effort] in positive ways is pretty cool.

Physical and measurable impacts

More in Appendix L

When commenting on the physical impacts of IWA, stakeholders described projects on the ground as well as observable and anticipated improvements on the landscape. As far as projects on the ground, a stakeholder noted that IWA funding allowed the community to do some bigger projects that may not have been feasible using NRCS cost share programs. With respect to observable improvements, a stakeholder described that would be reduced damage to local roads, reduced infrastructure maintenance costs, and improved condition and safety of roads because of on-road structures. While it was not universal, several stakeholders anticipated that the spring rains or the Phase II Hydrologic Reports would show a reduction in high rain events.

Recognition outside

More in Appendix L

A few stakeholders said that IWA has garnered the attention of a national audience for Iowa and watershed work. One said that IWA was a top performer under the National Disaster Resilience program and stated that this “put a spotlight on Iowa” in terms of what the program has been able to accomplish. She described that this recognition would have a lasting impact for Iowa. Another described that the IWA project brought more attention to the need for watershed-scale projects. A third stakeholder said that IWA has captured the attention of groups outside of Iowa and that groups have visited Iowa from North Carolina and Texas have visited Iowa to learn about IWA.

Understanding and implementing flood mitigation at a watershed scale

More in Appendix L

Several stakeholders described that building awareness of and action for flood mitigation or other water resources work at the watershed scale.

- One stakeholder said that focusing on the watershed scale has given him an appreciation for the interconnected nature of water quantity and water quality.
- One stakeholder said, “The primary thing, of course, is the idea of conversation in a watershed framework...A watershed is this organic thing with easily definable boundaries. Everybody is in a watershed and live up- or down-stream from everybody else.”
One stakeholder said, “I think some of the impacts are that it’s created some awareness of an actual watershed and the fact that there are boundaries that don’t adhere to governmental boundaries.” He said that awareness may not be very big at this point, but it could be “fostered and grown.”

One stakeholder said, “We’re looking past those geographical lines on a map. We can work past those for the betterment of all of us.” He described the importance of doing projects upstream to impact communities downstream in the watershed. He said that it makes good fiscal and management sense to “position those [projects] where they’re going to provide the most benefit.” He said that being able to cross those jurisdictional boundaries successfully will be the biggest impact.

A few stakeholders explicitly described how working with WMAs or at the watershed scale allows them to collaborate with entities outside of their jurisdiction. One said, “The whole point of the IWA is working outside of your jurisdiction on the landscape where the flood risk starts to accumulate at very small levels...The ability to work [upstream] is entirely dependent on having a vehicle for doing that. So far, the only thing that we can do that is the WMA.” Extending that reach farther, another stakeholder described that watersheds can go beyond the jurisdictions in Iowa. He described that he participates in an annual meeting for a watershed that extends into Minnesota.

Other benefits

More in Appendix L

Other benefits mentioned by one or two stakeholders included:

- IWA projects supported Iowa’s workforce by bringing money into the communities and serving as a training opportunity for project coordinators and graduate students working on the project
- Lessons learned through IWA impacted how the program was delivered and there is a “necessity” that lessons learned through tough experiences in North Raccoon help the group improve
- IWA partners and communities learned a lot through the program’s resilience component, “a voyage of discovery” and Flood Resilience Action Plans will have a lasting impact in Iowa

Just the start

More in Appendix L

Several stakeholders commented that although there were impacts of IWA, the program is the beginning of a much larger effort to improve water quality and reduce flooding in the state. A few stakeholders made comments similar to “This is just a drop in the bucket. We’ve got to continue to move forward ... putting flood reduction and water quality improvement projects on the ground, period.” Another stakeholder emphasized that in this experience he has learned “the amount of effort and money and resources it takes to move the needle a little bit.” He said that this has been a large effort by many groups of people in the watershed but when you take the scale of watershed work from HUC 12 to HUC 8, “you have to think differently.”

What aspects of IWA appear to be most replicable within and beyond Iowa?

Building on IWA

IWA as a model within and beyond Iowa

More in Appendix B

A few stakeholders described that the model of IWA should or would be adopted statewide. However, one stakeholder noted that this would require support and funding at the state level. One stakeholder expressed an expectation that the WMAs which have been successful will continue to be successful by building on the work done as part of the IWA.

In addition, stakeholders described opportunities for the IWA model to be replicated beyond Iowa. When considering IWA as a model, stakeholders said that IWA would serve as a replicable model for doing watershed-based work or as a model for flood mitigation at a time when flooding issues are increasing globally. One stakeholder mentioned that groups from both North Carolina and Texas have already traveled to Iowa to learn about IWA.
Focusing in more regionally, one stakeholder said, “In the Midwest, with staffing and implementation dollars, things can happen... I think it just goes to show that this model works... With financial support and a little bit of leadership, any watershed could get some projects on the ground.”

A few stakeholders specifically made comments about how IWA is a proof of concept for this work within and beyond Iowa. Comments included:
- “It can be done, that you go in and do a lot of projects across a lot of different areas and bring it down to the local level where we’re dealing one-on-one with producers and be able to provide meaningful projects that have a purpose on their land.”
- Despite differences across watersheds in Iowa, “if [IWA’s model] can be shown to be effective across multiple platforms and areas and groups of people, I think that’s pretty hard to ignore.”
- Going forward, the question is how to do this same work at a larger scale. Now, he said, it is up to leaders at the state or federal level to continue and expand this work because there are “no excuses [that] it’s complicated and we don’t know how to do it.”

Planning to support future efforts and funding

More in Appendix D

Several stakeholders described the ways that planning can support future efforts and funding. Holistically, one stakeholder described that the watershed management plans as a central impact of the program for their ability to guide and prioritize future investment in watersheds.

- One stakeholder described that a few Flood Resilience Action Plans have already been used to apply for federal funds.
- Another stakeholder emphasized the importance of having projects ready so that when funding opportunities come available, they are ready to go. He said, “I think that’s the place of preparedness that we need to be in so that we can really make sure of funding that does become available.” He said that those are the types of projects that typically get funded.
- Complementary with this last point, one stakeholder suggested that new watersheds beginning this work “start with funding for a plan. [The plan was] probably one of the best things we did... because that plan is really the roadmap of what you can do going forward.” He cautioned against moving forward without a plan. He described that a $30-40k grant could allow you to really assess your watershed.

Recommendations for organizing around flood mitigation or WMAs

More in Appendix L

A couple stakeholders discussed a need to collectively organize around flood mitigation or WMAs to maximize the benefits of watershed work in Iowa. One said, “No one is really charged with flood risk reduction on a statewide level. There’s no agency that’s responsible for that...So, our ability to influence activities outside of our jurisdiction is very limited.” He acknowledged that the Iowa Department of Homeland Security and Emergency Management and the Flood Mitigation Board both have roles to play in this work but that the state should have a role in pursuing flood risk reduction since flooding affects every county in the state. Another referenced the potential role of the WMAs of Iowa or an organization like it. He said, “It would be nice if there was a continued effort to have a body that really helps champion our voice” at state and federal levels. He said that it would be more effective to have a group effort so that each group isn’t trying to pitch their case individually

Opportunities to build on IWA if funds are available

More in Appendix L

A couple stakeholders described opportunities to build on the work of IWA when additional funds come available.

- One described that their watershed is still getting calls from interested landowners that hadn’t previously been aware of interested in the program. He said, “There are lots of ways that they can suddenly become aware and interested in participating, and the windows close for the project. So, now what happens?” He noted that ideally a project would expand to different geographic areas with time, but it would be great to be able to continue to support people who missed the first window that become interested after the fact.
• Another anticipates that WMAs will be able to leverage the relationships that they’ve built and their experiences, to have even more success in the future when additional funds are available. She said, “I think there’s going to be a cumulative effect here, and I think we’re off to a really good start.”
• One stakeholder briefly described the continued efforts of Northeast Iowa RC&D after IWA ends. They said, said that the Northeast Iowa RC&D has been able to continue to support and facilitate WMAs, even if they don’t have funding for a full-time project coordinator. He said that their group will support the sustainability of the WMA and will be able to support the WMA if another grant program comes available. (More in Appendix H)

Project coordinators
More in Appendix G
The need for project coordinators
A few stakeholders specifically described an ongoing need for project coordinators and their role within WMAs. One described that every HUC 8 should have both a WMA and a funded coordinator, one said that the biggest lesson learned from the Iowa Water Project (the grant that preceded IWA) was the addition of a funded coordinator, and one emphasized the importance of maintaining funding and coordination to enable to continuation of the valuable WMA approach to management. Specifically, stakeholders described the important roles that these should continue to play in these watershed communities after IWA funding ends. These roles included:
• Connecting with landowners
• Supporting landowners navigating existing programs that support watershed work
• Advocating for effective practices in the communities
• Bringing local watershed communities together to collaborate
• Education and awareness building
• Completing WMA-identified projects

Future
Stakeholders identified a few opportunities to continue to leverage the experience and expertise of current coordinators in the future. One stakeholder described that, although their coordinator changed positions, he’ll still be in the region and “he’s wonderful.” Additionally, a couple stakeholders described that the Northeast Iowa RC&D will stay involved in WMAs after IWA ends. They mentioned that the RC&D has been able to continue to support and facilitate WMAs with financial support from the WMA board member entities even if the WMA didn’t have funding for a full-time project coordinator. A stakeholder described that the RC&D will support the sustainability of the WMA and will be able to support the WMA if another grant program comes available.

Partners
More in Appendix J
Partners described the following ways that they see their organizations building on their IWA experiences in the future.
• **Collaboration:** Representatives from five partner groups described collaboration as a way that they would build on their IWA experiences going forward. Primarily, three representatives described how connections in IWA would allow them to expand the scope or their work. Individual representatives described a desire to build upon connections and actively nurture those connections through serving on technical committees and supporting outreach (ISU) and observing that existing partnerships and collaborations were strengthened through IWA.
• **Balance of flooding and water quality:** Two representatives described broadening their organizations’ focus to include both water quality and flooding. One described that adding proactive flood mitigation efforts was a new area for her organization while the other described that IWA integrated water quality into their otherwise flood-focused mission. Both of these groups stated an intention to balance both of these interrelated issues in their groups’ future work.
Future funding efforts

Several stakeholders made it clear that funding would be needed to maintain the staff and momentum necessary to continue work similar to IWA into the future.

Coordinator Funding opportunities

More in Appendix G

Stakeholders identified needs, strategies, and challenges related to funding project coordinators into the future. Stakeholders identified two specific needs related to funding for the project coordinators: maintaining momentum in the WMAs and discouraging staff turnover among the coordinators themselves. With respect to maintaining momentum, stakeholders described how keeping project coordinators is necessary to keep momentum in the watershed and that without funding for coordinators, he expects “some of the WMAs... to go stale.” Complementary to that, with respect to discouraging staff turnover, stakeholders considered how to keep a coordinator long-term to avoid a “revolving door” of coordinators and the necessity of keeping coordinators on board long-term since it can take a whole year to establish relationships with landowners.

Stakeholders identified several different strategies that could be used for funding project coordinators:

- Project coordinators writing grants to support their own positions
- IDALS funding coordinators as full-time positions
- State agencies potentially providing resources to support coordinator efforts on specific projects
- Private partnerships with organizations like Iowa Soybean Association or the Iowa Ag Water Alliance
- Larger “anchor” cities at the bottom of the watershed may paying for a coordinator given their size and geographic position in the watershed
- Contributions from WMA board member entities

Despite the need and opportunities for funding these positions, stakeholders also identified challenges to this model. From the local-side, challenges include the fact that some WMAs do not have member entities with an adequate budget to substantially fund a coordinator and the pressure of asking a coordinator to identify appropriate grants for the WMA and apply for grants for their own position. At the state level, stakeholders described that there are currently missed opportunities or “little hope” to fund coordinators through state agencies like HSEMD or IDNR.

WMA funding opportunities

More in Appendix K

Complementary with the list above about strategies for funding the project coordinators, stakeholders described opportunities for external funding (state funding, federal funding, grant funding) and local funding to support WMAs.

External funding

- State funding: Several stakeholders described a need for state funding in watershed work. These stakeholders described that there needs to be state funding for WMAs to complement the funding contributed by local entities. They described that these combined funds could provide consistency for the WMAs. One said, “I would love to see the state step up with the efforts they’ve made on waterways in Iowa.” With respect to opportunities, stakeholders described that there are opportunities to build quantity components and watershed plan funding into state agencies like IDALS and IDNR to extend existing programs and opportunities to follow the models of Minnesota and Nebraska in organizing and funding watershed work across the state by expanding the number of WMAs and providing funding for their operation.
• Federal funding: One stakeholder described that federal funding could be a way to support WMAs in addition to state or local contributions.

• Grant funding: A few stakeholders described opportunities and challenges with respect to applying for grant funds. A couple of stakeholders described applications for grant funds have been submitted. While one of the applications was still outstanding, the stakeholder emphasized that even if it’s not funded, more people know about the program and could apply in the future. For the stakeholder whose grant was funded, he emphasized that providing financial support as part of a grant application was a way that WMA entities were able to financially contribute to the WMA. In terms of opportunities, one emphasized the benefits of working with their local RC&D. He described that they have been supportive in many ways including looking for funding opportunities.

Local funding
Several stakeholders described efforts or opportunities to secure local funding to support the work of the WMAs. One stakeholder described that in his ideal world the communities and local governments within each watershed would collectively fund the ongoing work of the WMAs and that several watersheds are making efforts to secure this funding. While they were often considered in the context of additional funding, a few stakeholders described local efforts for acquiring funds or opportunities to do so “at the appropriate time.” For the WMAs that have been able to secure local contributions, one stakeholder described that his entity was able to fund a “significant financial contribution” using their stormwater utility. He suggested that other entities could do the same. Another stakeholder described entities were able to provide financial support as part of a grant proposal which was funded.

Future funding challenges
Stakeholders identified several challenges to maintaining funding for the WMAs after IWA ends:

• Local jurisdictions cannot contribute enough to be self-sustaining – Stakeholders described barriers to local contributions and the necessity to supplement local funds with grant or state funds.

• Restrictions of state agency funds – A stakeholder described that it would be ideal for a state agency to use their federal funds to support watershed coordinators, but that arrangement is not currently possible.

• IWA WMAs accessing state funds – A stakeholder identified a perception that that funders might think “You guys already have your pot of money, you don’t need this grant.” He also noted that state funding is particularly tough because “[WMAs are] all fighting for the same nickels, and when you have the nickels, you want to continue to get more.”

• Opposition to state funding for WMAs – A stakeholder described that a plan to fund WMAs would face opposition from industrial agriculture interests. However, he expressed optimism that an increased number of WMAs could be able to collectively challenge those interests in the state legislature.

• With respect to grant funding support going forward, a couple stakeholders identified opportunities and challenges. As far as a challenge, one stakeholder noted that the project coordinator is the only person in a WMA that is applying for grants which puts a lot of pressure on that coordinator to get funds for the WMA and to support their position.

Lessons learned
Activities and actions
Practices
More in Appendix C

• Importance of knowing how to work with landowners: Reflection that “You’re not dealing with just the land. People own that land and live on that land, so they’re really the final say in everything that happens on it. And, if you don’t believe that to be true, you’re in trouble”

• Get familiar with permitting: Suggestion to get familiar with the permitting process and being in contact with the US Army Corps of Engineers if you think that there could be a potential issue with permitting
Continued focus on water quality: Reflection that there should be a continued focus on water quality given how much of the surrounding area is “farm ground,” especially with respect to sediment build up in the waterway impacting future use of the river.

Considerations for recruiting reluctant landowners: Reflection as to whether they would have been able to move past hurdles if they’d had additional time, tools, or ability to negotiate with reluctant landowners on a big project that has the support of the WMA but was “scuttled” by one of two landowners.

Different strategy for implementation funds: Reflection that the implementation process may have worked better if WMAs had to compete for implementation funds which would support groups that had successfully organized and planned.

Separate timelines for planning and landowner recruitment: Reflection that separate timelines for outreach and implementation would have improved outreach to landowners and more strategic placement of practices.

Planning:

Planning at a watershed scale: One stakeholder described that watershed scale planning as “the future” and as the most effective use of limited resources. To make that a reality, he argued that federal resources need to recognize the importance of operating at the watershed scale and that local jurisdiction need to learn to “look beyond their own boundaries” and collaborate meaningfully. (More in Appendix D)

Players:

(More in Appendix H)

Build from past existing networks and past efforts: One said it would be most effective to build on top of existing networks and learn from past efforts rather than “reinventing the wheel” and encountering the same bottlenecks.

Connect with the individuals in different roles in your region: Another noted that while it is important to learn from your peers, it’s also important to recognize that all regions and teams are different. She said, “...understanding that there isn’t an owner’s manual, there’s not an operation manual, there’s no how-to. You have to be able to flow, adapt, talk” and see what works in your area. While it’s important to connect with and learn from your peers in different counties or regions, it’s also important to connect with your local offices and organizations.

Involving local governments: One stakeholder described the importance of continuing to involve local governments in watershed work.

WMA:

Purpose:

(More in Appendix F)

The chair said, “I would really encourage anybody that has concerns about water quality and flooding to really consider getting active in a WMA or organizing one. I like the approach, and I like the possibilities that we have going forward.”

Another partner stated that the WMA format should be expanded across the state, and that every HUC 8 should have both a WMA and a funded coordinator.

People:

(More in Appendix F)

“[WMAs] are living breathing organizations. They have to be fed. They have to be tended to. They have to be cared for. When they fail, we have to recognize that...We’ve got to learn from this.”

“I think the most valuable lesson I learned that I think everybody can benefit from is how critical it is to identify the champions early on. It can’t just be one, it’s got to be a collection of champions.” He described that this collection needs to come from different backgrounds and be committed to “[being] there through the thick of it and be able to lead.”
• The strongest WMAs will have boards that are hands on, attend meetings, and are proactive in seeking funding
• When considering the future of the WMA, the other representative said, “I hope that we continue to nurture those relationships, and, even if they’re not involved in the project, to just keep them in the loop. She said that when programs come to the watershed, people take notice and talk about them. She hopes those lines of communications stay open.”

**Operations**

• “You’ve got to have some small wins to build upon to keep the interest up.” (More in Appendix F)
• The word “coalition” could be a more accurate and less activating for local communities. The word “management” in Watershed Management Authority could be a trigger word for members of the community hesitant to embrace outside management of land and water use. (More in Appendix F)
• With respect to the “quorum problem,” a representative suggested being aware of the efforts involved in participating in a regional collaborative effort, especially for communities where the officials wear multiple hats or have a full-time job in addition to their city job and encouraging these groups to “equip a proxy” in advance of the meetings. (More in Appendix F)
• It may have been more beneficial if the size of the North Raccoon WMA had been smaller, but it is important to tackle the North Raccoon’s water issues as a whole (More in Appendix L)

**Funding**

(More in Appendix F)

• If you form a WMA, commit to the process, and plan for the long-term, there could be opportunities for funding through programs like IWA.
• If your WMA does not have funding, WMAs could lose momentum and buy-in.

**IWA operations and requirements**

(More in Appendix L)

• Having additional incentives in place for non-priority areas within the HUC 8 watersheds would have catalyzed greater community buy-in more quickly
• The implementation process may have worked better if the WMAs had to compete for implementation funds, enabling funding to go to watersheds that had successfully organized and planned
• With respect to IWA’s procurement process, a different bidding approach, the use of a request for qualifications, or holding pre-qualified contractors and engineers on retainer might be approaches better aligned with the work of IWA-like projects
• Better communication between IWA partners and community partners during the initial application development process would have enabled faster success
• It would have been ideal to create “an extensive FAQ” for the recipients of IWA funding but “we didn’t know what needed to go into the FAQ.”
• IWA success with landowners could have been improved by scaling back the cumbersome administrative steps required but recognized that this would not have been possible given HUD’s funding requirements
• If the program had focused on understanding flooding from a flood stage elevation perspective, rather than peak flow, would have focused the program more acutely on damage to property

**Parting thoughts**

In May 2022, each of the planning partners was given an opportunity to share any parting thoughts based on their experiences of IWA. A partner from HSEMD provided the following via email:

The most important thing that I would like to have people understand when even thinking about trying to incorporate flood reduction as a goal with a watershed approach is to start with finding out where the flood impacts are, and then moving upstream from there. Of equal importance is that watershed approach flood reduction will only be realized where the watershed area above the flood impact is
relatively small. Finally, a key to all of this is having a common definition of “flooding.” Notice I used the words "flood impacts" above. If your goal is simply to reduce peak flow, that is not what common people think of when they think of reducing flooding - what people commonly think of as flooding is when water rises AND damages something of economic value. I am afraid that if the success of a watershed approach to flood reduction is based on reduction of peak flow, you will be somewhat deceiving people and while that may make it look like a watershed approach is a good strategy, it could backfire in that people may buy into a scheme that promises more than it can deliver: some people may pursue the path of watershed reduction, and invest a lot of time and money, only to discover that it will not reduce any flood damages - it will just reduce peak flow.
Appendices

Appendix A. Contextual factors influencing IWA

Stakeholders described many contextual factors that have influenced IWA in both positive and negative ways (sometimes both), and some factors were unique to individual watersheds and others impacted watersheds across the program. Stakeholders listed the following overarching contextual factors: COVID-19 pandemic, politics, weather events or conditions, the geology of a specific region, community history and use of the river, experiences in the Iowa Watershed Project, and losing champions in the watershed.

Pandemic
A couple stakeholders noted something to the effect of “the pandemic has taken its toll on all of us to different degrees.” Specifically, they mentioned the following ways: stress for parents to younger children, missing opportunities for networking or professional development, working from home, changing the ways coordinators interacted with landowners, and supply chain problems increasing the cost of construction practices. On the other hand, one stakeholder described that the pandemic served as catalyst to develop virtual events which had not originally been included in their work plan. She reflected, “It just really turned out so well, to be able to share perspectives and reach a lot of people.”

Politics
In the North Raccoon River Watershed, the legacy of the 2016 Des Moines Water Works lawsuit has impacted the culture of the watershed and the WMA in a lasting way. While one stakeholder noted that the lawsuit changed the conversation about water quality in Iowa to the point where politicians and members of the public were talking about the importance of water quality improvements, he also noted that “it also had lasting effects in the North Raccoon watershed.” Building on that sentiment, another stakeholder said, “In our coalition there is the looming legacy of the Des Moines Water Works lawsuit.” He described that there are still strong feelings about the lawsuit both upstream and downstream in the watershed. He described that the group often engages in an “us versus them” mentality that has been difficult to overcome, especially since the goal is for a cooperative approach in the coalition.

Independent of the lawsuit, another stakeholder described successes working with landowners across the political spectrum. She said, “I pride myself on my ability to build bridges with producers.”

Weather
A couple stakeholders noted that recent flooding and other weather events have ultimately been beneficial in the context of IWA. One noted that additional flooding in the state is “tragic,” he reflected that there is more awareness about flooding as an issue in the state, and the other said that at the beginning that recent flooding had been on people’s minds. Then, once they started constructing projects, “the weather turned nice and that meant that we got things done in record time.” He also reflected that because the weather was good, there were several contractors bidding against each other for the jobs which lowered the construction costs.

Karst geology
Stakeholders in the Upper Iowa River Watershed noted a unique geological feature to their region. One stakeholder explained the geology of the region with the karst typography made this work more challenging than he anticipated. He described that the shallow bedrock of the region both made it difficult to find soil for construction and meant that he and the engineers had to navigate sinkholes and other geology-related issues.

Community use of the river
A couple stakeholders noted the importance of the river for the members of the community. One stakeholder described that there is interest in the community in preserving the river as a recreational resource. He reiterated that hunters, fishers, and boaters frequently use the river for recreation while the other noted, “With the river coming right through the middle of town, it is such a presence, and, in my opinion, it’s a thing of beauty, and it’s a natural resource that we need to preserve.”

Community history
A couple stakeholders described how the history of their communities contributed to how IWA was perceived. One specifically mentioned a history of flooding catalyzing active participation and funding from the community while another highlighted the “long, proud history of conservation in the region.”

Iowa Watershed Project
A stakeholder noted that IWA was largely informed by the preceding grant from HUD, the Iowa Watershed
Project.
Losing champions
A stakeholder emphasized the negative impacts of losing champions in the watershed, including a board member and a member of their water quality crew.
Appendix B. IWA Model

Positive comments about IWA
Several stakeholders made positive comments about the IWA or the model of IWA. These individuals used the words “solid,” “great,” “worked really well,” “very successful,” and “really needed.” In addition, one stakeholder mentioned several times that IWA was an opportunity for partners across the state to work together for common goals and establish a model. Another stakeholder emphasized that IWA had shown that change can be made in the state: “If you work hard, hustle, you can make change… you can't deny that now… because it just got done.”

Opportunities for IWA to serve as a model within and beyond Iowa
A few stakeholders described that the model of IWA should or would be adopted statewide. However, one stakeholder noted that this would require support and funding at the state level. One stakeholder expressed an expectation that the WMAs which have been successful will continue to be successful by building on the work done as part of the IWA.

In addition, stakeholders described opportunities for the IWA model to be replicated beyond Iowa. When considering IWA as a model, stakeholders said that IWA would serve as a replicable model for doing watershed-based work or as a model for flood mitigation at a time when flooding issues are increasing globally. One stakeholder mentioned that groups from both North Carolina and Texas have already traveled to Iowa to learn about IWA.

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A few stakeholders specifically made comments about how IWA is a proof of concept for this work within and beyond Iowa. Comments included:

- “It can be done, that you go in and do a lot of projects across a lot of different areas and bring it down to the local level where we’re dealing one-on-one with producers and be able to provide meaningful projects that have a purpose on their land.”

- Despite differences across watersheds in Iowa, “if [IWA’s model] can be shown to be effective across multiple platforms and areas and groups of people, I think that’s pretty hard to ignore.”

- Going forward, the question is how to do this same work at a larger scale. Now, he said, it is up to leaders at the state or federal level to continue and expand this work because there are “no excuses [that] it’s complicated and we don’t know how to do it.”
Appendix C. Practices

Comments about practices generally fell into one of four categories: strengths, successes, challenges, and recommendations/reflections.

While certain elements were consistently strengths or challenges, some topics could be both strengths and challenges either within or between watersheds. [These are highlighted in pink below]

- **Landowner buy-in**: In one watersheds landowners approached the coordinators wanting to participate, while in another, the coordinator and engineers had a hard time getting even a small number of landowners to participate
- **Cost share**: While the 90/10 cost share model allowed watersheds to commit dollars on a tight timeframe, the IWA dollars could have gone further with a lower cost share rate
- **Variety of practice types**: it was important to offer a variety of qualifying practices to meet landowners were they were, however, the program was not able to maximize the use of flood-focused projects

Summary of topics or illustrative quotations

**Strengths**

- *Landowner buy-in*: Landowners in the community were interested in and supportive of IWA; in some cases, landowner interest exceeded the funding available
- *Cost share*: The 90% federal and 10% local cost share model made it possible to commit dollars in the tight timeframe
- *Variety of practice types*: It was important that coordinators had a variety of qualifying structures to offer landowners in order to engage landowners with structures that kept oil on their fields and made their farming more effective
- *Meeting landowners on their land*: It makes a big difference meet with a landowner on their land to see a place versus looking at it on a map

**Successes**

- **Building practices**: Working with people in the watershed to build projects; Committing all dollars allocated to the watershed to practices and the efforts to make this possible
- **Introducing on-road structures**: “The honor of bringing a newer practice to an area where it hasn’t been done before was a pretty big deal... The original though was that they’re never going to work in this area because it’s too flat, and [we’re] actually proving that they can.”
- **Happy landowners**: Having happy landowners is a success
- **Awareness of new types of practices**: WMA board members have been exposed to more practices they may not otherwise have known about which could lead to more attention, recognition, and funding
- **Flood reduction as a motivation**: Specific landowners “were pretty well invested to begin with [i.e., habitat, soil erosion], but the fact that they would be able to help their downstream neighbors was really important to them in the end.”
- **Cultural shift**: “I’m pleased as I drove around the county to see a greater embrace of soil health measures like cover crops;” “The conversations about conservation practices are happening right alongside the yield and the prices and everything else. I think that’s just becoming part of the farming conversation.”

**Challenges**

- **Time**: The impact of time constraints on the focus on who is willing rather than where the projects might have the most impact; long wait times for landowners and managing their expectations; the “hurry up and wait” pacing of IWA and the importance of the time-only extension to complete projects
- **Effectiveness of practices**: A short timeframe meant that coordinators could not prioritize using the plan, tools, and outreach to strategically place specific *types of practices to maximize flood impact with the budget provided; *the IWA dollars could have gone further with a lower cost share rate
• Landowner buy-in: Difficulties with landowner recruitment, either at the beginning or throughout the whole process; the ability of one or two landowners to veto a “large,” “effective” project with the support of the WMA

• Karst geology: Flood structures may not work with karst geology, many of the structures require soil in their construction and contractors may not be able to build practices if the bedrock is too shallow

• Pandemic impact on supply chains and material prices: The COVID-19 pandemic has impacted supply chains and projects are costing more than originally anticipated (estimated pre-pandemic)

• Purposes of projects can be at odds: Communities may want to balance doing projects for ecology and recreation, but those purposes can be at odds with one another (i.e., dam removal could benefit ecology but hurt recreation)

• Prairie challenges: Flood reduction benefits of prairie, even with cost sharers, are often not enough to incentivize the practice; with the departure of coordinators to monitor them, if IWA-funded prairie plantings did not do well because of a lack of coordinated, ongoing maintenance, it would be “bad public relations for prairie”

• Permitting for stream mitigation: Some coordinators had frustrations when they designed a project and had to either sink additional money into it or abandon it to follow US Army Corps stream mitigation permitting rules

• Tier II Reviews: Tier II review process has been “a real headache”

Recommendations/ Reflections

• Importance of knowing how to work with landowners: Reflection that “You’re not dealing with just the land. People own that land and live on that land, so they’re really the final say in everything that happens on it. And, if you don’t believe that to be true, you’re in trouble”

• Get familiar with permitting: Suggestion to get familiar with the permitting process and being in contact with the US Army Corps of Engineers if you think that there could be a potential issue with permitting

• Continued focus on water quality: Reflection that there should be a continued focus on water quality given how much of the surrounding area is “farm ground,” especially with respect to sediment build up in the waterway impacting future use of the river

• Considerations for recruiting reluctant landowners: Reflection as to whether they would have been able to move past hurdles if they’d had additional time, tools, or ability to negotiate with reluctant landowners on a big project that has the support of the WMA but was “scuttled” by one of two landowners

• Different strategy for implementation funds: Reflection that the implementation process may have worked better if WMAs had to compete for implementation funds which would support groups that had successfully organized and planned

• Separate timelines for planning and landowner recruitment: Reflection that separate timelines for outreach and implementation would have improved outreach to landowners and more strategic placement of practices
Appendix D. WMA: Planning

Planning successes
A few of the stakeholders highlighted specific successes in the watershed planning efforts for IWA. One described efforts to implement the planning process while another emphasized the importance of the web-based plan. This stakeholder said, “I just got a call last week from a landowner...[who was] really impressed that all the information was in one place...I think that’s a valuable resource that we’ll be able to use for a long time.”

At a high level, a stakeholder described the creation of the WMAs and the creation of watershed management plans as one of the greatest accomplishments of the IWA.

Planning to support future efforts and funding
Several stakeholders described the ways that planning can support future efforts and funding. Holistically, one stakeholder described that the watershed management plans as a central impact of the program for their ability to guide and prioritize future investment in watersheds.

- One stakeholder described that a few Flood Resilience Action Plans have already been used to apply for federal funds.
- Another stakeholder emphasized the importance of having projects ready so that when funding opportunities come available, they are ready to go. He said, “I think that’s the place of preparedness that we need to be in so that we can really make sure of funding that does become available.” He said that those are the types of projects that typically get funded.
- Complementary with this last point, one stakeholder suggested that new watersheds beginning this work “start with funding for a plan. [The plan was] probably one of the best things we did... because that plan is really the roadmap of what you can do going forward.” He cautioned against moving forward without a plan. He described that a $30-40k grant could allow you to really assess your watershed.

Planning at a watershed scale
One stakeholder described that watershed scale planning as “the future” and as the most effective use of limited resources. To make that a reality, he argued that federal resources need to recognize the importance of operating at the watershed scale and that local jurisdiction need to learn to “look beyond their own boundaries” and collaborate meaningfully.

Challenges
Stakeholders identified two specific challenges to the planning process.

Planning and designing practices at the same time: Stakeholders reflected that there was a challenge in planning and designing practices at the same time because they didn’t have the ability to use planning to inform the design and implementation.

Large number of contributors: One stakeholder noted that the large number of contributors to the planning process caused fatigue among those involved in the effort. He anticipated that this fatigue would make it difficult to do the planning that future funding efforts would likely require.
Appendix E. Awareness

Actions to support awareness
Stakeholders described some specific conditions or activities of the program which have supported community awareness of the work of IWA and the WMAs. Specifically, a few stakeholders described the importance of the emphasis of flooding in supporting landowner and public buy-in. One stakeholder said, “[Flooding] affects everybody and so [if] we can show that we can effectively mitigate that through landscape management, that’s a pretty powerful story to tell.” Another emphasized the opportunity to use the “flood reduction angle” with landowners rather than focusing on water quality. He said that they are more likely to relate to helping their community manage flooding as opposed to preventing the dead zone in the Gulf of Mexico.

In contrast, a few stakeholders emphasized the importance of a broader scope of watershed resilience, focusing in on the integration of topics that are often discussed separately—flooding, conservation, nutrient reduction, sediment and water quality, and soil health—in order to “[increase] resiliency of our landscape.” One stakeholder specifically emphasized the importance of having a coordinator sharing the message of a potential practice (i.e., on-road structures) while having the support of local decision makers to emphasize the importance of these practices to the public.

Impacts
Stakeholders described many impacts of the outreach efforts of IWA. Specifically, stakeholders described new partnerships, improved understanding or awareness of water issues, and the potential for awareness to be a precursor to future action.

Partnerships
A few stakeholders described how IWA provided an opportunity for new groups to engage in WMAs, specifically cities and counties, to support water resources work or for state-level partners to increase their community connections to provide information and resources.

Improved understanding or awareness of water issues
Stakeholders described different ways that participating communities have come to understand water issues, either generally or specific to IWA.

More generally, stakeholders reported increased “watershed literacy” and understanding and support for conservation. One stakeholder said, “I think [the WMA] has helped increase support for other conservation and water quality efforts. I think all of these things go hand in hand.” Another said, “I think that the conversations about conservation practices are happening right alongside the yield and the prices and everything else. I think that’s just becoming part of the farming conversation.”

More specifically to IWA, stakeholders described awareness of distributed storage practices to approach mitigation at a watershed-scale or specifically awareness of the work completed through IWA. When describing awareness of distributed storage opportunities, stakeholders described that planning and upstream practices can proactively address flooding issues while also providing benefits to water quality and wildlife and high levees are not the only strategy. One stakeholder said, “I hope we can demonstrate our effectiveness enough so that this will catch on more and bring some more funding. But, maybe even more important than the funding, is public acceptance that this is something we do in the framework of a watershed and we use soil health.”

When describing public awareness of the work completed through IWA, stakeholders described how landowners are either noticing the work done through IWA or specifically the support that they’re getting from members of their communities. The responses are quoted or described below:

- “Whether they reference it as the IWA project or just ‘all those structures being built in [a participating] County,’ I think throughout the watershed people are seeing what’s being built and we’ll eventually see the effects. I think that’s important, too.”
- “There’s popularity to what we’ve done, and a lot of our projects, a lot of the road structures for instance, are very visible.”
- The completed projects have “generated a lot of interest throughout our entire watershed when they hear about some of the things we’re doing and how it benefits the landowners.”

Potential for awareness to be a precursor to future action
A few stakeholders described the future actions that could come from an increased awareness of these issues.
Stakeholders described future opportunities to generate funding within the community, recruit landowners, and implement practices. One stakeholder described that if ever there was another program to fund these types of projects, there should not be any issue finding interested landowners.
Appendix F. WMA operations

Board engagement
When considering the engagement and buy-in of WMA board members, different stakeholders described challenges, successes, and reflections. ...

Challenges
Board members and PCs in two watersheds identified challenges to board engagement. One described the challenge of keeping entity energized when participating on the WMA is only a small part of what each of the member representatives have as their job responsibilities. Complementary with that, the chair and coordinator for a WMA identified challenges with participation in the WMA either in terms of meeting attendance or participating in the planning process. In a somewhat unique case, PC and chair described challenges with respect to an effort that did not feel “grassroots driven” and “overcoming distrust between jurisdictional members” in light of the “looming legacy of the Des Moines Water Works lawsuit.”

Successes
Board members and PCs in five WMAs identified successes related to board engagement both generally and more specifically. Holistically one chair said, “The WMA structure is proven...Whether you call it a WMA or whatever, I think getting cities, counties, and SWCDs grouped together is key.” Board chairs in three WMAs described their communities’ roles in leading WMA efforts. Two described their communities’ roles in forming their WMAs before IWA started, and one described serving as chair despite informal dissatisfaction that his community is “steering the ship.”
Stakeholders from three WMAs described attributes or requirements for a board which has supported the success of their WMAs. These included “finding that group of board members that are willing to have your back... support your decisions and everything like that;” board cohesiveness, consistence, and dedication to the coalition; and efforts to build trust and credibility among the member entities.

Reflections
Some respondents offered general reflections about board engagement:

- “[WMAs] are living breathing organizations. They have to be fed. They have to be tended to. They have to be cared for. When they fail, we have to recognize that...We’ve got to learn from this.”
- “I think the most valuable lesson I learned that I think everybody can benefit from is how critical it is to identify the champions early on. It can’t just be one, it’s got to be a collection of champions.” He described that this collection needs to come from different backgrounds and be committed to “[being] there through the thick of it and be able to lead.”
- The strongest WMAs will have boards that are hands on, attend meetings, and are proactive in seeking funding.
- “You’ve got to have some small wins to build upon to keep the interest up.”
- if you lose resources, it is difficult to keep up interest

Board Recruitment and Outreach
Watershed A Experience (North Raccoon)
The representatives from one watershed described successes in recruiting a large number of jurisdictions which subsequently became a challenge since the group became “unwieldy” and the number of members made it difficult for the group to obtain a quorum to conduct quarterly business. With respect to the “quorum problem,” a representative suggested being aware of the efforts involved in participating in a regional collaborative effort, especially for communities where the officials wear multiple hats or have a full-time job in addition to their city job and encouraging these groups to “equip a proxy” in advance of the meetings.

Watershed B Experience (English River)
The representatives from another watershed described efforts over time to solidify the legitimacy of the WMA in the eyes of the members and potential members and build their WMA membership. These representatives talked about how funding opportunities, incorporating local guidance, and intentional communication with the local stakeholders helped to build trust and credibility. One representative said, “I think as a WMA, we truly tried to...

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24 He noted that despite his perceptions of dissatisfaction from board members, his entities’ entry into the coalition was unanimously accepted.
listen to everybody and try to take those lessons and those comment to heart and craft our policies and procedures around what they had to say.” However, this representative cautioned, “It’s going to take you twice as much time as you think it is to get buy-in.” When considering the future of the WMA, the other representative said, “I hope that we continue to nurture those relationships, and, even if they’re not involved in the project, to just keep them in the loop. She said that when programs come to the watershed, people take notice and talk about them. She hopes those lines of communications stay open.”

Support structures
The chair of two different boards emphasized the importance of having local or state-level resources to guide their decision making and work. One chair described the importance of the team managing the day to day operations of the WMA and the local producers and elected officials. He described that this project is outside of his personal expertise, “so, I have to listen because I don’t know...I think as a WMA, we truly tried to listen to everybody and try to take those lessons and those comments to heart and craft our policies and procedures around what they had to say.” Complementary with this, after reflecting on resources that were important for his WMA, another chair said, “None of us are subject matter experts in that, so it’s been very helpful to have IDALS and DNR in the room when we have the coalition meetings to provide that kind of expert voice.”

Collaboration within the watershed
A partner and a WMA chair described that the WMA is a structure which invites collaboration across jurisdictional boundaries, at a watershed scale. The partner described WMAs as an essential means of enabling that collaboration and argued that the IWA WMAs need to be “ongoing entities” with coordinators that can bring local communities together to collaborate. While the chair noted that even though WMAs have limited resources, capacity, and authority; they are a mechanism for supporting water resources work outside of each jurisdiction. He said, “The whole point of the IWA is working outside of your jurisdiction on the landscape where the flood risk starts to accumulate at very small levels then compounds as the watershed progresses downstream. We’re affected in Des Moines by things that happen three hours away. The ability to work [upstream] is entirely dependent on having a vehicle for doing that. So far, the only thing that can do that is the WMA.”

Focus areas
The chair and the coordinator one watershed emphasized the importance of working on improving water quality and reducing flooding in the watershed. Both emphasized that the WMA is the right structure for doing that work. The PC said, “I think what’s really important about our WMA is that they understand the importance of improving water quality and reducing flooding in the watershed, and they really believe that the WMA is the right avenue to do that.” The chair said, “I would really encourage anybody that has concerns about water quality and flooding to really consider getting active in a WMA or organizing one. I like the approach, and I like the possibilities that we have going forward.”

The chair of a different WMA focused on the inclusion of flooding into the conversation in his watershed. He said, “It’s good to see another [beyond water quality] science and engineering backed reason to further deploy conservation practices across the landscape... Flooding has no constituency. No one is in favor of flooding as the status quo. Everyone wants to prevent it... There is no vested interest in maintaining that status quo. It’s the easy way to rationalize doing this work [upstream].”

Creation of the WMA as success
Two partners and a WMA chair emphasized the success of the WMA model. One partner described the creation of the WMAs and the creation of watershed management plans as one of the greatest accomplishments of the IWA. Another partner stated that the WMA format should be expanded across the state, and that every HUC 8 should have both a WMA and a funded coordinator. At a local level, a WMA chair said, “We would not be where we’re at today had we not done the WMA. There’s just no way we would have done it.” He described starting to work on river efforts twenty years ago, and a frustration with not knowing what they could do. He said, “Now I look at it and I think, ‘Boy, I feel a lot better about it now.’ We still have a long way to go, but we’re seeing some progress, and I really feel good about that.”

Other
Other reflections related to WMA operations from individuals included:
- If you form a WMA, commit to the process, and plan for the long-term, there could be opportunities for funding through programs like IWA.
- If your WMA does not have funding, WMAs could lose momentum and buy-in.
The word “coalition” could be a more accurate and less activating for local communities. The word “management” in Watershed Management Authority could be a trigger word for members of the community hesitant to embrace outside management of land and water use.
Appendix G. Project coordinators

PC role and tasks
Project coordinators, board members, and partners described the tasks of the project coordinators in IWA or other conservation-focused programs in Iowa. Tasks fell into the following categories: general, outreach, practice implementation, and training.

General
Within the general category, stakeholders described how project coordinators are typically the “boots on the ground” or individuals implementing the work of the WMA defined by the program or the WMA board. One PC described the flexibility required to serve as a coordinator and the persistence needed to be successful in the work.

Outreach
Within the outreach category, stakeholders described the multifaceted outreach efforts required of project coordinators. When describing outreach efforts, stakeholders described outreach and communication efforts with WMA boards and member entities; partners, collaborators, and local champions; landowners; and members of the public. Methods for communication included posting, mailing, and publishing content; building relationships with and listening to partners and landowners in the watershed; organizing field days; and giving talks or interviews. While these project coordinators are likely not farmers themselves, they need to be able to build trust and connection with the landowners they are working with.

Practice implementation
Within the practice implementation category, stakeholders described developing a system to navigate the IWA process, communicating with and recruiting potential landowners, and maintaining communication and supporting participating landowners through the steps of the process. Above and beyond the IWA program, a PC described the importance of serving as a point person to help landowners navigate the different programs, resources, and funding sources available.

Training
Within the training category, stakeholders described different opportunities for training which PCs have participated in or that could benefit PCs. Topics included: steps of the IWA process, social science or outreach strategies, and technical or practice information. Stakeholders described building these skills through formal training opportunities, learning from colleagues with experience, and trial and error.

Grant application
Within the grant writing category, stakeholders described that some PCs are responsible for applying for grants to support the work of the WMA and their own positions.

The need for project coordinators
A few stakeholders specifically described an ongoing need for project coordinators and their role within WMAs. One described that every HUC 8 should have both a WMA and a funded coordinator, one said that the biggest lesson learned from the Iowa Water Project (the grant that preceded IWA) was the addition of a funded coordinator, and one emphasized the importance of maintaining funding and coordination to enable to continuation of the valuable WMA approach to management.

Specifically, stakeholders described the important roles that these should continue to play in these watershed communities after IWA funding ends. These roles included:

- Connecting with landowners
- Supporting landowners navigating existing programs that support watershed work
- Advocating and recruiting for effective practices in the communities
- Bringing local watershed communities together to collaborate
- Education and awareness building
- Completing WMA-identified projects

Coordinator Funding
Stakeholders identified needs, strategies, and challenges related to funding project coordinators into the future. Stakeholders identified two specific needs related to funding for the project coordinators: maintaining momentum in the WMAs and discouraging staff turnover among the coordinators themselves. With respect to maintaining momentum, stakeholders described how keeping project coordinators are necessary to keep
momentum in the watershed and that without funding for coordinators, he expects “some of the WMAs... to go
stale.” Complementary to that, with respect to discouraging staff turnover, stakeholders considered how to keep
a coordinator long-term to avoid a “revolving door” of coordinators and the necessity of keeping coordinators on
board long-term since it can take a whole year to establish relationships with landowners.
Stakeholders identified several different strategies that could be used for funding project coordinators:

- Project coordinators writing grants to support their own positions
- IDALS funding coordinators as full-time positions
- State agencies potentially providing resources to support coordinator efforts on specific projects
- Private partnerships with organizations like Iowa Soybean Association or the Iowa Ag Water Alliance
- Larger “anchor” cities at the bottom of the watershed may paying for a coordinator given their size and
  geographic position in the watershed
- Contributions from WMA board member entities

Despite the need and opportunities for funding these positions, stakeholders also identified challenges to this
model. From the local-side, challenges include the fact that some WMAs do not have member entities with an
adequate budget to substantially fund a coordinator and the pressure of asking a coordinator to identify
appropriate grants for the WMA and apply for grants for their own position. At the state level, stakeholders
described that there are currently missed opportunities or “little hope” to fund coordinators through state
agencies like HSEMD or IDNR.

Future
Stakeholders identified a few opportunities to continue to leverage the experience and expertise of current
coordinators in the future. One stakeholder described that, although their coordinator changed positions, he’ll
still be in the region and “he’s wonderful.” Additionally, a couple stakeholders described that the Northeast Iowa
RC&D will stay involved in WMAs after IWA ends. They mentioned that the RC&D has been able to continue to
support and facilitate WMAs with financial support from the WMA board member entities even if the WMA didn’t
have funding for a full-time project coordinator. A stakeholder described that the RC&D will support the
sustainability of the WMA and will be able to support the WMA if another grant program comes available.

Challenges
In addition to future funding, stakeholders identified the following challenges for project coordinators during IWA.

- **Timing of training**: Given the length of the program, different WMAs moving at different speeds, changing
  processes, and some processes only needed once or twice a year, some training was provided to project
  coordinators and grant administrators too early or before the processes were adequately defined.
- **Changing or losing the project coordinator**: Landowner recruitment and maintaining the momentum of
  the WMA may have gone more smoothly if the coordinator had not changed part-way through the
  project.
- **Stress of the job**: Project coordinators were under pressure on a short timeline to make the program
  successful in their watershed. While the time-only extension alleviated some of that pressure, it is
  possible that separating outreach to landowners and administrative work (permitting, cultural
  assessment, environmental review) into separate roles could benefit the productivity in both areas.
- **Unclear who will do ongoing management**: With project coordinators departing near the completion of
  projects, it is unclear who will be doing ongoing management and where IWA landowners should turn
  with questions.

Kudos
One board member made a point to mention mentioned pride in the work of the different people working with
their WMA, including the project coordinator. He said, “All these great people...this group pride. [This is]
something that was a gathering of a lot of different people, different backgrounds, and, you know, we did it!”
Appendix H. Local Partners

Northeast Iowa RC&D
Stakeholders described the ways that the Northeast Iowa RC&D have been a resource to the watershed before the WMA was formed and during IWA and how they anticipate they will continue to be a resource in the future. When describing their efforts before the WMA was formed, one stakeholder said, “The RC&D was critical.” He described that their local river group was connected to the RC&D leadership and those conversations supported the development of the WMA.

Stakeholders described several roles that the team members at the Northeast Iowa RC&D have played during the IWA project: providing guidance based on their experience, watershed planning, providing grant administration, and serving as project coordinators. One stakeholder said, “I don’t think that we would be where we are without their assistance” and another said, “Having their ability and experience has been fabulous.”

Looking to the future, one stakeholder said that the Northeast Iowa RC&D has been able to continue to support and facilitate WMAs, even if they don’t have funding for a full-time project coordinator. He said that their group will support the sustainability of the WMA and will be able to support the WMA if another grant program comes available.

County engineer
One stakeholder described that the county engineer has been an enthusiastic supporter for on-road structures. He described that the county engineer has been talking to other county engineers and members of the public about this practice.

Local governments
A few stakeholders described their experiences working with local governments in IWA. Two described largely positive experiences mentioning the importance of continuing to involve local governments in watershed work and that it has been “really super” to work with a specific county. Alternatively, one stakeholder described that their lead county had an influential role in the WMA but missed an opportunity for providing a strong foundation for the work of IWA in their watershed.

NRCS/SWCDs
A few stakeholders described that local NRCS/SWCD offices supported the work of IWA. One described that the local SWCD offices have been working on watershed issues for years, and “so any time that we’ve worked together on anything to do with the WMA, they’ve just been super.” Another described needing to build trust with the local SWCD offices. He said their WMA had to work with the local SWCDs to build a relationship and make it clear that they were working toward “a common goal,” but that ultimately, he included them as a useful resource. Another stakeholder described that the NRCS/SWCD office provided the WMA project coordinator with office space and a computer.

Other local PCs
One stakeholder described that a coordinator has been hired for a HUC 12 watershed in his watershed, and said, “That’s a really critical little watershed...I think she’s going to do a great job.”

General
One stakeholder made general comments about his local partners. He said, “I’m really most proud of the people in our region. I don’t know what it is, maybe it’s in the water or something, but people in our region and our counties up here—their response to this project has been just wonderful...“All these great people...this group pride. [This is] something that was a gathering of a lot of different people, different backgrounds, and, you know, we did it!”

Recommendations related to local partners
A couple stakeholders provided some recommendations related to working with local partners. One said it would be most effective to build on top of existing networks and learn from past efforts rather than “reinventing the wheel” and encountering the same bottlenecks. Another noted that while it is important to learn from your peers, it’s also important to recognize that all regions and teams are different. She said, “...understanding that there isn’t an owner’s manual, there’s not an operation manual, there’s no how-to. You have to be able to flow, adapt, talk” and see what works in your area. While it’s important to connect with and learn from your peers in different counties or regions, it’s also important to connect with your local offices and organizations.
Appendix I. IWA Support for WMAs

Stakeholders described supports provided to WMAs through IWA. At a high level, these supports included technical expertise, outreach support, access to grant funds, professional development opportunities, leadership, and operational support.

Stakeholders specifically mentioned Iowa Flood Center, Iowa State University, Iowa Department of Natural Resources, Iowa Department of Agriculture and Land Stewardship, Iowa Homeland Security and Emergency Management, Tallgrass Prairie Center, and University of Iowa Center for Evaluation and Assessment.

Technical expertise and resources
Stakeholders described technical expertise and resources provided to WMAs through IWA. At a high level, these supports included technical expertise, outreach support, access to grant funds, and professional development opportunities.

Technical expertise
Stakeholders described the technical support of funded partners in the work of the WMAs. Most frequently, stakeholders cited the support of the Iowa Flood Center. They described the following supports:

- Mapping
- Calculating the cost of flooding
- Providing “good data”
- Supporting the installation of projects
- Resources and information to support the work that is being done through IWA
- Analysis and forecasting information
- [In conjunction with the UI Center for Evaluation and Assessment] Sharing information to facilitate “honest dialogue with maybe some things that you guys are seeing in others that might help or that we need to maybe pivot from within our watershed has been a really good resource.”

A couple stakeholders directly referenced supports from other funded IWA partners:

- Tallgrass Prairie Center: A stakeholder said, “I’ve gotten a lot of support from the Tallgrass Prairie Center.” He said that he uses their representative frequently, especially related to projects that will include prairie or native grasses and forbs.
- Iowa Department of Natural Resources: Another stakeholder said Andy Asell from IDNR built the map interface for the project coordinators as well as trained the coordinators on how to use it and provided technical support.

One stakeholder referenced partners generally in her comments. She described the usefulness of technical information (i.e., hydrologic modeling, ACPF, IFIS) and receiving information “that you didn’t have to recreate yourself.” She said, these resources are great for communicating with landowners and prioritizing areas to focus on.

Outreach support
Stakeholders described the outreach support of funded partners in the work of the WMAs. Most frequently, stakeholders cited the support of the Iowa State University Extension and Outreach. They described the following supports:

- Providing flyers for all the possible IWA practices
- Coordinating field days
- Providing the structure for virtual field days
- Connecting coordinators with magazines for articles

Summing up all their efforts, a stakeholder said that the agriculture research out of Iowa State University is imperative to her work: “If it weren’t for [ISU] I probably wouldn’t have a leg to stand on.”

A couple stakeholders directly referenced supports from other funded IWA partners:

- Iowa Flood Center: Providing information to coordinators to support outreach or directly communicating with the public
• Iowa Department of Natural Resources: Helping install waterway signs to help members of the public better understand their waterways and how they are connected to the watershed

Access to grant funds
With respect to grant funding, stakeholders both described support in being part of IWA as well as resources supporting future funding efforts.
Related to being part of the IWA effort, a couple stakeholders described the Iowa Flood Center’s role in writing and coordinating the IWA application. One described that the Iowa Flood Center has grant writing team, organizational capacity, and national credibility which she said made them a strong applicant for federal funds. Related to future funding opportunities, stakeholders described the role of Iowa Department of Natural Resources, Iowa Department of Agriculture and Land Stewardship, and Homeland Security and Emergency Management to provide guidance about potential funding opportunities.

Professional development opportunities
A stakeholder described the benefits of the webinars with ISU Extension and Outreach. He said that even though he has a lot of knowledge about this field that usually when he joins a training or a webinar, he’ll learn something new.

Leadership and operational support
In a few instances, stakeholders described holistic supports for their work on IWA including leadership and operational support.

Leadership
A couple stakeholders mentioned benefits of having the Iowa Flood Center as a leader of IWA. Specifically, they mentioned the neutrality of having IWA lead by an academic institution, the efforts their organization brought to the project, and specifically, Larry Weber’s leadership of the project. One stakeholder said, “Larry Weber has more street cred than anybody else in the state when it comes to watershed work. He’s easy to listen to. He’s non-threatening. And, [he’s] established a vehicle that we can talk about these things.”

Operational support
A couple stakeholder described supports from partners that helped guide their work on IWA. One described that Felicia Campbell from IDALS and former coordinator from the Iowa Watershed Project provided help and support. He said, “I don’t think without that [support from Campbell] it would have gone as smoothly.” Another said the relationship with IFC “has been really helpful in being able to navigate the struggles and hurdles that are out there.”

Appendix J. Partner Support

Most Important Contributions
Partners were invited to consider their organizations most important contributions to IWA. The responses are meant to be highlights of each group’s role. Partners described contributions related to defining the vision and implementation of IWA, bringing groups together, providing information or technical assistance, and supporting planning efforts or funding applications.

Defining the vision and implementation of IWA: Three partners highlighted complementary roles with respect to the vision and implementation of IWA. The representative from the Iowa Flood Center (IFC) described that IFC provided the “intellectual and scientific leadership” for IWA. He described that IFC created the vision for IWA, gathered the relevant partners, and led the initial proposal. The representative from the Iowa DNR described supporting this vision through providing resources, guidance, and reassurance to partner organizations at the beginning of the project. Lastly, the Iowa Economic Development Authority representatives described that their key contribution was providing the structure necessary to secure funding from HUD. Their team described navigating regulations and requirements including building compliance tools, contracting with the partners, and managing the grant funds.

Bringing groups together: The IDNR also highlighted their role in bringing groups together which included supporting the creation and work of the watershed management authorities. The representative from IDNR described their role in making connections and networking opportunities between all the partners involved in IWA. He also described the work of developing the WMAs, saying this work “consumed a lot of my time, getting them on the ground, getting [them] up and running, [and] helping them with meetings.”

Providing information or technical assistance: Among their most important contributions in IWA, representatives...
from three partner groups highlighted their experience providing information and technical assistance to project communities or stakeholders. In brief, here is what each group highlighted in their responses:

- **IDNR**: Providing technical resources, guidance, and support to partners and watersheds in IWA
- **HSEMD**: Producing flood risk assessment tools which will improve communities’ future risk assessments
- **TPC**: Sharing information about how prairies can be used as a tool of watershed management and consulting on incorporating native plantings into IWA projects

Supporting planning efforts or funding applications: Three partner groups described ways that they supported planning efforts or funding applications. The representative from IDNR described the work of supporting the development of watershed management plans for each WMA. The representative from HSEMD described efforts to integrate local hazard mitigation planning to the scale of an entire HUC 8 watershed. He described that prior to IWA, local organization operated at the community level. Complementary with the comments from HSEMD, representative from the Flood Resilience Team described his groups most important contribution as “helping our state hazard mitigation planning folks build the capacity to apply for federal dollars to mitigate our flooding issues in Iowa.” He described a goal to make Iowa more competitive for federal flood mitigation dollars. He referenced applications supported by HSEMD to FEMA’s Building Resilient Infrastructure and Communities grant program as progress toward this goal.

**How (if at all) do you see your organization building on your IWA experiences going forward?**

**Collaboration:** Representatives from five partner groups described collaboration as a way that they would build on their IWA experiences going forward. Primarily, three representatives described how connections in IWA would allow them to expand the scope or their work. One described that partnering with other groups could broaden their scope of what beyond what his organization could do alone (HSEMD). The second described that building new partners and local connections has allowed them to expand the scale of their work (TPC). The third described developing a new research grant using connections from IWA (FRT). In addition, individual representatives described a desire to build upon connections and actively nurture those connections through serving on technical committees and supporting outreach (ISU) and observing that existing partnerships and collaborations were strengthened through IWA.

**Balance of flooding and water quality:** Two representatives described broadening their organizations’ focus to include both water quality and flooding. One described that adding proactive flood mitigation efforts was a new area for her organization (ISU) while the other described that IWA integrated water quality into their otherwise flood-focused mission (IFC). Both of these groups stated an intention to balance both of these interrelated issues in their groups’ future work.

**Individuals –**

Individual representatives also described the following ways that their organizations will build on their IWA experiences going forward:

- **Planning and funding:** One representative described opportunities to connect communities with funding sources based on mitigation strategies proposed in their IWA-funded watershed management plans. He described opportunities from COVID-19 related federal funded programs to fund proposed projects.
- **WMAs:** One representative described efforts to strengthen or expand WMAs across the state. He described providing support to expand the WMA into more areas in the state, providing a watershed management authority guidebook to support the development of new WMAs, seeking funding opportunities for existing WMAs to keep moving forward
- **Lessons learned:** One representative reflected on several lessons learned in IWA that could inform her organization’s work in the future. She described a better understanding of which funding sources might be a better fit for IWA-like projects and communities which their agency doesn’t typically work with.
- **Scale:** One representative described how IWA allowed her organization to think about their work at a larger scale. She described a transition from technical assistance within a 50-mile radius to working at a larger scale and advocating for practices more broadly.
Appendix K. Future funding efforts

Several stakeholders made it clear that funding would be needed to maintain the staff and momentum necessary to continue work similar to IWA into the future.

Future funding challenges
Stakeholders identified several challenges to maintaining funding for the WMAs after IWA ends:

- Local jurisdictions cannot contribute enough to be self-sustaining – Stakeholders described barriers to local contributions and the necessity to supplement local funds with grant or state funds.
- Restrictions of state agency funds – A stakeholder described that it would be ideal for a state agency to use their federal funds to support watershed coordinators, but that arrangement is not currently possible.
- IWA WMAs accessing state funds – A stakeholder identified a perception that funders might think “You guys already have your pot of money, you don’t need this grant.” He also noted that state funding is particularly tough because “[WMAs are] all fighting for the same nickels, and when you have the nickels, you want to continue to get more.”
- Opposition to state funding for WMAs – A stakeholder described that a plan to fund WMAs would face opposition from industrial agriculture interests. However, he expressed optimism that an increased number of WMAs could be able to collectively challenge those interests in the state legislature.

Need and opportunities for state funding
Several stakeholders described a need for state funding in watershed work. These stakeholders described that there needs to be state funding for WMAs to complement the funding contributed by local entities. They described that these combined funds could provide consistency for the WMAs. One said, “I would love to see the state step up with the efforts they’ve made on waterways in Iowa.”

With respect to opportunities, stakeholders described that there are opportunities to build quantity components and watershed plan funding into state agencies like IDALS and IDNR to extend existing programs. Another stakeholder noted that Iowa should be following the models of Minnesota and Nebraska in organizing and funding watershed work across the state. He said that that Iowa should do the same by expanding the number of WMAs and providing funding from the state level for their operation.

Need and opportunities for federal funding
One stakeholder described that federal funding could be a way to support WMAs in addition to state or local contributions. He noted that his group is pursuing opportunities from federal and state entities.

Another stakeholder expressed pride in submitting a FEMA BRIC application in collaboration with HSEMD. He said, “Even if it doesn’t get funded. The fact is people now know about that program... so now hopefully we could repeat.”

Grant funding
A few stakeholders described opportunities and challenges with respect to applying for grant funds. A couple of stakeholders described that applications for grant funds have been submitted. While one of the applications was still outstanding, the stakeholder emphasized that even if it’s not funded, more people know about the program and could apply in the future. For the stakeholder whose grant was funded, he emphasized that providing financial support as part of a grant application was a way that WMA entities were able to financially contribute to the WMA.

With respect to grant funding support going forward, a couple stakeholders identified opportunities and challenges. In terms of opportunities, one emphasized the benefits of working with their local RC&D. He described that they have been supportive in many ways including looking for funding opportunities. As far as a challenge, one stakeholder noted that the project coordinator is the only person in a WMA that is applying for grants which puts a lot of pressure on that coordinator to get funds for the WMA and to support their position.

Local contributions
Several stakeholders described efforts or opportunities to secure local funding to support the work of the WMAs. One stakeholder described that in his ideal world the communities and local governments within each watershed would collectively fund the ongoing work of the WMAs and that several watersheds are making efforts to secure this funding. While they were often considered in the context of additional funding, a few stakeholders described local efforts for acquiring funds or opportunities to do so “at the appropriate time.” For the WMAs that have been able to secure local contributions, one stakeholder described that his entity was able to fund a “significant
financial contribution” using their stormwater utility. He suggested that other entities could do the same. Another stakeholder described that entities were able to provide financial support as part of a grant proposal which was funded.
Appendix L. Codes with fewer than 10 responses

The following section includes quotations from the following categories: Introduction, Impacts, IWA Dissemination, IWA Operations, Watershed Management Authorities, Flood Resilience Team, Other comments on partners

Introduction

<table>
<thead>
<tr>
<th>quotation</th>
<th>Advice will vary</th>
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<tr>
<td>First, PC recognized that any advice would likely be specific to the role and expertise of the individual seeking it.</td>
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<tr>
<td>PC said, “Overall, it’s been a really good learning experience for me, and I’m glad I went through it.”</td>
<td>General comments</td>
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Impacts

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<td>PC said, “The whole purpose of forming a Watershed Management Authority was to get projects on the ground that would reduce flooding and improve water quality. This is just a drop in the bucket. We’ve got to continue to move forward doing the same, putting flood reduction and water quality improvement projects on the ground, period. This was a great start to that, but I hope that the implementation part continues.”</td>
<td>Impact: Beginning/Continue to build</td>
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<td>PC reflected based on his experience with this watershed and others. He said he has learned “the amount of effort and money and resources it takes to move the needle a little bit.” He said that this has been a large effort by many groups of people in the watershed. He said that when you take the scale of watershed work from HUC12 to HUC 8, “you have to think differently.” He continued, “I think a little bit in terms of what it really takes to move the needle and start to really think long term, and [there are] lots of zeros and commas in your numbers.”</td>
<td>Impact: Beginning/Continue to build</td>
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<td>Partner described an increased awareness amongst the public about alternative ways to approach flood mitigation—that high levees are not the only strategy, and that planning and upstream practices can proactively address flooding issues while also providing benefits to water quality and wildlife. She stated that while the practices put in the ground through the IWA were important and would have important, measurable impacts, they are still only a small portion of the total work that is needed. She emphasized that the increased awareness would have a longer-term effect and enable the implementation of further effective practices in the future.</td>
<td>Impact: Beginning/Continue to build, Impacts: IWA model, Impact: Awareness</td>
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<td>He also said, “Committing to something like this long term is a pretty big deal...five years is a long time for grant funding.” He said that there is benefit in being able to stack up projects to keep the timeline going. He said that their team is still getting calls from interested landowners that hadn’t previously been aware of interested in the program. He said, “There are lots of ways that they can suddenly become aware and interested in participating, and the windows close for the project. So, now what happens?” He noted that ideally a project would expand to different geographic areas with time, but it would be great to be able to continue to support people who missed the first window that become interested after the fact.</td>
<td>Impact: Beginning/Continue to build, WMA: Future funding efforts</td>
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<td>PC said that she does not anticipate seeing a measurable change in the flow of the English River given the scale of the project. She said that this was a successful starter project for her watershed. She said that this is a good opportunity to reflect on what they’ve accomplished and think about the future.</td>
<td>Impact: Beginning/Continue to build, WMAs: Measurement</td>
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<td>He said that IWA funding allowed the community to do some bigger products that may not have been feasible using NRCS cost share programs.</td>
<td>Impact: Physical</td>
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<td>Partner described how the IWA was a top performer under the National Disaster Resilience (NDR) program and stated that this “put a spotlight on Iowa” in terms of what they’ve been able to accomplish. She described this recognition as a lasting impact for Iowa from the IWA program.</td>
<td>Impact: Recognition outside</td>
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Partner highlighted the educational impacts of the IWA, describing how the project brought more attention to the need for watershed-scale projects. She stated that the project had helped the TPC scale up their own visibility and outreach, and said she felt many other IWA partners were able to do the same. Jackson added that, outside of Iowa, the IWA could serve as a model for flood mitigation at a time when flooding issues are increasing globally.

**Impact:** Recognition outside, WMA: Watershed scale, Impacts: IWA model, Impact: Awareness

PC said that she hopes that relationships she’s built through IWA will remain strong regardless of the source of funding. She specifically mentioned work with the Iowa Flood Center, DNR, and local Soil and Water Conservation Districts.

**Impact:** Relationships/Networks

Partner again mentioned that the connections and relationships established through the IWA should continue after the IWA itself winds down. “We can continue the communication network, it doesn’t always need to be a big project and lots of funding, it needs to just be good communication, and valuing each other’s expertise that we bring. And keeping that together, I think would be a way to move one of the strongest components forward.” She emphasized that this network of support does not have to end after funding runs out and said that Extension and other partners needed to find a way to work the continued support of WMAs into their day-to-day operations and continue to stay connected.

**Impact:** Relationships/Networks

Board chair said, “I think it draws together people from many different roles. Whether it’s soil and water people, the DNR people, the county part superintendent, all these people come together, and you get a lot of different ideas. He described that each of these groups have their own perspectives and networks of influence.

**Impact:** Relationships/Networks

PC also mentioned partnerships.

**Impact:** Relationships/Networks

Partner answered that he felt most of the IFC’s partnerships and collaborations were strengthened through the IWA, but he was less sure that the center had gained new partnerships. He noted that “we still have our detractors out there,” organizations which do not want to engage with the Flood Center’s work. He listed the Iowa Department of Agriculture and Land Stewardship and “some of the commodity groups” as examples.

**Impact:** Relationships/Networks

Partner described that the IWA model (establishing WMAs to plan and implement projects) as “great” and emphasized the new partnerships which emerged from the collaboration as the biggest benefit of the process. He expressed an expectation that the WMAs which have been successful will continue to be successful by building on the work done as part of the IWA. Partner echoed partner’s emphasis on the partnerships and connections made through the IWA and added that the IWA would serve as a replicable model for doing watershed-based work both in Iowa and nationally.

**Impact:** Relationships/Networks, Beginning/Continue to build, Impacts: IWA model

Partner again emphasized the connections TPC had made with the watershed community and the information and resources TPC had shared with them. Jackson described the ways in which the TPC had grown as an organization through the IWA.

**Impact:** Relationships/Networks, Org change, Impact: Awareness

Second, he stated that the IWA partners and communities learned a lot through the program’s resilience component, which he described as “a voyage of discovery.” He specifically highlighted the Flood Resilience Action Plans as a resilience product that will have a lasting impact in Iowa.

**Impact:** Resilience

He also noted that the projects brought money into the community. He said that some contractors were able to brow their businesses or buy more equipment because they got business through the IWA projects.

**Impact:** Workforce/Workforce development

Partner added that she hoped the IWA had been a “seminal experience” for many involved, including project coordinators and the various graduate students involved in the project. She expressed a hope that this experience would inform the future work of these individuals, even outside of the IWA.

**Impact:** Workforce/Workforce development
<table>
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<th>PC said that the model of IWA should help with legislation in the state. He recognized that each watershed is different, and implementation has been different, but “if IWA’s model can be shown to be effective across multiple platforms and areas and groups of people, I think that’s pretty hard to ignore.” He noted that stakeholders from North Carolina and Texas have visited Iowa to learn about IWA. He reflected that even if Iowa’s legislature decides not to act based on this project, it has drawn the attention of groups outside of our state.</th>
<th>Impacts: IWA model, Impact: Recognition outside</th>
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<td>PC emphasized the necessity of learning lessons from the North Raccoon experience: “Let’s learn from it. Let’s go on. Let’s improve from it.” Griggs described that because he served in many different roles related to the WMA that “put me in some very, very awkward positions oftentimes.” He described that some of his roles were in conflict, so he would usually participate more passively in the process so that he wouldn’t make a misstep ethically. This means that he had the opportunity to observe and learn throughout the process.</td>
<td>Impacts: Lessons learned</td>
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<td>He also described that he learned lessons during the earlier projects that he was able to apply in the later ones. As an example, he mentioned including erosion control mats until grass gets established for a project. He said that requiring contractors to use the mats prevented them from having to return to project to fix erosion issues.</td>
<td>Impacts: Lessons learned</td>
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<td>Partner expressed his pride in the collaborations HSEMD had engaged in with IWA partners and local jurisdictions as part of the IWA and with the Best Practices Guide HSEMD had developed for those local jurisdictions as part of the IWA. He described how the guide would serve as a tool that local communities could use to identify resources and potential projects to implement at the watershed scale.</td>
<td>Partners: IWA support for WMAs, Impact: Relationships/Networks</td>
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<td>She anticipates that the WMA will be able to leverage the relationships that they’ve built and their experiences, to have even more success in the future when additional funds are available. She said, “I think there’s going to be a cumulative effect here, and I think we’re off to a really good start.”</td>
<td>WMA: Future funding efforts, Impact: Beginning/Continue to build, Impact: Relationships/Networks</td>
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<td>Again emphasized the value of hazard mitigation planning on the watershed scale. He also explained how focusing on the watershed scale had given him an appreciation for the interconnected nature of water quantity (flooding) and water quality. By recognizing that connection going forward, he said “we have a foundation to leverage additional resources” by building water quantity components into their work with organizations such as IDALS and DNR to extend existing funding.</td>
<td>WMA: Future funding efforts, Impact: Relationships/Networks, WMA: Watershed scale</td>
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<td>PC said that the most important source of information has been the Storm Lake Times. He said, “Everybody’s watching the Storm Lake Times, and even though there is a tremendous amount of suspicion with lot of members and people within the WMA about their motives, it’s still a very, very useful source of news. Whether you agree with them or not, everybody is watching to see what they say.” He discussed that this newspaper was contentious enough that, during an early coalition meeting, when the group was identifying a newspaper of record, some individuals said that “if we’re going to pick the Storm Lake Times, I’m not right now, I’m walking out of here.”</td>
<td>WMA: local media</td>
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<td>PC also emphasized a need to tell the story of North Raccoon and learn from this experience. He said that he’d been in contact with Tom and Art Cullen of the Storm Lake Times. He said that he thinks that Art Cullen is an obvious choice to tell this story to a public audience. Griggs emphasized his personal connection to Storm Lake and how his history informed his desire to be an active part of the North Raccoon watershed.</td>
<td>WMA: local media, IWA Dissemination</td>
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<td>He said, “We would not be where we’re at today had we not done the WMA. There’s just no way we would have done it. He described starting to work on river efforts twenty years ago, and a frustration with not knowing what they could do. He said, “Now I look at it and I think, ‘Boy, I feel a lot better about it now.’ We still have a long way to go, but we’re seeing some progress, and I really feel good about that.” He described that there is still a lot of work to do for the river to be</td>
<td>WMA: WMA operations, Impact: Beginning/Continue to build, WMA operations: Creation of WMAs as success</td>
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in the condition it was in when his wife, a lifelong resident of Independence, was growing up, but he has hope.

Board chair described observable improvements on roads with on-road structures. He said that in the past people have been able to see that damage in the past that they shouldn’t see anymore. He described additional benefits as well including reduced infrastructure maintenance costs, longevity of the road, grade of the road, sight distances, and safety.

PC said that he anticipates positive impacts related to flood mitigation, water quality, and wildlife habitat but noted that the Iowa Flood Center will be assembling that information.

Wrapping up, Board chair said, “I’m interested to see the spring.” He explained that he is curious to see how the projects impacts the flow on the lower Wapsi. He said that could both show the impact of the projects and help the group see where else to focus efforts.

IWA Dissemination

As the conversation was wrapping up, Board chair commented that it’s valuable to have a group telling the story of IWA to provide a big picture of this work statewide. He said, “That’s a story we want to tell.”

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IWA Operations

Partner spoke about difficulties that arose in the Middle Cedar watershed related to priority funding areas. Since many funds were directed at these priority areas, other communities in the watershed often questioned how they would benefit from participation, he said. Partner said that he was generally able to highlight the benefits that would be shared by all local communities, such as the future funding enabled by having a watershed plan in place but said that having additional incentives in place for non-priority areas would have catalyzed greater community buy-in more quickly.

PC provided additional explanation about what he meant by the structure of IWA at a clarifying question from the interviewer. He said that IWA was a process which included studying the problem, talking to people, prioritizing based on the available dollars, data, and evidence, and targeting the areas where the dollars can be most effective. He said, “That process was really useful.” However, Griggs noted that North Raccoon did their planning and designing at the same time, so they didn’t have the ability to use planning to inform the design and implementation. He said that they didn’t have that luxury of time for IWA. He said that this tension was discouraging for the planning team since there were not resources included in IWA to implement the recommendations from the plan. He said, “It’s really important that [plans are] living documents, that they’re useful documents. We can see this from the very beginning that’s probably not going to happen this time.”

He said, “The fact that [IWA] didn’t come as a mandate from DNR was unbelievably helpful.” He described that the agricultural community does not always trust the DNR, so the fact that IWA came from within an academic institution and was led by Larry Weber was a benefit. He said, “Larry Weber has more street cred than anybody else in the state when it comes to watershed work. He’s easy to listen to. He’s non-threatening. And, [he’s] established a vehicle that we can talk about these things.”

He suggested that the process may have worked better if the WMAs had to compete for implementation funds, enabling funding to go to watersheds that had successfully organized...
Partner again highlighted the difficulty of fitting the IWA into HUD’s funding requirements. While the work completed was valuable, she said that continuing the work would be less difficult if done with a funding source better aligned to the project’s activities. Geerts agreed and stated it would be interesting to sit down with all the IWA partners and discuss how the IWA could be structured if freed from the current constraints of its funding source.

Partner and Partner discussed in particular the ways in which HUD’s procurement process requirements hindered the productivity of the IWA. Partner described how the project coordinators “know who the good [contractors] are.” Despite this, they are required to consistently put all projects out for bid, which, she said, makes sense in HUD’s normal line of work, but was less practical for repeated projects like those completed as part of the IWA. She and Partner wondered how this process might look different under different funding requirements, and hypothesized that a different bidding approach, the use of an RFQ, or holding pre-qualified contractors and engineers on retainer might be approaches better aligned with the work and structure of IWA-like projects.

Partner stated that greater communication between partners during the initial IWA application development process would have benefited the program and enabled faster success. Given the large number of partners required to pull together the application and set up the program, she described how IEDA did not communicate well enough with the county boards where IWA money was funneled. “There really wasn't enough county advocacy or outreach in the application and pre award process... I don't think there was enough communication and education about what [we were doing] and why.” Partner added that there were some counties that he thought “still didn’t know why they’re part of this project,” and agreed that the issue related to communication.

Additionally, Partner stated that he wished more partners could have been included in planning conversations “from the very beginning,” and that doing so could have avoided delays from confusion over what was and was not allowed under the funding guidelines. He also expressed that it would have been ideal to create “an extensive FAQ” for the recipients of IWA funding, but that “we didn't know what needed to go in the FAQ. Even just this week I got a question that I had to seek counsel on.”

Partner described how she thought the IWA’s success could have been improved by scaling back the cumbersome administrative steps required but recognized that this would not have been possible given HUD’s funding requirements. Specifically, she said she had observed the implementation of some practices on the ground hindered by the administrative steps involved, including landowners backing out after becoming fed up with the administrative burdens involved.

Partner emphasized his pride in the outcomes the IWA has delivered within a context of complicated and competing political interests. He also expressed pride in the Flood Center team, describing them as a “winning team,” and in the work done by IWA partners IEDA, HSEMD, and DNR, saying “we simply could not have done it without them.”

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<th>Watershed Management Authorities</th>
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<td><strong>PC</strong> said that she does not anticipate seeing a measurable change in the flow of the English River given the scale of the project. She said that this was a successful starter project for her watershed. She said that this is a good opportunity to reflect on what they’ve accomplished and think about the future.</td>
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outside of Iowa, the IWA could serve as a model for flood mitigation at a time when flooding issues are increasing globally.

PC described that despite the size of the watershed, low engagement of the board, and limited agriculture experience of the staff, “We did it. We did it, and none of that would have been done without the financial support from the grant and just a little bit of faith in us to get it done.” She said that English River did not necessarily have any special advantages, although she did mention that she enjoys working independently and giving structure to a project that might be unstructured otherwise which isn’t an optimal environment for everyone.

In reference to watersheds across Iowa, she said, “In the Midwest, with staffing and implementation dollars, things can happen… I think it just goes to show that this model works... With financial support and a little bit of leadership, any watershed could get some projects on the ground.”

PC emphasized the usefulness of technical information (i.e., hydrologic modeling, ACPF, IFIS). She said that these have been great resources for communicating with landowners and prioritizing areas to focus on. PC built upon PC’s comments and said that this type of information helped provide reassurance that these types of projects will have an impact.

He mentioned pride in the work of the different people working with their WMA (i.e., Northeast Iowa RC&D, Frana, the engineer). He said, “All these great people...this group pride. [This is] something that was a gathering of a lot of different people, different backgrounds, and, you know, we did it!”

PC said that it was important for the project coordinators to get together to support one another. She said that often decisions would be made higher in the organizational structure and it would be up to the coordinators to implement the changes which could be frustrating. She described that she and the other project coordinators on the Eastern side of the state would frequently connect on conference calls to check in or commiserate. She said, “It was really helpful because we all came to the table with different levels of experience and different backgrounds.” She described opportunities to leverage expertise in fish and wildlife, technical aspects of landscape work, and community development. She summarized this with a recommendation to connect with, seek advice from, and build relationships with your peer group.

Board chair said, “No one is really charged with flood risk reduction on a statewide level. There’s no agency that’s responsible for that. It’s the [US Army] Corps of Engineers or [Federal Emergency Management Agency and then it jumps right to the locals. So, our ability to influence activities outside of our jurisdiction is very limited.” He noted that in his opinion, the state should have a role in pursuing flood risk reduction. He said that there is a need for this especially given the fact that flooding affects every county in the state. He did note that the Iowa Department of Homeland Security and Emergency Management has a role in addressing flooding, but that is only a piece of what they do. He said that the Flood Mitigation Board is helpful but “that just empowers local municipalities and jurisdictions to do actions on their own.” He described that there is money for jurisdictions that put together applications and do flood risk reduction projects, “but those will be almost entirely focused inside their jurisdictions.”

Board chair said that ongoing communication among WMAs will be critical. He described that the most useful thing from IWA is “understanding what the other WMAs are doing and what successes they’re having. What things went well and what things they would redo.” He said it would be good to have these cross-WMA discussions because “the IWA and WMA approach was successful.” He described

| Impacts: IWA model, WMA: Previous funding success |
| Partners: IWA support for WMAs, WMAs: Measurement |
| Partners: Local partners, WMA: Consultants, WMA: PC role |
| WMA: Collective action |
| WMA: Collective action |
| WMA: Collective action |
that there are already more WMAs in the state since the beginning of IWA.

When the interviewer asked how the WMAs are communicating at this point, Board chair said that the project coordinators have been sharing professional resources and offering each other support and guidance. He wondered how the other groups working with the WMAs (i.e., board members, board chairs, administrators, engineers, elected officials) could “put our best foot forward as a whole group to meet our individual goals.” He said, “I think it has to be more than just a coordinator to really gain the traction we’re going to need.”

Building on that, Board chair said, “It would be nice if there was a continued effort to have a body that really helps champion our voice” at state and federal levels. He said that it would be more effective to have a group effort so that each group isn’t trying to pitch their case individually. He recognized that there are existing groups and discussions, but he isn’t sure how effective they’ve been so far. He said, “I think strengths in numbers would be a great thing…make sure everybody has a voice.”

PC said that while it is important to learn from your peers, it’s also important to recognize that all regions and teams are different. She said, “…understanding that there isn’t an owner’s manual, there’s not an operation manual, there’s no how to. You have to be able to flow, adapt, talk” and see what works in your area.

PC and the interviewer also discussed that while it’s important to connect with and learn from your peers in different counties or regions, it’s also important to connect with your local offices and organizations.

PC said, “I’m most proud of the work that me and my team put in as consultants...So, regardless of the outcome, we worked our tails off, we worked hard, and we did good quality work.” He said that they do this because they want to support improvements in the watersheds.

He said that he thinks that the tier 2 reviews took longer than expected because their grant administrator was also working on two other watersheds. He said that it’s likely that workload was too heavy to handle all three. He said, “I like the people that work there. It’s just that a lot of things didn’t get done that should have gotten done at a quicker pace... I wouldn’t do that again.”

He said that, French-Reneker, their engineer for the IWA projects, has “done an outstanding job of being able to engineer projects in a very efficient manner and also be able to do those in conjunction with the landowners. And they’ve done a great job of being able to allow us to budget successfully those projects...We’ve been very fortunate that we’ve had really good numbers with our engineering and it’s allowed us to make good decisions.”

PC described highs and lows with respect to contractors. He said that one of the biggest hurdles was that they had a contractor that made a mistake and refused to correct it. He said, “Otherwise, the contractors have been super easy to work with and really want to get a good job done.”

Second, Board chair said that they contracted engineering services beyond those provided by Frana and Mark Euler. He said, “I think we can confidently say that the money we spent contracting that engineering really helped us move along faster.”

Again emphasized the value of hazard mitigation planning on the watershed scale. He also explained how focusing on the watershed scale had given him an appreciation for the interconnected nature of water quantity (flooding) and water quality. By recognizing that connection going forward, he said “we have a foundation to leverage additional resources” by building water quantity components into their work with organizations such as IDALS and DNR to extend
existing funding.

PC said that the most important source of information has been the Storm Lake Times. He said, “Everybody’s watching the Storm Lake Times, and even though there is a tremendous amount of suspicion with lot of members and people within the WMA about their motives, it’s still a very, very useful source of news. Whether you agree with them or not, everybody is watching to see what they say.” He discussed that this newspaper was contentious enough that, during an early coalition meeting, when the group was identifying a newspaper of record, some individuals said that “if we’re going to pick the Storm Lake Times, I’m not right now, I’m walking out of here.”

PC also emphasized a need to tell the story of North Raccoon and learn from this experience. He said that he’d been in contact with Tom and Art Cullen of the Storm Lake Times. He said that he thinks that Art Cullen is an obvious choice to tell this story to a public audience. Griggs emphasized his personal connection to Storm Lake and how his history informed his desire to be an active part of the North Raccoon watershed.

Finally, Partner said that given the five-year scope of the program, some training was provided to project coordinators and grant administrators too early. He described how some processes, such as the procurement process, were explained to coordinators at the beginning of the project, sometimes two or three years before the process needed to be implemented. “So then by the time it rolled around, you had forgotten it.” This sort of training was further complicated, he said, by the fact that some processes are only needed once or twice a year, and by the fact that each WMA moved at different speeds and did not encounter the same milestones simultaneously.

Partner again emphasized the value of integrating hazard mitigation planning with watershed planning. He described watershed scale planning as “the future” and as the most effective use of limited resources. To make that a reality, he argued that federal resources need to recognize the importance of operating at the watershed scale and that local jurisdiction need to learn to “look beyond their own boundaries” and collaborate meaningfully.

At a question from the interviewer about the American Rescue Plan funds, PC explained that they secured funds that allowed them to cover some on-road projects that the WMA was not sure they would be able to fund otherwise.

PC said, “I think that one of our biggest strengths is that we were successful early on with getting a couple big grants. The first being money from the DNR to develop a comprehensive watershed assessment and then also the IWA grant to do implementation.” She described that these grants were important because they helped solidify the legitimacy of the WMA in the eyes of some members or potential members who were initially skeptical of the effort.

Board chair described that watersheds can go beyond the jurisdictions in Iowa. He described that he participates in an annual meeting for the Bear Creek Watershed which includes entities from Minnesota as well as Iowa.

Board chair said, “The primary thing, of course, is the idea of conservation in a watershed framework. ...A watershed is this organic thing with easily definable boundaries. Everybody is in a watershed and lives up- or downstream from everybody else.” He said that this concept is easily accessible to people in the watershed. He said that a watershed provides identifiable boundaries which allow for quantifying the “improvements in the resiliency of that watershed pretty easily.”
PC said, “I think some of the impacts are that it’s created some awareness of an actual watershed and the fact that there are boundaries that don’t adhere to governmental boundaries.” He said that awareness may not be very big at this point, but it could be “fostered and grown.”

<table>
<thead>
<tr>
<th>WMA: Watershed scale</th>
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</table>

Board chair described fielding questions about why Kalona is participating in the WMA or why they are willing to work on projects 50-60 miles away. He said, “We’re looking past those geographical lines on a map. We can work past those for the betterment of all of us.” He described the importance of doing projects upstream to impact communities downstream in the watershed. He said that it makes good fiscal and management sense to “position those [projects] where they’re going to provide the most benefit.” He said that being able to cross those jurisdictional boundaries successfully will be the biggest impact. He described that the process can sometimes be challenging but if you go to meetings and listen to people and deliver on what you said that you would, “sometimes those foundations are laid and that trust builds up to where you do get buy-in.” He described that they are starting to see more communities interested in signing onto the 28e agreement.

| WMA: Watershed scale |

To wrap up his comments, Board chair said, “All of those things roll into being able to continue the collaborative efforts between the watershed communities. We can do good projects in another community and help them with the overall goal that we’re going to help our entire watershed.”

| WMA: Watershed scale, WMA: WMA operations, WMA opportunities: Collab within watershed |

Board chair said, “The whole point of the IWA is working outside of your jurisdiction on the landscape where the flood risk starts to accumulate at very small levels then compounds as the watershed progresses downstream. We’re affected in Des Moines by things that happen three hours away. The ability to work upstream is entirely dependent on having a vehicle for doing that. So far, the only thing that can do that is the WMA.” He noted that even though WMAs have limited resources, capacity, and authority; they are a mechanism for supporting water resources work outside of each jurisdiction.


Partner stated that it may have been more beneficial if the size of the North Raccoon WMA had been smaller, though he recognized that it is important to tackle the North Raccoon’s water issues as a whole. He described how the planning process produced fatigue given the large number of collaborators required to be present, and that this fatigue would make it difficult to do the planning that future funding efforts would likely require. He suggested that the process may have worked better if the WMAs had to compete for implementation funds, enabling funding to go to watersheds that had successfully organized and planned, rather than being forced through the planning process.

| WMAs: Measurement |

Finally, he described the technological impact of the IWA which he saw as the development of the GHOST model. He described how the GHOST model was developed in house, in contrast to previous projects which utilized proprietary models developed by others and left those projects with little technological legacy. Partner stated that the GHOST model has already been leveraged to secure funding for additional projects outside of the IWA, and that the model continues to be expanded through ongoing work by Adam Weis and PhD students. He described how the model would soon be able to “not only attribute every gallon of water at a particular location back to the land that came from but attribute every pound of nitrogen at any location in the river network back to the land that it came from,” which is something “no one else in the world has done.”

| WMAs: Measurement |

Partner emphasized that he saw the overall project as successful. He described how, in retrospect, he would have liked to see the program focus on understanding flooding from a flood stage elevation perspective, rather than focusing on peak
flow reduction. He stated that considering flood elevation is what causes damage to property, rather than peak flow, which may not impact properties at all depending on the flood elevation. He described this lesson as emerging from the work of the IWA, rather than being known up front, and cautioned that it would have been difficult to define flooding in terms of flood stage within the scope of the application, due to difficulties in measuring flood state in a meaningful way.

PC said that he is anxious to see information that can be used to evaluate the different IWA watershed projects. He said, “Being able to compare where we actually were with what actually happened in other watersheds is an information need that I see.” He reflected that other watersheds were likely more effective, he said, “We put a tremendous amount of effort in the North Raccoon and we have very little to show for it.”

He said, “I’ll be interested to find out what the Flood Center comes up with modeling for reduction in high rain events.” He noted that they were not able to get as many projects as they were hoping for, but he said, “Hopefully there will be measurable impact on downstream water.”

Taking a wider view in reference to the watershed approach, Board chair said, “I hope we can demonstrate our effectiveness enough so that this will catch on more and bring some more funding. But, maybe even more important than the funding is public acceptance that this is something we do in the framework of a watershed, and we use soil health.”

Board chair described observable improvements on roads with on-road structures. He said that in the past people have been able to see that damage in the past that they shouldn’t see anymore. He described additional benefits as well including reduced infrastructure maintenance costs, longevity of the road, grade of the road, sight distances, and safety.

PC said that he anticipates positive impacts related to flood mitigation, water quality, and wildlife habitat but noted that the Iowa Flood Center will be assembling that information.

Wrapping up, Board chair said, “I’m interested to see the spring.” He explained that he is curious to see how the projects impacts the flow on the lower Wapsi. He said that could both show the impact of the projects and help the group see where else to focus efforts.

Flood Resilience Team

Finally, Partner said he was proud of the Planning Guide developed by Astig Planning on behalf of the FRT. He described repeatedly hearing from professional planners that they felt unable “to stick all the parts together to do a watershed-based plan” as they had never been trained how to do so. The planning guide addresses this lack of planning, he said, and will be disseminated at the American Planning Association meeting and will be submitted for publication in planning magazines.

He also expressed pride in submitting a FEMA BRIC application in collaboration with Jim Marwedel of HSEMD. “Even if it doesn’t get funded. The fact is people now know about that program... so now hopefully we could repeat.”

Partner began his answer by stating that the FRT had “met all of our north star goals,” and then discussed his specific pride in the FRAPs (Flood Resilience Action Plans) developed in several communities by the FRT as part of the IWA. He emphasized how the FRAPs “have already been used to apply for more money,” fulfilling his goal of having the documents be useful and practical, rather than “stuffy, sit on the shelf documents.”
Partner described how efforts to visualize the geography of social vulnerability in areas the IWA worked did not produce useful results. Just described how he had pushed for the creation of these maps in order to provide useful visuals of vulnerability and ensure the project’s funding did not exclusively benefit wealthy communities. However, “in the end, those [maps] aren’t really very useful.” He stated that the maps would have taken much more work in order to be useful, or that another tool might have been necessary altogether. He concluded that “if I had to do it again, I wouldn’t have bothered spending time on that.”

Other comments on partners

<table>
<thead>
<tr>
<th>Comment</th>
<th>Partners: Other comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>He said that there has been camaraderie in being part of the IWA project. He said that seems unique to IWA.</td>
<td>Partners: General collaboration</td>
</tr>
<tr>
<td>He said, “I’ve really enjoyed the collaborative aspect of this job and working with other partners.” He described the benefit of being able to reach out to his partners in this project with questions. He said, “How we’ve been able to communicate has been really cool, and getting to know the other project coordinators was enjoyable and fun.”</td>
<td>Partners: General collaboration</td>
</tr>
<tr>
<td>PC said that others may not share his opinion, but, he said, “I really enjoyed our biannual meetings.” He described getting to see the different partners in person and hear what everyone is working on which he found valuable.</td>
<td>Partners: General collaboration</td>
</tr>
<tr>
<td>He said, “The collaborative aspect... the fact that people were more willing and open to really answering any questions...was extremely valuable...I felt comfortable really emailing anybody in the [program] structure to ask a question.” He described positively that the structure of the IWA was “porous” and “fluid.”</td>
<td>Partners: General collaboration</td>
</tr>
<tr>
<td>PC said, “I think just different relationships I’ve been able to develop... I can think of at least half a dozen people right off the top of my head that I never would have met before.” He said this is true for partners and landowners.</td>
<td>Partners: General collaboration</td>
</tr>
<tr>
<td>PC said, “I think the collaboration aspect is something that would be a benefit to really anybody working in the conservation field.” He reflected that it seems that all the watershed management groups are so different, but they are all focused on getting conservation practices on the ground.</td>
<td>Partners: General collaboration</td>
</tr>
<tr>
<td>PC said, “It’s been a really amazing experience creating different relationships with landowners and partners and people like you that are working all the time getting things done and helping out with the project. It’s been really cool.”</td>
<td>Partners: General collaboration</td>
</tr>
<tr>
<td>He noted that IWA is different than his experience in private business. He said that in private business there isn’t as much collaboration because you want to play things “close to the vest.” However, he said that with IWA that partners have been open and helpful. He said, “That’s really been why I never knew that collaborating could be so fun.”</td>
<td>Partners: General collaboration</td>
</tr>
<tr>
<td>PC said, “There are so many partners which is good, and so many of them have really helped out at different points in the project.”</td>
<td>Partners: General collaboration</td>
</tr>
<tr>
<td>He reiterated the importance of building a relationship with the Army Corps to open up lines of communication so that questions can be answered more easily.</td>
<td>Partners: Other</td>
</tr>
<tr>
<td>PC recognized that there were other partners on the project which have likely been important that she did not interact with directly (i.e., Iowa Economic Development Authority, NRCS, IDALS). She said that there were other groups that offered services that were not in demand in her watershed (i.e., Tallgrass Prairie Center). She described that there were layers to the project and agreed with the interviewer that certain partner’s efforts were more visible by design.</td>
<td>Partners: Other comments</td>
</tr>
</tbody>
</table>
PC said, “I would say that I’m just proud that we participated. We were able to be part of this bigger effort and there were so many moving pieces at so many different levels.” He reflected that this was a large and sometimes frustrating effort, but “[that] we had a small part of that and hopefully influenced [the effort] in positive ways is pretty cool.” Evelsizer described a question asked during the second day of the visit with the Texas stakeholders. HE said, “Literally one of the folks from Texas raised her hand and goes, ‘I just have a question, how do you all get along?’...It was such an innocent question, and everybody laughed, but looking back, that was probably the think I remember the most about this.” He said that the partners in Iowa decided that they were going to make the project work.

Partner described how the IWA had “totally transformed his entire career” and emphasized the focus on benefiting the state as a whole, the connections he made with state agencies, and the large scale of projects undertaken by the IWA. He concluded that he is “bound and determined” to have his future work benefit Iowa as a whole.
Appendix M. Partner Interview Protocol

Introduction
This interview is part of the program evaluation of IWA. The purpose is to check-in about your team’s perceptions of IWA and the vision of this work going forward. These interviews will complement interviews we’ll also be doing with project coordinators and WMA board members.

As with all of our interviews, participation is voluntary and you may skip any questions you do not wish to answer. You may even ask that this interview not be used even after we’ve finished. While you will not be identified by name in our report, you will be identified by organization when we write our final reports to HUD. In order to give you more control about what we share on your behalf, you will be given an opportunity to review and edit a summary of the conversation before it is included in our analysis.

This conversation should take about 30 minutes. You may end the interview at any time. Please let me know if you need to end the interview or if you’d like to take a break and finish later.

In order to make this process smoother and make sure we capture your feedback accurately, I would like to tape record the interview. Is that okay with you?

Do you have any questions before we get started?

Your organization’s role in IWA
1. Looking back over the last 5+ years, what do you see as your organization’s most important contributions in IWA? Alternatively, you can describe your organization’s role in the project in your own words.
2. How (if at all) do you see your organization building on your IWA experiences going forward?
   a. Probe: Changes in operations or focus
   b. Probe: Impacts of collaborations

IWA reflections
3. What do you think will be the overall impact of IWA in Iowa?
4. If we could go back in time to the beginning of the project, what could have been done differently to improve IWA?
   a. Probe: What would you describe as the main lessons learned through the IWA program as a whole?

Looking forward
5. Looking forward, what aspects of IWA should continue in the state?
6. What will need to happen for this to become reality?
7. What challenges exist that could work against progress going forward?

Wrap up
1. What else would you like to say about the IWA project? What haven’t I asked you that you wanted to say?
2. When you think back on your (or your organization’s role) in the IWA, what are you most proud of?
3. Finally, do you have any fun or funny stories from your experiences in IWA that you’d like to share?

Appendix N. WMA Chair Interview Protocol

Introduction
This interview is part of the program evaluation of IWA. The purpose is to check-in about your perceptions of IWA and the vision of this work going forward. These interviews will complement interviews we’ll also be doing with project coordinators and IWA partners.

As with all of our interviews, participation is voluntary and you may skip any questions you do not wish to answer. You may even ask that this interview not be used even after we’ve finished. While you will not be identified by name in our report, you will be identified by watershed when we write our final reports to HUD. In order to give you more control about what we share on your behalf, you will be given an opportunity to review and edit a summary of the conversation before it is included in our analysis.

This conversation should take about 30 minutes. You may end the interview at any time. Please let me know if
you need to end the interview or if you’d like to take a break and finish later.
In order to make this process smoother and make sure we capture your feedback accurately, I would like to tape
record the interview. Is that okay with you?
Do you have any questions before we get started?

WMA’s role in water resources management

1. What would you consider to be the strengths of your WMA that would contribute to its sustainability
   after HUD funding ends?
2. How is your WMA going to continue to lead efforts for water resources management in your communities
   after HUD funding ends?
   a. Probe: What will need to happen for this to become reality?
   b. Probe: What challenges exist that could work against progress going forward?
3. What information or resources from local or state partners have been most useful to you in your work?

IWA reflections

4. What would you describe as the main lessons learned through the IWA program as a whole?
5. From your perspective, what are the impacts of IWA in your watershed?
6. Can you think of other factors outside of the program that influenced the progress or success of your
   WMA?

Looking forward

7. Looking forward, what aspects of IWA should continue in the state?
8. What advice would you have for someone outside of the IWA WMAs who may be interested in
   implementing work similar to IWA in their area?

Wrap up

9. What else would you like to say about the IWA project? What haven’t I asked you that you wanted to
   say?
10. When you think back on your (or your organization’s role) in the IWA, what are you most proud of?

Appendix O. WMA Project Coordinator Interview Protocol

Introduction
This interview is part of the program evaluation of IWA. The purpose is to check-in about your perceptions of IWA
and the vision of this work going forward. These interviews will complement interviews we’ll also be doing with
WMA board members and IWA partners.
As with all of our interviews, participation is voluntary, and you may skip any questions you do not wish to
answer. You may even ask that this interview not be used even after we’ve finished.
While you will not be identified by name in our report, you will be identified by watershed when we write our
final reports to HUD. In order to give you more control about what we share on your behalf, you will be given an
opportunity to review and edit a summary of the conversation before it is included in our analysis.
This conversation should take about 30 minutes. You may end the interview at any time. Please let me know if
you need to end the interview or if you’d like to take a break and finish later.
In order to make this process smoother and make sure we capture your feedback accurately, I would like to tape
record the interview. Is that okay with you?
Do you have any questions before we get started?

WMA’s role in water resources management

1. What would you consider to be the strengths of your WMA that would contribute to its sustainability
   after HUD funding ends?
2. What information or resources from local or state partners have been most useful to you in your work?

IWA reflections
3. With respect to your role in IWA, what would you consider your biggest successes?
   a.
4. What are the challenges and successes related to the implementation of BMPs in your watershed?
5. What would you describe as the main lessons learned through the IWA program as a whole?
6. From your perspective, what are the impacts of IWA in your watershed?
7. Can you think of other factors outside of the program that influenced the progress or success of your WMA?

Looking forward
8. Looking forward, what aspects of IWA should continue in the state?
9. What advice would you have for someone outside of the IWA WMAs who may be interested in implementing work similar to IWA in their area?

Wrap up
10. What else would you like to say about the IWA project? What haven’t I asked you that you wanted to say?
11. When you think back on your (or your organization’s role) in the IWA, what are you most proud of?

After the interview: We are planning to reach out in early spring to landowners that participated in IWA. The plan is to mail them a short survey with pre-paid envelopes to mail them back or a link to respond online. Do you think that make sense for the landowners you worked with? What do you think is the best way to get that contact info?

Appendix D - Iowa Watershed Approach Landowner Survey Summary

Iowa Watershed Approach Landowner Survey Summary
Submitted June 2022
The purpose of this survey was to collect feedback about IWA landowner experiences. Landowners were asked to comment on their experiences in the process, perspectives on the resulting structure, and potential actions that you might take related to your participation in IWA.

Methods
CEA developed this survey in alignment with the evaluation questions of IWA and in collaboration with team members from the Iowa Flood Center. The survey instrument is included at the end of this summary (Appendix C). In January 2022, the CEA team reached out to the IWA project coordinators asking for mailing addresses for the landowners who had participated in IWA. The CEA team used those addresses to mail paper surveys for landowners to complete and return to CEA. One week prior to the survey being sent out (April 5, 2022), the CEA team sent out a postcard notifying landowners that the surveys would be coming to them and encouraging them to participate. Landowners then received the full survey on April 12, 2022. Each survey was accompanied by a cover letter explaining the purpose of the survey and a pre-paid envelope.
The final surveys received and included in this report were postmarked June 1, 2022.

Participation
Of the 152 names and addresses provided to CEA by the project coordinators, 146 reached their destination (8 were returned). As a result, there was a final response rate of 45% with the response rates from individual watersheds ranging from 0-58%.

Table 1. Survey participation by watershed

<table>
<thead>
<tr>
<th>Watershed</th>
<th>Invited</th>
<th>Responded</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Creek</td>
<td>10</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>East and West Nishnabotna Rivers</td>
<td>18</td>
<td>7</td>
<td>39%</td>
</tr>
<tr>
<td>English River</td>
<td>26</td>
<td>13</td>
<td>50%</td>
</tr>
<tr>
<td>Middle Cedar River</td>
<td>34</td>
<td>13</td>
<td>38%</td>
</tr>
<tr>
<td>North Raccoon River</td>
<td>4</td>
<td>0</td>
<td>--</td>
</tr>
<tr>
<td>Upper Iowa River</td>
<td>30</td>
<td>15</td>
<td>50%</td>
</tr>
</tbody>
</table>
Report structure
Within the findings section of the report, data are summarized across four topic areas: project impacts, motivations to participate in IWA, reflections on the IWA process, and other considerations for future engagement and activity.

Additional figure and table are included in Appendix A. Additionally, a full list of quotations from landowners are organized into high-level categories in Appendix B.

Findings
Project impacts
Landowners were invited to share any observations about how the installed practices have slowed water down or otherwise impacted their property. While ten landowners stated that it is too soon to tell what the impacts will be, many other landowners described the impacts that they have seen as a result of their project. Impacts, frequencies, and example quotations are reported in Table 2 below.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Freq</th>
<th>Example quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce flooding</td>
<td>15</td>
<td>“Water is retained on property long after a rainfall event. A great design delivering the required impact to the watershed.”</td>
</tr>
<tr>
<td>Erosion</td>
<td>9</td>
<td>“Water that used to rush through a deep eroded ditch now eases into a pond basin reservoir to be gradually released via a 6 inch diameter overflow pipe into a wetland area.”</td>
</tr>
<tr>
<td>Water quality</td>
<td>7</td>
<td>“I am consistently impressed by how clear the water is in the pond as well as when it leaves.”</td>
</tr>
<tr>
<td>Wildlife habitat</td>
<td>6</td>
<td>“We are already seeing the positive impact the project is making on our local wildlife and habitat creation.”</td>
</tr>
<tr>
<td>Soil health</td>
<td>1</td>
<td>“This will improve land and soil as well as erosion issues.”</td>
</tr>
<tr>
<td>Livestock</td>
<td>1</td>
<td>“This helps me with livestock watering for rotational pasture system.”</td>
</tr>
<tr>
<td>Recreation</td>
<td>1</td>
<td>“I have eliminated run off and soil erosion, added recreation and wildlife water supply.”</td>
</tr>
</tbody>
</table>

Note. A more detailed version of this table can be found in Appendix A, Table A.

Ninety-seven percent of respondents indicated that they had discussed their IWA project with their friends or neighbors (See Appendix A, Table A).

Other positive comments about projects and conservation efforts
In addition to the comments on impacts, a few landowners shared additional positive comments about their projects. Comments included phrases such as “I’m satisfied how it turned out” and “a great design delivering the required impact to the watershed.

Two landowners explained that their IWA practices are part a comprehensive conservation effort on their property. One described that their projects complement their work replacing row crops with prairie and the other described that they are “concerned with conservation” and that their farm pond fits into their current no-till and strip-till practices.

Negative comments about projects
A few landowners shared some opportunities for improvement in their projects. Three landowners offered relatively minor concerns or frustrations. These included a concern about debris piling up in front of the culverts after heavy rains, the necessity to build a small walking bridge because the water in one small secondary creek backed up further than anticipated, and a desire for their pond to be a couple feet deeper.

One landowner offered a stronger negative experience. This landowner described disappointment with how basins were constructed which caused wet areas where the tile seeps to the surface. The landowner said, “I have repaired many of the problem areas but have many more to repair.

Motivations to participate in IWA
Impacts were generally consistent with landowners’ motivations for participating in the program. Respondents most frequently indicated they were motivated to participate in IWA to reduce flooding.
Respondents most frequently indicated they were motivated to participate in IWA to **reduce flooding**

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce flooding</td>
<td>48</td>
</tr>
<tr>
<td>Improve water quality</td>
<td>44</td>
</tr>
<tr>
<td>Soil Health</td>
<td>38</td>
</tr>
<tr>
<td>Wildlife Habitat</td>
<td>36</td>
</tr>
<tr>
<td>Family legacy</td>
<td>24</td>
</tr>
<tr>
<td>Recreation</td>
<td>23</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
</tbody>
</table>

*Note: Respondents that selected “Other” wrote about erosion control (four respondents), property improvement (one respondent), and public education (one).*

**Reflections on the IWA process**

Most respondents reported being satisfied with all the listed aspects of IWA (between 71-95% for all factors). Aspects included the cost share level, experience with project coordinator, the project’s impact on their property, the completed project, experience with contractors, and how long the project took. Respondents reported the most dissatisfaction with how long the process took. However, 71% still reporting being satisfied.

**Positive comments about the IWA process**

Twenty-two individuals made positive comments about aspects of the IWA process or about the process as a whole. Seventeen of these respondents discussed positive experiences with the IWA program overall. Reflecting on a positive experience in the program as a whole, one landowner said, “The program is just a really nice fit for my farm... From start to finish, an excellent program. I would definitely do it all over again.”

Thirteen respondents discussed positive experiences working with the people on the IWA project. Specifically, respondents described positive experiences working with project coordinators (6), contractors (4), and the engineers (1). Recognizing the complexity of IWA, one landowner noted the perseverance of the group working on this project: “I deeply appreciate the fortitude and persistence of the staff to overcome the many hurdles during this project. From working out federal wetland concerns, archaeological surveys, Indiana bat habitat, acquiring a good contractor, etc... this project inched forward until completed. Well done!”

Individual respondents made positive comments about the level of cost share (“Who could ever complain about
90/10 cost share”), “planning and development,” flexibility required to get the job done, and projects running on time.

**Negative comments about the IWA process**

The thirteen individuals that offered negative comments about the program did so at a variety of levels of severity. While their comments are summarized collectively, two of these landowners expressed strong frustrations with the communication and complex processes of IWA.

Seven landowners made negative comments about delays or the length of the IWA process. While some described that these delays were the result of red tape, unsatisfactory contractors, or COVID, others simply expressed frustrations with delays and long wait times in general.

Four landowners made negative comments related to communication within the project. These comments ranged from wondering what their project would look like when it was complete to a lack of transparency from the project coordinator about outstanding projects to frustrating on-again/off-again projects with no clarity to accusations of dishonesty (“Don’t make statements that are not going to be honored... Don’t make statements that never actually happen and probably were never going to”).

Two landowners each made comments about the complexity of the program (“red tape”) and ending up with projects that were smaller than expected.

**Other considerations for future engagement and activity**

The following items were included on the survey to get a sense of what these landowners may choose as future actions or to inform additional work in watershed work working with landowners.

Fifty percent of respondents selected they have unmet conservation needs on their property, and assuming they had a need, almost all respondents indicated they would be likely to participate in a program similar to IWA. In addition, in their written responses eight landowners described ongoing needs for conservation work or recommendations for how a program like IWA could be done in the future.

![Nearly half of respondents selected they have unmet conservation needs on their property](image)

- Yes: 49%
- No: 30%
- Unsure: 21%
Three landowners described an ongoing need for conservation work, either on their own land or in their region. At a personal level, one landowner said, “My mother, born 1903, remembered Wolf Creek as a clear stream, maybe knee deep and a pleasure to walk through...Good work but lots more to do.” Speaking to their local region, another landowner said, “There are many 50 year old ponds around here (Ledgewood Drainage District) that are filled in and obsolete. need to reclaim these ponds so they perform as originally intended.”

Five landowners took opportunities to offer suggestions for future processes. These included:

- Do more thorough outreach (i.e., local newspapers, radio, TV, agriculture interests, local governments, and local clubs) to landowners that could “participate and benefit”
- Conduct a site visit halfway through construction
- Improve contractor screening
- Fit timeframes of construction to be “a much better fit with Mother Nature”
- Include “more room for adjustments in construction and material costs” for projects
- For a public project, “[do] a bit of press proactively to give the public a chance to be informed about the project before the work begins”

Eighty-three percent of respondents have heard of their local WMA

- 53% I’ve heard of it and attended some meetings
- 28% I’ve heard of it but never attended a meeting
- 19% Have not heard of it
Sixty-six percent of respondents selected they would consider participating in future technical research based on their projects.
### Appendix A. Supplemental Table and Figure

#### Table A.

<table>
<thead>
<tr>
<th>Impact</th>
<th>Frequency</th>
<th>Keywords</th>
<th>Example quote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water quantity</td>
<td>15</td>
<td>Flow; catch, hold, or slow water; water retained; flooding</td>
<td>“Water is retained on property long after a rainfall event. A great design delivering the required impact to the watershed.”</td>
</tr>
<tr>
<td>Erosion</td>
<td>9</td>
<td>Erosion, taking soil</td>
<td>“Water that used to rush through a deep eroded ditch now eases into a pond basin reservoir to be gradually released via a 6 inch diameter overflow pipe into a wetland area.”</td>
</tr>
<tr>
<td>Water quality</td>
<td>7</td>
<td>Runoff, allow silt to drop out; water clarity</td>
<td>“I am consistently impressed by how clear the water is in the pond as well as when it leaves.”</td>
</tr>
<tr>
<td>Wildlife habitat</td>
<td>6</td>
<td>Wildlife, habitat, waterfowl</td>
<td>“We are already seeing the positive impact the project is making on our local wildlife and habitat creation.”</td>
</tr>
<tr>
<td>Soil health</td>
<td>1</td>
<td>Soil</td>
<td>“This will improve land and soil as well as erosion issues.”</td>
</tr>
<tr>
<td>Livestock</td>
<td>1</td>
<td>Livestock</td>
<td>“This helps me with livestock watering for rotational pasture system.”</td>
</tr>
<tr>
<td>Recreation</td>
<td>1</td>
<td>Recreation</td>
<td>“I have eliminated run off and soil erosion, added recreation and wildlife water supply.”</td>
</tr>
</tbody>
</table>

#### Figure A.

Ninety-seven percent of respondents indicated they had discussed their IWA project with their friends or neighbors.

<table>
<thead>
<tr>
<th>Quotation</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Quotation</td>
<td>Code</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>A great design delivering the required impact to the watershed.</td>
<td>Project - pos</td>
</tr>
<tr>
<td>I honestly don't have anything negative to say about the program. A great experience and a great finished product. Thank you.</td>
<td>Process - pos, Project - pos</td>
</tr>
<tr>
<td>I'm satisfied how it turned out.</td>
<td>Project - pos</td>
</tr>
<tr>
<td>The pond filled during a sudden that event late this winter. I was surprised and happy to see so much water not charging further downstream. We're enjoyed waterfowl and are anxious for seeding to begin to grow. Keep up the good work, ya'll [left their names]</td>
<td>Project - pos</td>
</tr>
<tr>
<td>Very satisfied with the new structure</td>
<td>Project - pos</td>
</tr>
<tr>
<td>Project – negative</td>
<td></td>
</tr>
<tr>
<td>Quotation</td>
<td>Code</td>
</tr>
<tr>
<td>I am disappointed with the way the basins were constructed. Soil was removed uphill from the structures, causing existing tile to become extremely close to the soil surface. Because of this, I now have wet areas where the tile seeps to the surface. I have repaired many of the problem areas, but have many more to repair.</td>
<td>Project - neg</td>
</tr>
<tr>
<td>I would have liked it a couple feet deeper</td>
<td>Project - neg</td>
</tr>
<tr>
<td>The only concern is debris piling up in front of the culverts after heavy rain events</td>
<td>Project - neg</td>
</tr>
<tr>
<td>The only drawback I can think of is one small secondary creek backing up further than anticipated on the map, necessitating a small walking bridge to be constructed. -CD</td>
<td>Project - neg</td>
</tr>
<tr>
<td>Process – positive</td>
<td></td>
</tr>
<tr>
<td>Quotation</td>
<td>Code</td>
</tr>
<tr>
<td>a good experience with some flexibility as what was required to achieve the ultimate goal</td>
<td>Process - pos</td>
</tr>
<tr>
<td>Everyone involved was great to work with, especially Jody Bailey.</td>
<td>Process - pos</td>
</tr>
<tr>
<td>Everything comes down to cost and who could ever complain about 90/10 cost share. Dozens of neighbors and friends have reached out to me or stopped by to inquire about the deal John Rathbun and the IWA team gave me. A majority of them immediately checked online maps in hopes of living within another watershed. Every Iowa kid wants their own pond. the excavation costs are what prohibit that. I was impressed throughout the whole process with John’s calm demeanor and his urge to do what is best for the land. The engineers were very knowledgeable and showed experience. Hammes bulldozing worked fast and efficiently and kept in contact with me every step of the site prep process.</td>
<td>Process - pos</td>
</tr>
<tr>
<td>Everything went great and on time</td>
<td>Process - pos</td>
</tr>
<tr>
<td>Good overall experience and am happy to have participated</td>
<td>Process - pos</td>
</tr>
<tr>
<td>good planning and development.</td>
<td>Process - pos</td>
</tr>
<tr>
<td>I am very satisfied</td>
<td>Process - pos</td>
</tr>
<tr>
<td>I am very thankful for this program and what it has provided me and our environment.</td>
<td>Process - pos</td>
</tr>
<tr>
<td>I deeply appreciate the fortitude and persistence of the staff to overcome the many hurdles during this project. From working out federal wetland concerns, archaeological surveys, Indiana bat habitat, acquiring a good contractor, etc... this project inched forward until completed. Well done!</td>
<td>Process - pos</td>
</tr>
<tr>
<td>I honestly don't have anything negative to say about the program. A great experience and a great finished product. Thank you.</td>
<td>Process - pos, Project - pos</td>
</tr>
<tr>
<td>Review</td>
<td>Text</td>
</tr>
<tr>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>Process - pos</td>
<td>I've wanted to do something like this for years. So glad this program came around. Thanks</td>
</tr>
<tr>
<td>Process - pos</td>
<td>It is great what is being done</td>
</tr>
<tr>
<td>Process - pos</td>
<td>Matt Frana, the local coordinator, did an excellent job. He communicated often and at critical times. He encourages questions, worked hard to provide answers and explanations. Tom Riehm of Riehm Construction was the contractor and I am very pleased with his approach to the project and quality of the finished project. I have recently hired him back to perform some additional work.</td>
</tr>
<tr>
<td>Process - pos</td>
<td>Members of the WMA have been very informative, responsive, and incredibly helpful when contacted. If another project is undertaken on a public site, as this was, I recommend doing a bit of press proactively to get the public a chance to be informed about the project before work begins. Overall this has been an incredibly positive experience that will impact the site and so many things downstream. This investment is so much larger than just a local project, the impact of it are far reaching and so positive. Thank you for your investment in this site. We look forward to promoting this program and using the project as an educational tool for years to come!</td>
</tr>
<tr>
<td>Process - pos, Rec/Future</td>
<td>My mother, born 1903, remembered Wolf Creek as a clear stream, maybe knee deep and a pleasure to walk through. Look at it now! Good work but lots more to do.</td>
</tr>
<tr>
<td>Process - pos</td>
<td>Only 1 contractor that did a terrible job. Maxwell out of deep river. The other contractors did a great job.</td>
</tr>
<tr>
<td>Process - neg</td>
<td>Outstanding program with very qualified people both on the government and contractor sides. Need to do better outreach to landowners that could both participate and benefit.</td>
</tr>
<tr>
<td>Process - pos</td>
<td>Contact local newspapers/radio/TV</td>
</tr>
<tr>
<td>Process - pos</td>
<td>Talk to county farm bureau and other boards</td>
</tr>
<tr>
<td>Process - pos</td>
<td>Brief county boards of supervisors</td>
</tr>
<tr>
<td>Process - pos</td>
<td>Speak to meetings of rotary/lions etc</td>
</tr>
<tr>
<td>Process - pos</td>
<td>You did good on our project! Do more of them!</td>
</tr>
<tr>
<td>Process - pos</td>
<td>Project coordinator kept us informed about the process.</td>
</tr>
<tr>
<td>Process - pos</td>
<td>The program is just a really nice fit for my farm. I am very concerned with conservation and the farm pond is a great way to hold back excess water. I also no-till beans and strip till corn so that also helps. Even after all the disturbance of soil on the farm, I had record bean yields last year. From start to finish, an excellent program. I would definitely do it all over again.</td>
</tr>
<tr>
<td>Process - pos</td>
<td>The team was great!</td>
</tr>
<tr>
<td>Process - pos</td>
<td>The whole process was good. Our project coordinator, Matt Frana, was excellent to work with</td>
</tr>
<tr>
<td>Process - pos</td>
<td>This was a great experience and a great program. The process went well from start to finish. Keep it up across the state!</td>
</tr>
<tr>
<td>Process - pos</td>
<td>We really liked working with all of the people involved, from planning to planting.</td>
</tr>
<tr>
<td>Process - pos</td>
<td>Went as planned, took longer, but easy to work with</td>
</tr>
<tr>
<td>Process - pos</td>
<td>This project too way too long. The work itself was done correctly and quickly but the years leading up to it were frustrating. The government sucks!!!</td>
</tr>
<tr>
<td>Process - pos</td>
<td>My family and I are very pleased with the IWA and Matt Frana, the Upper Iowa River Project Coordinator. I can't say enough good things about Matt. He was awesome to work with and took care of everything start to finish. I was traveling when the work was done and was amazed at how good everything looked when I got home.</td>
</tr>
<tr>
<td>Process - pos</td>
<td>I thought everything worked well from beginning to end. All participants were professional, friendly, and open to suggestions.</td>
</tr>
</tbody>
</table>
Everything went well

**Process – neutral**

<table>
<thead>
<tr>
<th>Quotation</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have visited with the local IWA team multiple times. Not much progress so far.</td>
<td>Process - neutral</td>
</tr>
<tr>
<td>I was one of the very first to sign up for this project plus I added a few more measures as the project was laid out and progressed.</td>
<td>Process - neutral</td>
</tr>
<tr>
<td>Took a little getting use to maneuvering around the pathes.</td>
<td>Process - neutral</td>
</tr>
</tbody>
</table>

**Process – negative**

<table>
<thead>
<tr>
<th>Quotation</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don’t make statements that are not going to be honored.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>Listen to the landowner, they know their land better than anyone else!!</td>
<td>Process - neg</td>
</tr>
<tr>
<td>Timeframes of construction should become a much better fit with mother nature.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>When stated that a change will be researched, do so -- don’t just say what people want to hear.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>These projects need more room for adjustments in construction and material costs.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>Don’t make statements that never (promises) actually happen and probably were never going to.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>Don’t expect landowners to cleanup everyone’s mess.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>How the project was going to look like when done was never really explained. When they tore it up I was wondering what it would look like.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>I believe my contractor was very inexperienced in the contract method. He was overwhelmed with blueprints and people management. The work was well done but the hired help watched most of the time. IWA need a little extra due diligence on this crew.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>I understand that programs with cost share can take time, but the duration of the installation was about three years from initial plans to planting. That’s a log time by any standard.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>I understood since it was federal money the state had a hard time signing off on it. I think the state needs a lot less red tape. It delayed the project about a year. Luckily it didn’t interfere with my crops.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>I was disappointed as I was one of the first to apply but only for about 1/4 of work done that we had planned.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>Only 1 contractor that did a terrible job. Maxwell out of deep river. The other contractors did a great job.</td>
<td>Process - pos, Process - neg</td>
</tr>
<tr>
<td>Project coordinator less than transparent about projects. As a board member I was unable to obtain information from project coordinator.</td>
<td>Process - neg</td>
</tr>
<tr>
<td>the process to create a large wetland/shallow pond on my farm has been very drawn out. In the first year, the project was Cleared to happen. Much later, a “red flag” came up. After the land was inspected etc, the project was “okayed”, Some one somewhere said a native plant may be covered up. Due to this information, the project was denied! Meanwhile I looked into another smaller pond project. It would be an 80% cost share. It was located close to the first project, It over all, was not as full filing to me. Plus I had to come up with extra funds on my own. I kept inquiring about, who and why in detail, was the earlier preject denied? the local County technician relayed my /our concerns Eventually another person was coming to look over the land with the local tech. After some more time the project was back on to be completed. Now came the bid letting process for contractors. With all that has been said and done to this point, this project was to begin at the very end of 2021, but didnt before frozen ground came along.</td>
<td>Process - neg</td>
</tr>
</tbody>
</table>
I'm waiting this spring for the contractor to start after they finish two others. The smaller pond project then became a no go due to lack of funding.

My fifth and sixth generation farming family thought that there could be no surviving native grass/plant in the grass pasture ravine. Since 1850 this area was used to raise dairy cattle and then beef cattle every year. It has been super frustrating for us.

Took forever (3 years) to get project done. but probably a lot due to covid.

went as planned, took longer, but easy to work with

This project too way too long. The work itself was done correctly and quickly but the years leading up to it were frustrating. The government sucks!!!

Recommendations and Future ideas

<table>
<thead>
<tr>
<th>Quotation</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. to meet on site as the project is going on maybe half completed</td>
<td>Rec/Future</td>
</tr>
<tr>
<td>2. Screen contractors better</td>
<td></td>
</tr>
<tr>
<td>I wish it was possible to use projects such as this for future wetland mitigation</td>
<td>Rec/Future</td>
</tr>
<tr>
<td>If another project is undertaken on a public site, as this was, I recommend doing a bit of press proactively to get the public a chance to be informed about the project before work begins.</td>
<td>Rec/Future</td>
</tr>
<tr>
<td>My mother, born 1903, remembered Wolf Creek as a clear stream, maybe knee deep and a pleasure to walk through. Look at it now! Good work but lots more to do.</td>
<td>Process - pos, Rec/Future</td>
</tr>
<tr>
<td>Need to do better outreach to landowners that could both participate and benefit.</td>
<td></td>
</tr>
<tr>
<td>Contact local newspapers/radio/TV</td>
<td></td>
</tr>
<tr>
<td>Talk to county farm bureau and other boards</td>
<td></td>
</tr>
<tr>
<td>Brief county boards of supervisors</td>
<td></td>
</tr>
<tr>
<td>Speak to meetings of rotary/lions etc</td>
<td></td>
</tr>
<tr>
<td>You did good on our project- do more of them!</td>
<td>Rec/Future</td>
</tr>
<tr>
<td>There are many 50 year old ponds around here (ledgewood drainage district) that are filled in and obsolete. need to reclaim these ponds so they perform as originally intended.</td>
<td>Rec/Future</td>
</tr>
</tbody>
</table>

Appendix C. Cover letter and survey instrument

Dear «First_Name»

«Care_of»
«Address»
«Address_2»
«City», «State» «Zipcode»

The University of Iowa  
College of Education  
Center for Evaluation and Assessment

Dear «First_Name»,
My team is reaching out to you to request your feedback as a landowner that has participated in the Iowa Watershed Approach (IWA) by installing a conservation practice(s) on your property. As a landowner you likely worked with your local watershed coordinator on the process of installing your conservation practice.

The Iowa Watershed Approach (IWA) is a collaborative project that brings together local, state, federal, and private organizations to address factors that contribute to flooding and water quality. IWA provided a cost share for projects on public and private land which contribute to the program’s flood and water resources management goals.

The University of Iowa Center for Evaluation and Assessment (CEA) has been hired to evaluate the progress and impacts of the Iowa Watershed Approach. The purpose of this survey is to collect your feedback about your experiences as a landowner who has projects that have been constructed on your property with support from IWA. You will be asked to comment on your experiences in the process, perspectives on the resulting structure, and potential actions that you might take related to your participation in IWA. Your answers will inform the evaluation of the IWA and planning efforts for potential similar programs in the future.

This survey takes about five minutes to complete. All participation in this survey is completely voluntary, and you are welcome to skip any questions you do not want to answer. Additionally, your name is not tied to your answers; your feedback will be shared completely anonymously. After you’ve completed your survey, please mail it back to CEA using the self-addressed and paid envelope included.

Your mailing address was provided to CEA as a landowner who has participated in IWA. This mailing has been sent to you only for the purpose of collecting this voluntary, anonymous feedback about your experiences in the project. You will not be contacted again by CEA. Your name and mailing address will not be used in any other way.

The survey will reference a few terms that I’d like to specify here:

- **Iowa Watershed Approach (IWA)** refers to the overarching program described above.
- **Planning team** refers to the groups that guided IWA implementation, including the Iowa Flood Center, Iowa Department of Agriculture and Land Stewardship, Iowa Department of Homeland Security and Emergency Management, Iowa Economic Development Authority, and Iowa Department of Natural Resources.
- **Watershed Management Authority (WMA)** refers to the group in your watershed (sometimes called an authority or a coalition) which is a mechanism for cities, counties, Soil and Water Conservation Districts, lake districts, and local stakeholders to cooperatively engage in watershed planning and management.

If you have any questions about the survey, please contact me at valerie-decker@uiowa.edu or at 319-335-5351.

Thank you for your honest feedback.

**Valerie Decker**  
Assistant Director, University of Iowa Center for Evaluation and Assessment
IWA Landowner Survey

Thank you for filling out the following survey. Please mark your answers below, and feel free to skip any question you do not wish to answer.

How would you describe your level of satisfaction with the following aspects of IWA?

<table>
<thead>
<tr>
<th>Satisfied</th>
<th>Neither</th>
<th>Dissatisfied</th>
<th>Not Applicable/Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience with Project Coordinator</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Experience with contractor</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>How long the process took</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>The cost share level</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>The completed project</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>The project’s impact on your property</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

How familiar are you with your local WMA?
- ☐ I have not heard of it
- ☐ I’ve heard of it but never attended a meeting
- ☐ I’ve heard of it and attended a meeting

Would you consider participating in future technical research based on your projects (i.e., water monitoring, soil health monitoring, etc.)?
- ☐ Yes
- ☐ No
- ☐ Unsure

Do you have unmet conservation practice needs on your property?
- ☐ Yes
- ☐ No
- ☐ Unsure

Assuming you had the need, would you be likely to participate in...
- ☐ A program similar to IWA
- ☐ A similar program with a lower cost share (75/25)

What motivated you to participate in IWA? (Mark all that apply):
- ☐ Reduce flooding
- ☐ Improve water quality
- ☐ Soil health
- ☐ Recreation
- ☐ Wildlife habitat
- ☐ Family legacy
- ☐ Other: __________________

Have you discussed your IWA project(s) with your friends or neighbors?
- ☐ Yes
- ☐ No

Please use the back of this paper to provide your answers to the following prompts:

1. Share any observations you have about how the installed practices have slowed water down or otherwise impacted your property.

2. What would you like the IWA planning team to know about your experiences in this program? Feel free to share any reflections on what worked well and what did not work well throughout the process.
Appendix E - 2021 Board Member Survey Findings

Iowa Watershed Approach
2021 Board Member Survey Findings

June 1, 2022

As submitted to:
Larry Weber, IWA Principal Investigator
Logan Drake, Graduate Assistant
Valerie Decker, Assistant Director
Center for Evaluation and Assessment
The University of Iowa
Iowa City, IA 52242

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Executive Summary
Board members from all IWA WMAs were invited to participate in an online survey distributed in two parts in mid-2021 and early 2022. The goal of the survey was to understand board members' views of their WMA—what has worked and what hasn’t—as well as their confidence in the future of their WMA and the directions they might go, if anywhere.

Fifty-six board members answered the first half of the survey, while sixty-eight completed the second half (25-29% of those who were invited), and these board members generally reported being members who attended most WMA meetings and had been on the board for two years or longer. Their views are summarized briefly in this executive summary, with more detailed explanations offered in the full report.

Value of the IWA
Board members were asked about their perception of the value of four elements of the IWA—implementation funds, project coordinators, watershed plans, and administrative grant support—as well as the value of state-level IWA partner collaborations.

- Most board members perceived all elements of the IWA as important; **at least 90% of all respondents thought each element was very or moderately important.**
- **All partner collaborations were seen as very or moderately important by at least 73% of respondents.** The partnerships seen as important by the most respondents included the Iowa Flood Center (IFC), the Iowa Department of Agriculture and Land Stewardship (IDALS), the Flood Resilience Team (FRT), and the Iowa Department of Natural Resources (IDNR).
Satisfaction with WMA

Board members were asked about their satisfaction with the work of their WMA and with the collaborations within their organization and with other organizations.

- A majority of respondents indicated that they were satisfied with the work of their WMA in addressing both flood mitigation and water quality, while most were neither satisfied nor dissatisfied with the work addressing soil health in their watershed. Across all three watershed issues, a small minority of respondents were dissatisfied, between five and seven respondents for each issue.
- In general, more board members were satisfied with the collaborations their WMA developed than were not. However, fewer board members were satisfied with their collaborations with environmental non-profits and agricultural commodity groups than with other IWA partners and with each other.

WMA Successes and Challenges

Board members were asked to describe the biggest successes and challenges in their WMA.

- **Successes:** Board members described many successes including:
  - The process of building their WMAs: establishing the organization and its collaborations, securing a project coordinator, and discussing the future sustainability of their organization
  - The work of their WMAs: developing a watershed plan, implementing projects, and developing connections with landowners
  - The impact of the WMA’s work: water quality impacts and increased public attention on water issues
- **Challenges:** Board members described a wide range of challenges. The most frequently mentioned challenges included the COVID-19 pandemic, funding, securing buy-in from landowners and the public, collaboration, and navigating IWA’s time requirements.

Knowledge Gained

Board members were asked about what topics they had learned about through the entire IWA and WMA process. These topics included knowledge about issues in their watershed related to flooding, water quality, and soil health, and knowledge about how to address each of these issues.

- A majority agreed that they had learned about all topics listed. The greatest number indicated that they had learned about flood problems and ways to address them, while topics related to soil health saw a lower rate of agreement.
- In a separate, open-ended question, board members were asked to list the most important things they learned through the process. Board members highlighted the importance of
funding and buy-in from landowners and the public. They also described learning about water issues, best management practices, and the value and complexity of collaboration in the watershed context.

Future of IWA WMAs

The second survey focused on the future of WMAs. Board members were asked to indicate how important various elements of their WMA would be to its future efforts, and to describe their vision for the future of the WMA.

- **Important Elements:** Across most watersheds, board members agreed that continuing to educate the public, securing funding for the WMA, and maintaining and expanding collaborations would be important to the success of their WMA over the next five years. Most board members also said that organizational changes (adding more members to the WMA, changing the 28e agreement, etc) were not important.

- **Confidence:** Board members from most watersheds were not confident in their WMA’s ability to exist after IWA funding or to secure resources for a project coordinator, with North Raccoon being the least confident and Clear Creek the most confident.

- **Five-Year Focus:** Most board members said that the focus of their WMA over the next five years should be securing sustainable funding and continuing the WMA’s current project implementation and outreach efforts.

- **Needed Resources:** In order to continue the project implementation goals discussed in the question above, board members said their WMA would need sustainable funding (many mentioned the state government as a preferred source) to at least secure a project coordinator. Others also said landowner and community buy-in would be necessary.

- **Concerns:** Overwhelmingly, board members said funding was their biggest concern about the future of their WMA.
Introduction

As part of the ongoing program evaluation of the Iowa Watershed Approach (IWA), the Center for Evaluation and Assessment (CEA) conducted an online survey of WMA Board Members in two parts, with the first distributed between May and July 2021 and the second between January and March 2022. The purpose of this survey was to understand the board members’ perceptions of their WMAs and their effectiveness, along with their views on the future potential of their WMAs and the work necessary to secure that future.

Survey and Analysis

Both surveys first asked respondents to identify as a Board Member or WMA meeting attendee and then asked a series of questions about the respondents’ level of involvement with the WMA and their reasons for attending the meetings. In the first survey, board members were asked questions about their satisfaction with the work of the WMA and about the topics they became more knowledgeable about as a result of their involvement. Board members were also asked about the three biggest challenges and three most important successes in their watershed over the last five years and about the importance of collaboration with a number of IWA partners. In the second survey, board members were asked to indicate how important they thought each of a number of elements would be for their WMA over the next five years, and how confident they were in a number of statements related to their WMA’s future. The survey concluded with a series of questions asking what the WMA should focus on in the next five years, what resources will be needed to achieve that focus, what concerns might get in the way of that focus, and for any concluding comments.

Most results presented throughout the report are not broken out by WMA, except when answers differed dramatically between WMAs. For open-ended items, responses were coded and then organized by major themes. Illustrative quotes were selected to demonstrate the themes, and these quotes were selected from across all WMAs, with efforts made to select quotes from each WMA proportionally. All analysis of non-board member attendees are shared in the appendices.

Respondents

In total, 227 WMA Board Members were invited to complete the first survey. Of these, 56 (25%) provided at least partial responses to the survey, while 46 completed the entire survey. For the second survey, 238 Board Members were invited, with 68 completing the survey (there were no partially completed surveys for part 2). Tables 1 and 2 below summarize the response rate by WMA.

The board members who completed the first survey were representatives of counties (15 respondents, 27% of respondents), municipalities (25, 45%), and Soil and Water Conservation Districts (15, 27%). Most board members who completed the survey reported that the entities they represented were in areas eligible for IWA funding (34, 61%), while about a quarter reported they were not (15, 27%) and some reported being unsure (6, 11%). Similar percentages held in the second part of the survey.

Table 1: Survey 1: Board Member Response Rates

<table>
<thead>
<tr>
<th>Invited</th>
<th>At Least Partial Responses</th>
<th>Completed Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WMA</td>
<td>Invited</td>
<td>Completed Responses</td>
</tr>
<tr>
<td>----------------</td>
<td>---------</td>
<td>---------------------</td>
</tr>
<tr>
<td>East &amp; West</td>
<td>45</td>
<td>7 (16%)</td>
</tr>
<tr>
<td>Middle Cedar</td>
<td>41</td>
<td>8 (20%)</td>
</tr>
<tr>
<td>North Raccoon</td>
<td>61</td>
<td>14 (23%)</td>
</tr>
<tr>
<td>Upper Wapsi</td>
<td>41</td>
<td>11 (27%)</td>
</tr>
<tr>
<td>English River</td>
<td>21</td>
<td>6 (29%)</td>
</tr>
<tr>
<td>Clear Creek</td>
<td>11</td>
<td>5 (45%)</td>
</tr>
<tr>
<td>Upper Iowa</td>
<td>7</td>
<td>5 (71%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>227</strong></td>
<td><strong>56 (25%)</strong></td>
</tr>
</tbody>
</table>

Table 2: Survey 2: Board Member Response Rates

Those who completed the survey reported being active in their involvement in their WMA. In the first survey, 85% of respondents had served on their board for two or more years, and 93% reported attending a majority of their WMA’s meetings. In the second survey, 76% had served for two or more years and 97% reported attending a majority of their WMA’s meetings.
Perceptions of IWA

Perceived Importance of IWA Elements

Board members were asked to report how important they perceived various elements of the IWA program to be in their WMA’s work. Figure 1 displays the results, indicating that most board members perceived all elements of IWA—implementation funds, project coordinators, watershed plans, and administrative grant support—as important. At least 90% of all respondents thought each element was very or moderately important.

Implementation funds were perceived as important by the most respondents, with 39 board members describing the funds as very important, and only two describing them as only slightly or not important. Administrative grant support, the element seen as important by the smallest number of board members, was still described as very important by 28 members and as moderately important by eleven. For each element, only one member described them as not important, indicating a general agreement that each element of IWA was important to the work of the WMAs.

Figure 1: Board Member’s Perceived Importance of IWA Elements

Perceived Importance of IWA Partnerships

Similarly, board members were also asked to indicate how important their WMA’s collaboration with various IWA partners was to the WMA’s success. Figure 2 displays the results and indicates that all partner collaborations were seen as very or moderately important by at least 73% of respondents.

Figure 2: Board Member’s Perceived Importance of IWA Partnerships
The partnerships seen as important by the most respondents included the Iowa Flood Center (IFC), the Iowa Department of Agriculture and Land Stewardship (IDALS), the Flood Resilience Team (FRT), and the Iowa Department of Natural Resources (IDNR). Even the partnerships perceived as important by fewer respondents were still generally perceived as important, with only one to two respondents describing each partnership as not important.

**Partnerships Mentioned in the Survey:**
IFC: Iowa Flood Center  
IDALS: Iowa Department of Agriculture and Land Stewardship  
FRT: Flood Resilience Team  
IDNR: Iowa Department of Natural Resources  
IWC-DEP: Iowa Water Center- Daily Erosion Project  
ISU INRC: Iowa State University Iowa Nutrient Research Center  
ISU EO: Iowa State University Extension and Outreach  
IEDA: Iowa Economic Development Authority  
TPC: Tallgrass Prairie Center  
HSEMD: Iowa Department of Homeland Security and Emergency Management
Satisfaction with WMA’s Work

Satisfaction with Work Addressing Watershed Issues

Respondents were asked to indicate their level of satisfaction with the work of their WMA across a range of topics. Appendix B summarizes the full range of responses to these questions, while the responses to several key items are summarized below.

Figure 3: Satisfaction with WMA’s Work Addressing Watershed Issues

Respondents were asked to indicate their level of satisfaction with the WMA’s current work in addressing three watershed issues—flood mitigation, water quality problems, and soil health. As shown in Figure 3, a majority of respondents indicated that they were satisfied with the work of their WMA in addressing both flood mitigation and water quality, while most were neither satisfied nor dissatisfied with the work addressing soil health in their watershed. Across all three watershed issues, a minority of respondents were dissatisfied, between five and seven respondents for each issue.
Satisfaction with WMA’s Collaborations

Board members were also asked to indicate their satisfaction with their WMA’s efforts to build successful collaborations within their watershed, with other member representatives, with IWA partners, and with environmental non-profits and agriculture commodity groups. Figure 4 displays the range of responses. In general, more board members were satisfied with the collaborations their WMA developed than were not. However, fewer board members were satisfied with their collaborations with environmental non-profits and agricultural commodity groups than with other IWA partners and with each other.

Satisfaction with Other WMA Accomplishments

Board members were presented with a wide range of other WMA activities and accomplishments and asked to rate their satisfaction or dissatisfaction with each. Figure 5 displays the results.

Board members were especially satisfied with the creation and usefulness of their watershed plan, and with the WMA’s overall accomplishments and the ability to get buy-in from landowners. Board members were also generally satisfied with BMP implementation, including the effectiveness of the practices, the number implemented, and the types implemented, though satisfaction for these questions was not as high. Board members were least satisfied with public engagement in watershed issues, the ability to secure funding for future BMPs, and their WMA’s influence on state level policies.
### Figure 5: Board Member Satisfaction with Other WMA Accomplishments

<table>
<thead>
<tr>
<th>Category</th>
<th>Satisfied</th>
<th>Neither</th>
<th>Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process for creating your watershed plan</td>
<td>36</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Usefulness of your watershed plan</td>
<td>32</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Overall accomplishments of your WMA</td>
<td>28</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>Your WMAs ability to get buy-in from landowner</td>
<td>28</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>Types of new BMPs implemented</td>
<td>25</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Locations of new BMPs implemented</td>
<td>24</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td># of new BMPs implemented</td>
<td>24</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>Providing education and outreach to the general public</td>
<td>22</td>
<td>22</td>
<td>6</td>
</tr>
<tr>
<td>Effectiveness of new BMPs</td>
<td>21</td>
<td>23</td>
<td>5</td>
</tr>
<tr>
<td>Your WMAs input into locations for BMP implementation</td>
<td>19</td>
<td>24</td>
<td>4</td>
</tr>
<tr>
<td>Level of involvement of current WMA member entities</td>
<td>18</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>Increase in public knowledge of the impact of different land management practices</td>
<td>17</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>Engagement of the public in watershed issues</td>
<td>16</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td>Securing funding for future BMP</td>
<td>16</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>Public engagement in the WMA</td>
<td>13</td>
<td>26</td>
<td>11</td>
</tr>
<tr>
<td>Your WMA’s influence on state-level policies regarding water issues</td>
<td>6</td>
<td>28</td>
<td>13</td>
</tr>
</tbody>
</table>
Knowledge Gained through IWA

Growth in Knowledge of IWA Topics

Respondents were asked whether they agreed to having learned about various topics through their involvement with IWA. These topics included knowledge about issues in their watershed related to flooding, water quality, and soil health, and knowledge about how to address each of these issues. Additionally, board members were asked if they learned about the importance of collaboration within the watershed in general, and the importance of WMAs in particular. Figure 6 displays the number of respondents who agreed and disagreed with each of these statements.

Figure 6: Reported Growth in Knowledge About IWA Topics

- Ways to address flood problems: Agree 39, Neither 6, Disagree 2
- Flood problems in my watershed: Agree 36, Neither 6, Disagree 3
- Ways to address water quality: Agree 36, Neither 10, Disagree 1
- Water quality problems: Agree 35, Neither 10, Disagree 1
- Ways to address soil health: Agree 27, Neither 16, Disagree 2
- Soil health problems: Agree 28, Neither 14, Disagree 3
- The importance of collaboration within the watershed: Agree 34, Neither 9, Disagree 2
- The importance of WMAs: Agree 36, Neither 6, Disagree 4

topics through their involvement in IWA, and a majority agreed that they had learned about all topics listed. The greatest number indicated that they had learned about flood problems and ways to address them, while topics related to soil health saw a lower rate of agreement.

Most Important Things Learned

Respondents were also asked to describe the three most important things they learned in the last five years related to their WMA and its work in flood mitigation and water quality improvement. Forty-two board members provided answers to this question, and their answers are grouped below by the
major themes which emerged.

**Funding**

Ten board members emphasized the importance of funding as one of the most important things they learned. They described funding as essential to the work of the WMA, saying “It is difficult to address these issues without reliable funding” and “I think WMAs will not be successful, unless there are rules that they can enforce and there is secure funding.” Another said “there has never been sufficient monies for applying permanent practices. Even with the millions spent in the ERWMA, it covers a very small percentage of the total drainage area.”

**Buy-in from Landowners and the Public**

Nine board members emphasized the importance of buy-in from landowners and the public. One of these nine board members said “there is a lot of political support for watershed projects”, while the remaining eight simply described learning of the importance of securing this support from landowners and the public. One board member wrote that “landowner participation is critical to project success”, and another wrote “the WMA was formed so quickly out of a funding need, there wasn’t proper buy-in. Consequently, the sustainability of the WMA is in question now.”

**Water Knowledge**

Nine board described learning more about issues related to water, water quality, and flooding. One mentioned learning about “how much research happens on water quality and flooding locally”, while another described learning about how rain events are expected to become less common though more substantial in the near future.

**BMP Knowledge**

Eight board members described learning about BMPs including about what types of practices work best and the impacts they can have. The board members described this knowledge generally, saying that they learned, for example, “information about BMPs in agricultural areas”.

**Importance and Complexity of Collaboration**

Eight board members described learning about the importance and complexity of watershed scale collaborations. Board members highlighted a “constant need for collaboration and partnerships” while emphasizing that there are many “complexities [from] working across jurisdictions”. One board member wrote that there are “difficulties with a large group of entities getting things accomplished” while another concluded that “although the goal of water quality is common, the way to get to that goal is viewed differently by rural and urban representatives.”

**Others**

Smaller groups of board members described other important things they had learned, including who they can go to to ask questions about water issues (4 board members), the importance of a project coordinator for the WMA’s work (3 board members), and the interconnectedness of watershed issues (4 board members). Others described how they learned that voluntary approaches to watershed management are too slow to implement (3 board members) and that the process allowed them to
become more knowledgeable about the area contained within their watershed (2 board members).

Most Important Successes
Board member respondents were asked to describe “the three most important successes in your watershed in the last five years. Across all eight participating watersheds, a total of 37 board members provided answers to this question. Their responses described a range of successes, which we have sorted into three broad categories: successes related to building the WMA, successes related to the work of the WMA, and successes resulting from the work of the WMA.

Responses from each of these categories are summarized below.

Building the WMA
In reflecting on the three most important successes in their watershed, many board members emphasized the importance of the WMA itself, and the work that went into creating and operating the WMA.

Establishing the WMA
Five board members stated that the establishing of the WMA was an important success in their watershed, while others highlighted specific elements which made their WMA a success. One respondent described the most important success as “building out a new type of organization and watershed approach, [a] new model that may have [a] more localized/targeted approach”. Four board members specifically highlighted the importance of securing initial funding for the WMA.

Specific elements of the WMA formation process highlighted by other respondents included: collaboration within the WMA, the WMA project coordinators, and discussions around the future of the WMA.

Collaboration within the WMA
Eleven board members discussed the collaborations enabled by the WMA as one of the most important successes in their watershed. They described “having watershed partners at the same table” and “bring[ing] together the various entities from various coalitions, organizations, municipalities to collaborate and make decisions” as important successes. Other emphasized how the WMA’s boundaries followed the “actual natural landscape that impacts the watershed” rather than being “confined by boundary lines of counties.”

One board member also described how their WMA worked together to overcome obstacles, such as a project coordinator leaving.

WMA Project Coordinators
Seven respondents mentioned the hiring of a Project Coordinator as one of the most important successes in their watershed. These respondents described how “success in the watershed can be attributed” to their coordinators, and how “getting a coordinator on staff is the most important thing for the watershed. It shows the potential of what the WMA can achieve with dedicated project staff.” One
respondent also explicitly highlighted “flexibility in project management” as a success.

**Discussing the Future of the WMA**

Two board members stated that an important success was the emergence of discussions on potential future sources of funding for the WMA. They described this as important for the “sustainability of the WMA,” and saw maintaining the WMA as an important part of continuing this work going forward.

**Work of the WMA**

Board members also described the work of their WMA when discussing the most important successes in their watershed. The specific work they highlighted included the creation of watershed plans, the implementation of projects and related construction work, and the connections made with landowners in their watershed.

**Watershed Plan**

Eleven board members described the preparation and completion of their WMA’s watershed plan as one of the biggest successes.

Some of the eleven board members highlighting the watershed management plan as a success also expressed issues they had with the plan itself. One respondent said “We have a watershed plan. It has no funds, but we have a plan - that’s a start”, while another described the *development* of the plan as a success but noted that “the plan itself” was not a success as it “isn’t good.”

**Implementing Projects**

Twenty-three board members mentioned the implementation of projects as an important success in their watershed, the category with the highest number of responses.

Responses described the success as the “identification, funding, design, and implementation of rural BMPs” and as “getting work done on the ground to slow water flow in flooding rains”. Others cited specific types of projects such as “buffer strips [and] ponds” and “retention ponds”. One respondent provided further detail, saying “In particular many wetland projects are being constructed which is great for water quality, habitat, and flood mitigation. We need to see many more of these.” Another respondent mentioned the favorable bids their WMA received for the work done, and described the work itself as “done timely and neatly.”

**Landowner Connections**

Two board members described the connections built between the WMA and local landowners as a success in their watershed. One described the “great landowner interest in the project” and said that landowners’ “positive engagement will continue to build interest and participation.”

**Results of the WMA’s Work**

Respondents also described successes in terms of the things that have resulted from the WMA’s work. These responses highlighted the public attention brought to the project, and the water quality
improvements resulting from the practices implemented through the WMA.

**Water Quality**

Three respondents described improvements in water quality as major successes, with one explicitly tying the improved quality to the “impact of BMPs upstream”.

**Public Attention**

Six board members described a growth in public attentions to issues related to water quality, soil health, and flooding as a major success in their watershed. One described how the work of the WMA brought greater attention to the issues of “water quality, quantity, and recreational use”, while another emphasized an increased “awareness... about effects on people downstream”.

Another described how the WMA’s work has raised awareness about practices meant to address water quality, soil health, and flooding, saying “most importantly, we have communicated and will continue to communicate that the most cost effective and potent tool in flood reduction and landscape resiliency is regenerative agriculture and improving soil health. We have seen an increase in cover crops, for example, and hope that will lead to increased adoption of these practices”.

**Biggest Challenges**

Board members completing the survey were also asked to describe “the three biggest challenges in your watershed in the last five years.” Across all eight participating watersheds, a total of 37 board members provided answers to this question. Their responses described a range of challenges, which are summarized by category below.

**Funding**

With thirteen responses, funding was the challenge most commonly mentioned by board members. While many of these responses simply listed “funding” as a challenge, others provided more details and described difficulties in securing money for the WMA to implement projects after IWA. Three responses especially highlighted the importance of securing funding for a project coordinator going forward, with one saying the WMA “need[s] dollars for [a] coordinator more than implementation dollars.”

Others mentioned limitations of the funding received. For example, one board member described a “lack of funding for monitoring sites for both floods and water quality.” One respondent described how “WMAs began with the premise of no local cost for participation, yet there is [now] a push for financial contributions to maintain viability.”

**Getting Buy In**

Eleven responses described challenges related to gaining support for the work of the WMA. Most of these responses (seven) described difficulties finding landowners willing to implement practice on their land. As one respondent put it, a major challenge was “getting buy in from farmers... who control a majority of the watershed.... to adopt soil conservation practices.”

The remaining four responses in this category described the challenge of getting support from the
general public. One board member wrote that “many people outside the ag industry or community involvement simply are unaware that there are flooding and water quality problems in Iowa.” Another said “getting average people (not just landowners) excited about this project” was a challenge.

**Collaboration**

Eight responses mentioned challenges involving collaboration within the watershed. Responses described problems with “building a working coalition”, navigating competing agendas, and “conflicts and disagreement among members”. Five of these eight responses were from board members in the North Raccoon watershed.

**Loss of Project Coordinators**

Six responses from the North Raccoon, Upper Wapsi, and Middle Cedar watersheds describe losing their project coordinators as a major challenge. One respondent wrote that “with such little time remaining we won’t be able to rehire a coordinator. It’s a pretty big blow.”

**Leadership**

Five respondents pointed to the leadership of their WMA as a challenge. They described a range of issues, from a “lack of shared vision/goals” amongst leadership to a failure to communicate a “common vision for what the WMA could be”. Another described a “lack of meaningful/informed decisions by the board,” but said this was partially balanced by “an excellent coordinator and technical staff from cities/partner agencies”.

One response in North Raccoon described “the inability of the WMA leadership to gain the trust of upstream stakeholders... [one cause] is the unwillingness of leadership to listen and accommodate different perspectives.”

**Participation of the Board**

Four responses, plus an additional response from elsewhere in the survey, describe limited participation as a major challenge. As one response described, “at first attendance at the meetings was impressive. But over time, people seemed to get bored by the watershed plan discussions. Attendance waned precipitously over the past year. This challenge has not been overcome, we barely make quorum”. Another agreed with this sentiment, saying “the initial interest level was great but seemed to stagnate as we struggled to get projects started.”

**COVID-19**

Four board members mentioned the COVID-19 pandemic as a major challenge. One board member said the transition to virtual meetings was a challenge as “not everyone is comfortable with remote meetings”. Another described additional ways in which the pandemic affected the work of the WMA, including “an impact on contractors and actual work.”

**Timeline**

Three respondents described the beginning of the IWA program as a challenge, as it took “time... to ‘ramp up’ the WMA. The impactful work is finally getting underway”. Another response echoed this, writing “gaining initial momentum [was a challenge], getting the word out and finding good projects and
A fourth respondent described the impatience of the WMA as a challenge, writing that the board was impatient and actively resisted “giving implementation of the Nutrient Reduction Strategy the time needed to be fully implemented.”

Balancing the Distribution of Practices
Three responses, plus an additional response from elsewhere in the survey, describe challenges related to distributing projects evenly throughout the watershed. One respondent wrote “the project funding in the lower geographic areas of the WMA left some dissatisfaction with members as it does not include all areas of the WMA”, while another said that there was “no effort to curtail flooding in metropolitan areas”.

Red Tape
Three responses described challenges arising from requirements and specifications tied to the program’s funding. The responses described delays due to “environmental studies” and “getting through all of the different requirements/steps to get a project started”.

Others
One board member from Clear Creek described a significant learning curve when it comes to understanding agricultural BMPs and said this was a challenge early in the process. A board member from Upper Iowa also described the karst geology of their watershed as a challenge, given that this “often ruled out constructing BMPs further down in the watersheds where shallow bedrock or sinkholes were prevalent. That feature limited our options, so we focused on options higher up in the watershed with the advantage being that projects were smaller and less costly, but were also more likely to interfere with productive crop land”.

WMA Perceptions Change
Board members were asked “in what ways (if any) has your perception of this WMA changed through time?” Twenty-nine board members provided responses. Eight of these responses described perceptions that changed for the better, while ten described worsening perceptions.

Positive
The eight board members who described positive changes in their perception of their WMA mostly emphasized how the WMA had achieved more than they had expected. One wrote that they were “pleased to say that it has accomplished more than I thought possible.” Another described how the WMA was slow to act at first as “we had no idea what we were doing,” but that through collaborations and the efforts of the WMA they were now “pleased to see results”.

Negative
Nine of the ten board members who described worsening perceptions of their WMA were from the North Raccoon watershed. These board members generally described “insurmountable differences between rural and urban” that emerged even after a promising start to the organization. One wrote that the WMA “had so much promise until it devolved into a polarized final group. Leadership needed to step
up and run the meeting, get stakeholders involved, etc.” Another board member added that “conflicts of interest, bullying behaviors, partisan activities have undermined the ability to build trust and understanding with the upstream stakeholders.”

One board member also described a worsening perception of their WMA, saying “I was very inspired by the WMA at first... there was very strong leadership originally. However, this all began to wane within a couple years, people just started to lose interest and move on.”

Reflections

In response to this question, eleven board members offered general reflections on their WMA, writing:

- Every Community has their unique Issues
- As our WMA has matured, it is evident there is a desire to move forward. However, financial limitations pose a serious threat to the viability of the group. I am concerned there will be a loss of interest if there are no funds to address issues.
- It takes time to generate results and getting the most done for the dollars.
- Impressed by dedication of those who participate regularly.
- Work gets done only if we have a Coordinator with funding!
- The HUD project was a very innovative and exciting. It would be a nice follow up to provide staffing dollars and no implementation dollars. See how much additional projects could get implemented.
- A lot of work needs to be done by a lot of people with funding.
- I've got a better appreciation for the work they do and have done.
- Watershed changes are a slow process with many change, challenges and road blocks
- Partnerships help us all do better in our communities. I knew that but now I feel like its really been proven.
- The importance, generally, of the organization.

Importance of Elements to Future Work

In the second survey of board members, participants were asked to indicate their perception of the importance of a number of elements to the success of their WMA in the next five years. Across most watersheds, board members agreed that continuing public education, securing funding for the WMA, and maintaining and expanding collaborations would be important to the success of their WMA over the next five years. Most board members also said that organizational changes (adding more members to the WMA, changing the 28e agreement, etc) were not important.

The following table indicates the consensus views of board members from five watersheds as well as the overall average. The overall WMA average includes two responses (one each) from English River and Upper Iowa which are not broken out separately.

<table>
<thead>
<tr>
<th>Legend:</th>
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<tbody>
<tr>
<td>High consensus of very important</td>
<td>Overall neutral, leaning</td>
<td>General consensus of very important</td>
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</table>
General consensus of not important
Table 3: Perceived Importance of WMA Elements to Future Efforts

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<th>Element</th>
<th>Clear Creek</th>
<th>Nishnabotna</th>
<th>Middle Cedar</th>
<th>North Raccoon</th>
<th>Upper Wapsi</th>
<th>All WMAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintaining collaborations with current partners</td>
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<td>✅</td>
<td>✅</td>
<td></td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Increasing public knowledge of water quality or soil health issues</td>
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<td>✅</td>
<td>✅</td>
<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Securing financial support to implement additional BMPs</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Maintaining collaboration with current WMA member entities</td>
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<td>✅</td>
<td>✅</td>
<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
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<td>✅</td>
<td>✅</td>
<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Becoming more familiar with sources of funding for water quality improvement or soil health</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Securing financial support for administration of WMA projects</td>
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<td>✅</td>
<td>✅</td>
<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Securing financial support for a watershed project coordinator</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Working to make policy changes at the state level</td>
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<td>✅</td>
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<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Increasing public knowledge of flooding issues</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Increasing public involvement in your WMA</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>'..',</td>
<td>✅</td>
<td>✅</td>
</tr>
<tr>
<td>Establishing relationships with new partners</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>---------------------------------------------</td>
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<td>---</td>
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<td>Becoming more familiar with sources of funding for flood mitigation</td>
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<td></td>
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<tr>
<td>Expanding partnerships with current WMA member entities</td>
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<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Increasing the involvement level of current WMA members</td>
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<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Improving the organizational effectiveness of your WMA</td>
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<td>✓</td>
</tr>
<tr>
<td>Making use of your watershed plan in areas that were not part of IWA</td>
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<td></td>
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<tr>
<td>Integrating your watershed plan with county hazard mitigation plans</td>
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<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Organizing new committees within your WMA for future work</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increasing membership in your WMA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Making changes to your 28e agreement</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
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</table>
Confidence in Future of WMA

Board members were also asked to express their degree of confidence in a number of statements about the future of their WMA. Overall, there was a general lack of confidence in most of the questions, with only the Clear Creek board members highly confident in any one item. Board members were not confident in their WMA’s ability to exist after IWA funding or to secure resources for a project coordinator.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Clear Creek</th>
<th>Nishnabotna</th>
<th>Middle Cedar</th>
<th>North Raccoon</th>
<th>Upper Wapsi</th>
<th>All WMAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our WMA will continue to exist as an organization after the IWA funding is complete.</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
</tr>
<tr>
<td>My member entity has the resources to help support a project coordinator position once IWA is complete.</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
</tr>
<tr>
<td>There are enough interested landowners in our watershed to continue pursuing additional BMP implementation.</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
</tr>
<tr>
<td>I plan to continue to work with our WMA after IWA funding is complete.</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
<td>🌟</td>
</tr>
</tbody>
</table>

**Legend:**
- 🌟 **High consensus of confidence**
- 🌟 🌟 **General consensus of confidence**
- 🌟 🌟 🌟 🌟 🌟 **Overall neutral, leaning moderately confident**
- 🌟 🌟 🌟 🌟 **Fairly neutral**
- 🌟 🌟 🌟 🌟 🌟 🌟 **General consensus of little confidence**
5-Year Focus
Board members were asked what they believed their WMA should be focusing on in the next 5 years. Fifty board members provided a response, and these responses are summarized below.

Funding
Twenty-one board members said that securing stable funding should be the primary focus for their WMA in the next five years. Of these, six board members specifically said that funding for a project coordinator should be a priority.

Continue Efforts
Twenty-nine board members said that their WMA should focus on continuing to pursue funding to implement projects like the ones currently being implemented. One board member wrote that the focus should be on “build[ing] on the momentum we have achieved and aggressively seek[ing] more funding for projects”.

Others
One board member said their WMA should focus on education and public outreach. Four board members said that their WMA should focus on expanding their focus by implementing projects in new areas within their watershed and expanding membership within the watershed. Three board members from North Raccoon suggested more fundamental changes to the WMA. One wrote “meet annually only to maintain plan. Allow HUC12s to do own plan developments. Above all, reduce goals to Iowa Nutrient Reduction Strategy levels,” while another said “make this a county issue, go back to local control.” The third respondent suggested dividing the watershed into a rural and an urban watershed, concluding “I don't think people in the metro area should be on the board as a voting member!”

Needed Resources
Based on their answers to the previous question (about what the WMA should focus on for the next five years), board members were asked “what collaborations, partnerships, or resources will be necessary for your watershed to make this a reality?” Thirty-nine board members provided a response, and their answers are categorized by major theme below.

Funding
By far, funding was the resource mentioned most often by board members. Twenty board members mentioned funding as a necessary resource for their WMA, with twelve specifically mentioning some form of state funding as needed.

Buy-in
Eight board members described buy-in from landowners, counties, and the public as necessary for the future work of their WMA.
Others
Four board members from North Raccoon again suggested fundamental changes to the structure of WMAs, as described in the previous section. One board member from Nishnabotna said that the WMA needed a proven grant writer. Other board members from across watersheds described a need for continued collaborations (four board members) and a project coordinator (three board members).

Concerns
Board members were also asked “What concerns (if any) do you have about your WMA’s ability to move forward on those focus areas?” Forty-two board members provided a response, and these responses are summarized by major theme below:

Funding
Nineteen board members described concerns around the WMA’s ability to secure funding after IWA. These concerns were mentioned in every watershed except Clear Creek and English River (there was only one response to this question from the English River watershed, however). A board member described the general concern, writing “without funding or funding sources the ability to move forward is very limited.” Meanwhile, another board member described how they struggled to find funding for the WMA from their member entities, “our WMA does not have a large city that we can leverage some of their resources like other WMAs do.”

Membership
Five board members described concerns related to their WMA’s member entities. These comments related to a lack of representation from county conservation boards (one comment from Upper Wapsi), conflicts of interest for WMA leaders (one comment from North Raccoon), divisions between rural and urban representatives (one comment from North Raccoon), the overly large size of committees (one comment from North Raccoon), and a lack of attendance from some members (one comment from Middle Cedar).

State Involvement
Four board members expressed concern that the Iowa state government did not seem likely to provide funding for WMAs. One comment summarized these concerns, writing “state legislators have not shown much concern for the future of WMAs.”

Others
One North Raccoon board member wrote that the work of the WMA has not been publicized well, while two board members (from Clear Creek and Upper Wapsi) expressed concerns about securing landowner buy-in. Three board members (two from North Raccoon and one from Middle Cedar) described a concern that watershed issues are not being prioritized in general, with the Middle Cedar member writing that these issues are “not on anyone's priority list.”

Other Comments
Across both surveys, a total of 41 board members offered additional comments at the conclusion of the survey. These comments are organized by the major themes which emerged.
General Positive Remarks
Sixteen board members across both surveys offered general, positive remarks. One board member, from Upper Iowa, wrote “I am deeply grateful for the chance to demonstrate that understanding and harmonizing with nature and natural processes is better for our future and for our economic bottom line.” Eight of these comments specifically offered encouragement for WMAs to continue. As one board member wrote, “we need the IWA to continue. The IFC and the IWA project has been the most influential partnership that municipalities have had to reduce flooding and improve our local water quality.” Another emphasized the importance of continuing this work, writing “we have to get this figured out for the next generations”.

Conflicting Views on North Raccoon
Across both surveys, eleven comments from North Raccoon board members expressed a wide range of views on the value and future of their WMA. A few comments expressed tepid hope for the future of the WMA, writing “I just hope the IWA team doesn't give up on the North Raccoon” and “I think the organization is torn between two factions; however I have confidence in the current lead in making things fair.” However, most viewed the WMA as a lost cause or as misguided or unnecessary. One board member wrote that the WMA was “not worth the continuing effort” and encouraged IWA planners to spend money and resources in watershed where “success can be achieved.” Another wrote that “the NRRWMA should be abandoned. It has accomplished the one goal it had, to produce a watershed management plan. The purposes of the WMA can be fully implemented by the counties, cities and SWCDs using existing authorities. The IWA is not an effective means for advancing water quality improvements in Iowa.” This sentiment of devolving the role of the WMA to other entities was echoed by three other comments in North Raccoon (but none in other watersheds).

Funding
Five comments again emphasized that ongoing funding would be needed to continue the work of their WMA. Three of these comments specifically mentioned a need for ongoing support from the state or federal government.

Others
Board members offered a range of suggestions for future changes to their WMA, including shorter meetings (mentioned by 1 board member), renewed participation from WMA members (1 board member), increasing the types of practices covered (1 board member), increasing outreach to the public and to landowners (2 board members) and maintaining and expanding collaborations (2 board members).
Appendices

Appendix A: Evaluation Questions Addressed

Overall
1. What does the overall implementation of the IWA actually look like?

WMAs
2. What are the characteristics of the WMAs?
   o Who are the official members?
   o What is the structure (committees, leadership, boards, etc.)?
3. What does the work of the WMAs look like?
   o What kinds of participation are there by voting and non-voting groups (e.g. non-profits, conservation groups)?
   o In what way(s) does the work of WMAs differ?
   o What influence are WMAs able to have on state policy?

4. Current and future success
   o What are the short-term and long-term goals of the WMAs?
   o What does the WMA board need in order to be successful?
   o What is the role of the RC&D with respect to the success of the WMAs?
5. How are WMAs going to continue to lead efforts for water resources management after HUD funding ends?
   o Funding mechanisms
   o Staff support

Project Coordinators (PCs)
6. How do PCs interact with the WMA?

Best Management Practices (BMPs)
7. What is the level of landowner interest and engagement in conservation practices relative to available funding?
8. What are the challenges and successes related to the implementation of BMPs in the various watersheds?

IWA Partners and Leverage Partners
9. What are the roles and contributions of the IWA partners across the WMAs and/or Iowa?

Dissemination and Sustainability
10. In what way have the IWA Partners disseminated the lessons learned and promoted replicability of the watershed approach within and beyond Iowa?
11. What is the role of the WMAs of Iowa in the sustainability of the Watershed Approach?

Context or Mitigating Factors
12. What external factors influenced the progress or success of IWA as a whole? How did those factors change IWA’s implementation or outcomes? [High-level, vision of IWA]
## Appendix B: Attendee and Board Member Satisfaction with WMA Work

<table>
<thead>
<tr>
<th>Area</th>
<th>Attendees</th>
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<th>Board Members</th>
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<td>Dissatisfied</td>
<td>Neither</td>
<td>Satisfied</td>
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<td>Building successful collaborations within the watershed</td>
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<td>19</td>
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<td>-</td>
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<td>Securing funding for a WMA project coordinator</td>
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<td>-</td>
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<td>Your WMAs ability to get buy-in from landowner</td>
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<tr>
<th><strong>Board Members</strong></th>
<th>Dissatisfied</th>
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<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of involvement of current WMA member entities</td>
<td>13</td>
<td>19</td>
<td>18</td>
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</tr>
<tr>
<td>Efforts to involve other potential entities within your watershed who are not currently WMA member entities</td>
<td>6</td>
<td>29</td>
<td>11</td>
<td>3</td>
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<tr>
<td>Process for creating your watershed plan</td>
<td>4</td>
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<td>36</td>
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<tr>
<td>Usefulness of your watershed plan</td>
<td>3</td>
<td>12</td>
<td>32</td>
<td>3</td>
</tr>
<tr>
<td>Clarity of your WMA’s goals</td>
<td>3</td>
<td>8</td>
<td>39</td>
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</tr>
<tr>
<td>Ability to carry out IWA timeline</td>
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</tr>
<tr>
<td>Fulfillment of the HUD grant requirements for IWA</td>
<td>5</td>
<td>10</td>
<td>34</td>
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<tr>
<td>Overall accomplishments of IWA in your watershed</td>
<td>6</td>
<td>15</td>
<td>29</td>
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</tr>
<tr>
<td>Overall accomplishments of your WMA</td>
<td>6</td>
<td>16</td>
<td>28</td>
<td>0</td>
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<tr>
<td>Clarity of IWA goals</td>
<td>2</td>
<td>14</td>
<td>33</td>
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<tr>
<td>Your WMA’s influence on state-level policies regarding water issues</td>
<td>13</td>
<td>28</td>
<td>6</td>
<td>2</td>
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</table>
## Appendix C: Attendee and Board Member Knowledge Gained

"As a result of being involved in our WMA for all or part of the last five years, I am more knowledgeable about ____________.

<table>
<thead>
<tr>
<th></th>
<th>Attendees</th>
<th></th>
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<th></th>
<th>Board Members</th>
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<th></th>
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</thead>
<tbody>
<tr>
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<td>Agree</td>
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<td>Disagree</td>
<td>Neither</td>
<td>Agree</td>
<td>N/A</td>
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<tr>
<td><strong>Flood Mitigation</strong></td>
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<td></td>
<td></td>
<td></td>
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<td>Flood problems in my watershed</td>
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<td>8</td>
<td>3</td>
<td>3</td>
<td>6</td>
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<td>1</td>
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<td>1</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>39</td>
<td>2</td>
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<tr>
<td><strong>Water Quality Problems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Water quality issues in my watershed</td>
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<td>2</td>
<td>10</td>
<td>2</td>
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<td>10</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>Ways in which my WMA can help address water quality problems</td>
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<td>10</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>36</td>
<td>0</td>
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<tr>
<td><strong>Soil Health</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Soil health problems in my watershed</td>
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<td>4</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>14</td>
<td>28</td>
<td>1</td>
</tr>
<tr>
<td>Ways in which my WMA can help address soil health problems</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>16</td>
<td>27</td>
<td>1</td>
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<tr>
<td><strong>WMAs</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The importance of WMAs as organizations</td>
<td>3</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>36</td>
<td>0</td>
</tr>
<tr>
<td>Ways in which collaborating with other entities in my watershed is important</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>34</td>
<td>0</td>
</tr>
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</table>
Appendix D: Attendee’s Reported Reasons for Attending

<table>
<thead>
<tr>
<th>Reason</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your Org’s Interest in Water Quality</td>
<td>12</td>
</tr>
<tr>
<td>Interest in Flood Mitigation</td>
<td>11</td>
</tr>
<tr>
<td>Interest in Water Quality</td>
<td>11</td>
</tr>
<tr>
<td>Interest in Soil Health</td>
<td>9</td>
</tr>
<tr>
<td>Your Org's Interest in Flood Mit</td>
<td>9</td>
</tr>
<tr>
<td>Your Org's Interest in Soil Health</td>
<td>9</td>
</tr>
<tr>
<td>Representing an Org</td>
<td>7</td>
</tr>
<tr>
<td>Your Role in WMA</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
</tr>
</tbody>
</table>
Appendix E: Attendee’s Advice for the WMA

Attendees were asked to share any advice that they, or their organization, had for their WMA. Seven attendees provided the following advice:

- keep looking for funding options (CC)
- Look more towards internal funding if possible (NR)
- Hold your planning groups accountable instead of letting them talk their way out of it. (NR)
- Inactive, disinterested members should withdraw and let members who have a serious commitment to trying to make improvements get on with the task at hand. (NR)
- Need to cut down the size of entities involved (NR)
- broaden the types of practices that can be funded. Many landowners are willing to implement non-structural practices. Invest in soil health practices that will increase the water holding capacity of soil. Things like crop diversity, no till, cover crops, can build soil structure and increase water holding capacity. Typically these practices are less expensive but can have a great impact, reach more landowners/land. Also, by increasing the soils ability to hold water and provide crops that grow (and store water) in more seasons, we will increase the longevity of the structural practices we currently have on our landscape. (UI)
- Keep Informed (UW)
Introduction and Methods
As part of the ongoing Iowa Watershed Approach (IWA) program evaluation, the Center for Evaluation and Assessment (CEA) conducted an online survey of the IWA WMA consultants in Summer 2021. The purpose of this survey was to learn about consulting organizations’ experiences working on IWA and capture feedback about what worked, what did not work, and what the impacts of IWA may be. With respect to this survey, consulting organizations are groups which were contracted to work for one or more WMA with funding provided by IWA. This group did not include construction contractors who were not directly involved in the function of the WMA.

Survey
The survey questions were developed based on preliminary interviews with key consultants and in alignment with the IWA evaluation questions. The survey instrument (see Appendix A) was also revised in collaboration with Kate Giannini from Iowa Flood Center (IFC) to increase the utility of the information gathered. The survey (see Appendix B) invited respondents to consider their level of satisfaction related to different aspects of their work, reflect on what worked and did not work, and describe other takeaways related to the impacts of external factors, lessons learned in the process, and the future impacts of IWA.
Participants

On July 19, 2021, a CEA team member sent email invitations to the survey to a total of 28 individuals from 18 teams which consulted for one or more of the IWA WMAs. Between one and three individuals from each organization were invited to participate. One reminder email invitation was sent on July 26, 2021. The survey was open until August 11, 2021 to allow sufficient time for participants to respond. In total, 14 participants completed all or part of the survey. This is 54% of the invited individuals who were still in their roles at the time of the second reminder (N=26).

The participants were asked to select the IWA watersheds with whom they had worked. The distribution of participants in each of the WMAs is illustrated in Table 1. Five watersheds are represented by five consultants. The remaining four watersheds were represented by three or fewer respondents.

Participants were also asked to select the roles that they served for any of the IWA WMAs. The distribution of participants in each of the role is illustrated in Table 1. Respondents most frequently indicated being planners (i.e., flood resilience, HUC 8, HUC 12), with 10 individuals selecting one or both of these planning roles.

How to review this report

CEA designed this report to provide a brief overview of consultants’ perceptions of IWA with respect to four IWA evaluation questions:

- What did the overall implementation of IWA look like?
- What is the overall impact of IWA in Iowa?
- What aspects of IWA appear to be most replicable within and beyond Iowa?
- What was the context in which IWA operated between 2016-2022?

Each section of this report provides a synthesis of information from across the consultant survey and includes a reference to relevant appendices for more detailed information.

Table 1: Rates that survey participants worked with each of the WMAs

<table>
<thead>
<tr>
<th>IWA watersheds</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear Creek</td>
<td>5</td>
<td>36%</td>
</tr>
<tr>
<td>Middle Cedar River</td>
<td>5</td>
<td>36%</td>
</tr>
<tr>
<td>North Raccoon River</td>
<td>5</td>
<td>36%</td>
</tr>
<tr>
<td>Upper Iowa River</td>
<td>5</td>
<td>36%</td>
</tr>
<tr>
<td>Upper Wapsipinicon River</td>
<td>5</td>
<td>36%</td>
</tr>
<tr>
<td>English River</td>
<td>3</td>
<td>21%</td>
</tr>
<tr>
<td>Bee Branch Creek (Dubuque)</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>East Nishnabotna River</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>West Nishnabotna River</td>
<td>1</td>
<td>7%</td>
</tr>
</tbody>
</table>

Note: Since the participants could select all that apply, frequencies and percentages will not sum to 14 and 100, respectively. Out of the 14 respondents, eight served in multiple watersheds.
**Table 2:** Rates that survey participants served different roles in the WMAs

<table>
<thead>
<tr>
<th>WMA roles</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood resilience planning</td>
<td>7</td>
<td>50%</td>
</tr>
<tr>
<td>HUC 8 or HUC 12 watershed planning</td>
<td>5</td>
<td>36%</td>
</tr>
<tr>
<td>Engineering</td>
<td>4</td>
<td>29%</td>
</tr>
<tr>
<td>Liaison with construction contractors</td>
<td>2</td>
<td>14%</td>
</tr>
<tr>
<td>Grant administration</td>
<td>2</td>
<td>14%</td>
</tr>
<tr>
<td>Archaeological review</td>
<td>1</td>
<td>7%</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specified text: permitting, site reviews</td>
<td>1</td>
<td>7%</td>
</tr>
</tbody>
</table>

_Note:_ Since the participants could select all that apply, frequencies and percentages will not sum to 14 and 100, respectively. Out of the 14 participants, four served multiple roles.
What did the overall implementation of IWA look like?
Within this survey, the implementation of IWA was largely represented in respondents’ discussions of the program aspects that worked, that did not work, and lessons learned.

What worked
When describing what worked about the IWA, respondents largely described reflections on the process of IWA and the collaborations embedded within that process.

- **Process and products:**
  - Specific strategies and successes (i.e., working with landowners and developing project designs, using social media for marketing and outreach, putting the watershed plan online to improve access, working through a long process to develop a “good product”)
  - IWA support and program successes (i.e., flexibility to try out different strategies, providing funding to local project partners, “getting actual flood reduction practices on the ground”)

- **Collaboration:** Support from state-level IWA partners, interactions with local partners, engagement from local landowners

[See Appendix C for more information.]

In addition, most respondents described being satisfied with the following aspects of the IWA process: collaborations; billing, bidding, and scoping; timeline; selection and contracting processes; software; methodologies of the work; archaeological review processes; and rules of the funding source. On average, most respondents were satisfied with collaboration or coordination with construction contractors, local partners, members of the public, and state-level partners. [See Appendix B for more information.]

What did not work
When describing what didn’t work about the IWA, respondents described aspects of the program related to the process of IWA, collaborations in that process, funding, time, and federal rules.

- **Process and products:**
  - Specific processes (i.e., US Army Corps of Engineers permitting, archaeological review scale, land acquisition using imminent domain, and siting projects and recruiting landowners)
  - Locations of qualifying areas
  - Setting expectations for work deliverables
  - Missed opportunities

- **Collaboration:** Engagement from local landowners, urban/rural divide, lack of local ownership in the watershed plan, local staff turnover

- **Funding:** Access to funding for consultants was cumbersome, planning budgets were insufficient, additional federal processes cost extra, and the local match for the cost share was too much for some landowners

- **Time:** Reviews and processes took longer than expected

- **Federal rules:** Aligning IWA to HUD rules, HUD’s requirements for environmental review, and NRCS design standards for practices

[See Appendix C for more information.]
In addition, most respondents described being dissatisfied with the following aspects of the IWA process: USACE permitting, and environmental review process. [See Appendix B for more information.]

Finally, some respondents had nuanced reactions to specific aspects of IWA (i.e., increasing cost share from 75% to 90% federal contribution and the consultants being engaged in practice design early on in landowner interactions) or commented that they had varied experiences working across different watersheds. [See Appendix C for more information.]

Lessons learned
When considering lessons learned, a prominent theme emerged: additional funding will be necessary to continue moving this work forward and to keep consultants engaged, maintain staff for the WMAs, and fund projects to leverage the interest of property owners. In their responses, consultants described
- A need for local, federal, state, and grant funding for this work
- Specific concerns related to the types of funding—one described a need for more permanent state funding to address flooding, and another emphasized that local funding is not sustainable for counties or SWCDs that may be involved in two or more WMAs
[See Appendices E & J for more information.]

Additional lessons learned were related to the importance of setting expectations and communicating with stakeholders, establishing buy-in and engagement at the local level, and integrating all aspects of water resources management—including decision structure and funding—into a holistic approach. [See Appendices E & F for more information.]

What is the overall impact of IWA in Iowa?
Responding consultants provided their perspective on the overall impact of IWA in Iowa, as well as reflections on how the IWA has shaped their own.

Impacts of IWA overall
Some consultants addressed specific impacts of IWA in Iowa, focusing on the potential flooding and water quality impacts as well as building capacity for future work within the watersheds. While the respondents that specifically commented on the physical impacts of IWA had mixed opinions about the magnitude of that impact, the respondents that talked about capacity within the watersheds described improvements related to the activity of their WMA, sharing of information among stakeholders, and the value of education and outreach. [See Appendix G for more information.]

Some respondents spoke of impacts more generally, in mixed to positive terms. A few respondents offered tempered responses about the future impacts of IWA. For example, one respondent said, “Today it will be limited, but it is a right step into the future.” Alternatively, some respondents highlighted the successes of IWA in general terms. These comments included “Amazing project. Hope the momentum can continue” and “I think IWA has been pretty powerful.” [See Appendix G for more information.]
Respondents that focused on a path forward for the IWA watersheds recommended the following: using the measured impacts of IWA to understand the work still left to be done, learning from challenges and experiences in the IWA watersheds, maintaining support for WMAs, and finding permanent funding to continue implementing projects. [See Appendices G & I for more information.]

**Impacts for consultants**

Nearly half of the respondents described ways that they could continue to engage directly in the work that they’ve done for IWA, while a few described next steps building on the work their organizations did for IWA. When describing these opportunities to continue or build, more than half of the respondents described the necessity of funding to move forward. [See Appendix E for more information.]

**What aspects of IWA appear to be most replicable within and beyond Iowa?**

Looking to the future of water resource management work within and beyond Iowa, most respondents indicated that flood mitigation should be addressed at the watershed scale. In addition, at least one third of all respondents agreed that all listed aspects of IWA are replicable within Iowa. These aspects included establishing WMAs, maintaining the viability of the WMAs, focusing on water quality at the watershed level, IWA’s logistics for project applications and implementation, development of Flood Resilience Action Plans, development of watershed management plans, and collaboration between urban and rural stakeholders. There was less agreement on which aspects seem most replicable outside of Iowa. [See Appendix H for more information.]

**What was the context in which IWA operated between 2016-2022?**

When presented with a list of issues that may have impacted their work on IWA, half of the survey respondents indicated that delays from other organizations impacted their work. In addition, at least one individual selected each of the following: COVID-19, permitting requirements, the 2020 derecho, economic factors, and burdensome federal administrative requirements for the grant. [See Appendix D for more information.]

When given the opportunity to reflect in their own words on the impacts of IWA, a few respondents provided comments about the context surrounding IWA which could affect its impacts. One respondent focused on the scale of the problem, especially in light of climate change, and how difficult it is to access the amount of funding needed to properly address flooding. Another respondent also mentioned the worsening environment but focused more on the alteration Iowa’s landscape: “It seems we are swimming upstream given how fast Iowa’s landscape continues to be altered in ways that destroy flood resilience and water quality.” [See Appendix F for more information.]
Appendices

Appendix A – Survey Instrument

IWA Consultant Survey 2021

Start of Block: Welcome Bloc

Q1 This survey is being conducted by the University of Iowa's Center for Evaluation and Assessment as part of the evaluation of the Iowa Watershed Approach (IWA). The purpose of the survey is to understand your organization’s experience working on IWA and capture feedback about what worked, what didn’t work, and what the impacts of IWA may be.

Participating in this survey is voluntary, and you may skip any questions you do not feel comfortable answering. Please note that results will only be aggregated by organization role or watershed, never both, and no organization will be identified by name when reporting results. This will limit the possibility of identifiability. The survey should take you less than 15 minutes to complete. You may complete the survey all at once or, if you access the survey from the same computer or smartphone, you can start the survey and come back to it later.

Please contact Valerie Decker (valerie-decker@uiowa.edu) if you have questions about this survey.

Thank you in advance for your time and your honest feedback about IWA.

End of Block: Welcome Bloc

Start of Block: Demographics
Q3 Please select your organization’s role(s) in any IWA WMAs. (Select all that apply)

☐ Archaeological review (1)

☐ Engineering (2)

☐ Grant administration (3)

☐ Liaison with construction contractors (4)

☐ HUC 8 or HUC 12 watershed planning (5)

☐ Flood resilience planning (6)

☐ Other, please specify: (7) ________________________________________________
Q4 Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply)

- Clear Creek (1)
- Dubuque / Bee Branch Creek (2)
- East Nishnabotna River (3)
- English River (4)
- Middle Cedar River (5)
- North Raccoon River (6)
- Upper Iowa River (7)
- Upper Wapsipinicon River (8)
- West Nishnabotna River (9)

End of Block: Demographics

Start of Block: Reflecting on Implementation of IWA-1

Display This Question:

If Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply) = Clear Creek

Q8 Please rate your organization’s satisfaction or dissatisfaction with the coordination or communication with the following groups for the Clear Creek watershed.
If your organization did not interact with members from a specific group, select "Not Applicable."

<table>
<thead>
<tr>
<th></th>
<th>Very Dissatisfied (1)</th>
<th>Dissatisfied (2)</th>
<th>Satisfied (3)</th>
<th>Very Satisfied (4)</th>
<th>Not Applicable (5)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Coordination with construction contractors (2)</td>
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<td>○</td>
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<td>○</td>
</tr>
<tr>
<td>Coordination with local partners (PC, WMA, other consultants) (3)</td>
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<td>○</td>
<td>○</td>
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<td>Coordination with state-level partners (4)</td>
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<td>Other, please specify (5)</td>
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<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Display This Question:

If Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply) = Dubuque / Bee Branch Creek

Q9 Please rate your organization’s satisfaction or dissatisfaction with the coordination or communication with the following groups for the Dubuque/Bee Branch Creek watershed.
If your organization did not interact with members from a specific group, select "Not Applicable."

<table>
<thead>
<tr>
<th></th>
<th>Very Dissatisfied (1)</th>
<th>Dissatisfied (2)</th>
<th>Satisfied (3)</th>
<th>Very Satisfied (4)</th>
<th>Not Applicable (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication with members of the public (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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</tr>
<tr>
<td>Coordination with construction contractors (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Coordination with local partners (PC, WMA, other consultants) (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Coordination with state-level partners (4)</td>
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<td>○</td>
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<tr>
<td>Other, please specify (5)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Display This Question:

If Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply) = East Nishnabotna River

Q10 Please rate your organization’s satisfaction or dissatisfaction with the coordination or communication with the following groups for the East Nishnabotna River watershed.
If your organization did not interact with members from a specific group, select "Not Applicable."

<table>
<thead>
<tr>
<th></th>
<th>Very Dissatisfied (1)</th>
<th>Dissatisfied (2)</th>
<th>Satisfied (3)</th>
<th>Very Satisfied (4)</th>
<th>Not Applicable (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication with members of the public (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordination with construction contractors (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordination with local partners (PC, WMA, other consultants) (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordination with state-level partners (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other, please specify (5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Display This Question:

If Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply) = English River

Q11 Please rate your organization’s satisfaction or dissatisfaction with the coordination or communication with the following groups for the English River watershed.
If your organization did not interact with members from a specific group, select "Not Applicable."

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<th>Very Dissatisfied (1)</th>
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<th>Satisfied (3)</th>
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Display This Question:
If Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply) = Middle Cedar River

Q12 Please rate your organization’s satisfaction or dissatisfaction with the coordination or communication with the following groups for the Middle Cedar River watershed.
If your organization did not interact with members from a specific group, select "Not Applicable."

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If Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply) = North Raccoon River

Q13 Please rate your organization’s satisfaction or dissatisfaction with the coordination or communication with the following groups for the North Raccoon River watershed.
If your organization did not interact with members from a specific group, select "Not Applicable."

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Display This Question:

If Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply) = Upper Iowa River

Q14 Please rate your organization’s satisfaction or dissatisfaction with the coordination or communication with the following groups for the Upper Iowa River watershed.
If your organization did not interact with members from a specific group, select "Not Applicable."

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Display This Question:

If Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply) = Upper Wapsipinicon River

Q15 Please rate your organization’s satisfaction or dissatisfaction with the coordination or communication with the following groups for the Upper Wapsipinicon River watershed.
If your organization did not interact with members from a specific group, select "Not Applicable."

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Display This Question:

If Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply) = West Nishnabotna River

Q16 Please rate your organization’s satisfaction or dissatisfaction with the coordination or communication with the following groups for the West Nishnabotna River watershed.
If your organization did not interact with members from a specific group, select "Not Applicable."

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End of Block: Reflecting on Implementation of IWA-1

Start of Block: Reflecting on Implementation of IWA-2

Q17 Please rate your organization’s satisfaction or dissatisfaction with the following aspects of the processes your organization may have encountered through IWA in any watershed.

If a specific aspect does not apply to your organization, select Not Applicable.
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<th></th>
<th>Very Dissatisfied (1)</th>
<th>Dissatisfied (2)</th>
<th>Satisfied (3)</th>
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<td>Billing, bidding, and scoping (2)</td>
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<td>Environmental review processes (3)</td>
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<td>Methodologies of the work your organization was a part of (4)</td>
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<td>Rules of the funding source (5)</td>
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<td>Selection and contracting processes (6)</td>
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<td>Software (7)</td>
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<td>USACE permitting (9)</td>
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<td>Other, please specify: (10)</td>
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Q5 Reflecting on your organization’s experiences working on IWA, what worked well?

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
Q6 Reflecting on your organization’s experiences working on IWA, what didn’t work well?

________________________________________________________________
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Display This Question:
If if Please select the IWA watershed(s) your organization consulted with for IWA. (Select all that apply)
q://QID4/SelectedChoicesCount Is Greater Than 1

Q7 How were processes similar and/or different in different watersheds?

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Page Break

Q19 Did any of these external factors impact your organization’s ability to complete planned work for
IWA in any watershed? (Select all that apply)

- 2020 Derecho (9)
- COVID-19 pandemic (1)
- Delays from other organizations (10)
- Economic factors (2)
- Federal requirements (such as David-Bacon wage rates) (6)
- Flooding (3)
- Permitting requirements (7)
- State policies, please specify: (4)
- Federal policies, please specify: (5)
- Other, please specify: (8)

Display This Question:

If any of these external factors impact your organization’s ability to complete planned work for...

Q20 How did the external factors you selected impact your vision for your work in the IWA? Please briefly describe your original vision and how that vision had to change.

As a reminder, you selected: ${Q19/ChoiceGroup/SelectedChoices}
End of Block: Reflecting on Implementation of IWA-2

Start of Block: Replicability and Sustainability

Q21 What opportunities are there to expand the work your organization did for IWA after the grant funding ends?

Q22 What lessons did your organization learn through IWA that could be applied in future work?

Page Break

Q23 From your organization’s perspective, what will be the overall impact of IWA in Iowa?
Q24 From your organization’s perspective, what aspects of the IWA appear to be the most replicable within Iowa? (Select all that apply.)

☐ Focus on flood mitigation at the watershed level (5)
☐ Focus on water quality on the watershed level (9)
☐ Establishing Watershed Management Authorities (4)
☐ Collaboration between urban and rural stakeholders (1)
☐ Development of watershed management plans (3)
☐ Development of Flood Resilience Action Plans (2)
☐ Logistics for project applications and implementation (6)
☐ Maintaining the viability of WMAs (7)
☐ Other, please specify: (8) ____________________________

Q25 From your organization’s perspective, what aspects of the IWA appear to be the most replicable outside of Iowa? (Select all that apply.)

If you do not have a perspective on this work outside of Iowa, please select "I'm not sure what would
work outside of Iowa” at the bottom of the list.

☐ Focus on flood mitigation at the watershed level (5)
☐ Focus on water quality on the watershed scale (9)
☐ Establishing WMAs (4)
☐ Collaboration between urban and rural stakeholders (1)
☐ Development of watershed management plans (3)
☐ Development of Flood Resilience Action Plans (2)
☐ Logistics for project applications and implementation (6)
☐ Maintaining the viability of WMAs (7)
☐ Other, please specify: (8) _____________________________________________
☐ I’m not sure what would work outside of Iowa (10)

End of Block: Replicability and Sustainability

Start of Block: Final

Q26 Final two questions!

Q27 What advice do you have for the IWA as the program wraps up?

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
Q28 Please provide any additional comments or questions you have about IWA, your role in IWA, or any other related topics.
Appendix B - Levels of satisfaction related to collaborations and processes

Participants were invited to rate their organization’s satisfaction or dissatisfaction with the coordination or communication with groups of interest within the IWA. Participants reported that their satisfaction varied by group, but satisfaction was greater than 50% for all groups. The fewest respondents responded about coordination with construction contractors, but all but one of those respondents were satisfied.

**Satisfaction with communication varied by group of interest but was greater than 50% for all groups**

![Bar chart showing satisfaction levels for different groups.](chart)

Note: One respondent clarified that they were “dissatisfied with members of the public due to COVID-19.”

Participants were also invited to rate their organization’s satisfaction or dissatisfaction with various aspects of the IWA process. Participants reported being generally satisfied with all but two aspects of the process (USACE permitting and environmental review), and were most satisfied with billing, bidding, and scoping, the overall project timeline, and the selection and contracting processes.
Note. One other response: “Again methodologies were acutely impacted by Covid-19. Much of our work was shifted online, which was not ideal”

Figure 2. Level of satisfaction or dissatisfaction with IWA processes

Appendix C - What did or did not work in IWA

Respondents were next invited to respond to the following three open-ended items:

- Reflecting on your organization’s experiences working on IWA, what worked well?
- Reflecting on your organization’s experiences working on IWA, what didn’t work well?
- How were processes similar and/or different in different watersheds?

Given the nuanced and sometimes overlapping nature of the comments, responses to each of these questions were organized into overall categories and then sorted by the nature of the comment (what worked, what didn’t work well, nuances, and differences).

Responses covered many topics, which included: process or product, collaboration, funding, time, rules, COVID, roles, and premise. In the instances where themes were discussed by four or more individuals, themes are discussed in detail below. Any responses provided by three or fewer individuals are provided in a section at the end.

Process and product

Responses in the process and product category highlighted the unique experiences of consultants working in various roles across different or multiple watersheds. Ten individuals made twenty comments about aspects of their process on IWA or the resulting products.
What worked
When describing what worked, individuals described their own experiences, strategies, and successes as well as ways that the IWA program supported their success and will have successful outcomes overall.

- **Consultant experiences, strategies, and successes:** working with landowners and developing project designs, using social media for marketing and outreach, putting the watershed plan online to improve access, and working through a long process to develop a “good product”
- **Ways that the IWA program supported their success and will have successful outcomes overall:** flexibility to try out different strategies, providing funding to local project partners, and “getting actual flood reduction practices on the ground”

What didn’t work well
When describing what didn’t work well, reflections included suggestions for alternative processes for specific activities and complaints about specific processes.

**Alternative processes and suggestions:**
- An alternative process for the USACE permitting process to reduce the amount of investment in each project before they know whether USACE will issue the permit.
- An alternative process for the archaeological reviews to reduce the amount of resurveying necessary
- A suggestion to find a strategy for land acquisition with federal funds “without going through the eminent domain process”

**Complaints**
- One specific watershed did not end up with a “comparably good” Flood Resilience Action Plan which could inform next steps for a community,
- Watersheds were “not able to work in the HUC 12 watersheds that would have had the best flood reduction benefit for the entire HUC 8 watershed”
- “It seems some of the regional permits were not really covered in the initial scoping to assume true ag exemption,“
- There were “missed opportunities” regarding the review process, site selection, and outreach to the landowners and cities, and
- “Expectations of Iowa DNR staff in technical aspects of watershed assessment were not well established until late in the process”

Nuances
Two consultants described nuanced experiences with aspects of the IWA’s processes. One described that the 90% federal / 10% local cost share “was good from the perspective that we might have included some property owners that otherwise could not afford the projects,” but this individual believed that “you would have gotten more projects on the ground if you would have left [the cost share] at 75% [federal contribution]. Our watershed had a long list of projects that were not funded due to running out of grant funds.” The other described opportunities and challenges in being involved with individual project planning from the beginning of the process. This individual described being able to get to know the landowners “so we could cater to their needs,” but acknowledged that “there were some property owners that had endless revisions which could become expensive and time consuming to make.”

Differences
Three consultants said that their processes were similar across different watersheds. However, among these responses, the consultants described that the WMAs had different member entities, representatives, and stakeholders that made their experiences unique.
Collaboration

Responses in the collaboration category highlighted the nuanced relationships that developed in each watershed between different groups of stakeholders. Ten individuals made fifteen comments about collaboration.

What worked

Three consultants described the support that was available to them from the state-level IWA partners. These consultants described receiving help with problem solving, navigating “fit[ting] the real projects into the federal money compliance,” and noted that the partners were available when needed. One consultant said, “I am very grateful for the insights and assistance we received. I only hope we get more opportunities to work together!”

Two consultants described positive experiences working with their local collaborators. One consultant said, “Communication with the WMA, city, and county was very good. We became an effective team working with the WMA to figure out the best way to get projects on the ground.” The other consultant said, “We had a good working relationship with the watershed coordinators to make things work.”

Individual consultants also described the following reflections about what worked related to collaboration.

- One consultant said, “Overall partnership development was great.”
- Another described how the landowners in the watershed were “invested, interested, and genuinely engaged in watershed improvements.”
- A third simply said, “Talented people working hard to create value.”

What didn’t work well

When considering what didn’t work, two individuals described challenges related to collaboration. In response to two different items, one individual described challenges with how “watershed producers [have] no interest in making improvements and show little evidence of taking responsibility for their actions” and added that “the rural/urban divide within the [watershed] made planning and outreach extremely difficult.”

The other consultant described that “there was very little sense of ownership in the watershed management plan by staff and board members of the WMAs with whom we worked.” This individual went on to describe that there seemed to be “little, if any, interest in the end product or vision for how the plan could be used in the future.” Although one consultant noted that losing the watershed coordinator was a challenge, this person said that the “engineer and grant coordinators both took on the duties of the coordinator.”

Differences between watersheds

For those who specifically mentioned differences between watersheds, responses related to the size of the watershed, the engagement of local partners, landowner buy in, and engagement more generally. Among the consultants who worked in multiple watersheds, four individuals described the ways that activities differed. One consultant said that one watershed “encompasses more communities [municipalities], and they have a large role in the watershed.” Another individual remarked that even though they used similar processes in different watersheds, that the “differences in Soil and Water Conservation District staff and coordinators made for some interesting challenges in doing things the same way in both watersheds.” A third consultant described how producers in two different watersheds were very different with one group “invested, interested, and genuinely engaged in watershed improvement” while the other showed “no interest in making improvements and little evidence of taking responsibility for their actions.” Lastly, one consultant acknowledged that there was a “major difference” related to “those interested in making the program a success.”
Funding
Responses in the funding category highlighted challenges experienced by consultants and landowners in the process of IWA. Four individuals made four comments about funding.

What didn’t work well
Individual consultants described the following reflections about what did not work well related to funding:

- Access to funding for consultants was cumbersome
- Planning budgets were insufficient
- Requiring HUD’s environmental reviews cost extra money
- Private match for projects was often too expensive

Time
Responses in the time category highlighted challenges related to the project timeline – specifically related to required project reviews. Four individuals made four comments about time.

What didn’t work well
Four consultants identified challenges with timelines. Three consultants described that the reviews required for the IWA projects took a long time. Two of those described that the Tier II Reviews took a significant amount of time. For example, one consultant said, “As an engineer, we sat on projects waiting for approval to bid for months which was frustrating and has led to many projects being up against the project deadline to be completed.” The third consultant said that it took a long time to get things approved but recognized that could have been due to “a steep learning curve for some coordinators.” More generally one said, “Everything took longer than expected and managing timeline expectations was difficult.”

Topics identified by three or fewer individuals
The remaining categories were mentioned by three or fewer individuals.

- **Rules**: Three consultants provided constructive comments related to rules to be navigated in the IWA process which included: aligning IWA to HUD rules, HUD’s requirements for environmental review, NRCS design standards for practices, and “red tape.”
- **COVID-19**: One consultant said, “COVID-19 severely impacted our work in ways that I don’t necessarily think can be attributed to IWA.”
- **Roles**: One consultant said, “Clarity about what our role was and what we were supposed to do.”
- **Premise**: One consultant said, “The project premise was great.”

Appendix D - Impacts of external factors on IWA work
Respondents were invited to select any external factors that impacted their organization’s ability to complete their planned work for IWA in any watershed (see Figure 3). Half of the survey respondents indicated that delays from other organizations impacted their work. In addition, at least one individual mentioned each of the following: COVID-19, permitting requirements, the 2020 derecho storm, economic factors, and federal requirements for the grant.

One respondent who selected economic factors elaborated that they made that choice because “the community members we were trying to reach were incredibly financially burdened due to COVID-19 and the derecho storm.” The additional “other” responses included a comment about “lack of communication with lead consultants” and that “all planned work was completed.”
Appendix E - Opportunities to expand IWA work after IWA ends

Participants were asked to describe opportunities they saw to expand the work their organization did for IWA after the program’s grant funding ends. The 11 individuals who provided responses described opportunities to expand the work of their organization in three different ways: continuation of work already underway in IWA, expansion of work started through IWA, and approaches to build on the lessons learned of IWA. Seven of the 11 described the role of funding in continuing or expanding different types of work in the WMAs. Two respondents commented briefly but did not provide substantive feedback beyond “I don’t know” and “I don’t see next steps” for a particular watershed.

Continuation of the work underway in IWA

Four respondents described ways that they could continue to engage directly in the work that they’ve done for IWA. Three of these talked about the necessity of funding to continue this type of work. Respondents described the need for “external funding sources...to [make these projects go],” needing to “figure out how to fund a full-time coordinator” in a specific watershed, and efforts to fundraise among WMA entities to “continue the role of our organization.” In addition, one respondent said, “There may be some opportunity to continue ... work with some WMAs.”

Expansion of work started through IWA

Two respondents described next steps related to work that their organizations did through IWA. One respondent said, “The city is (hopefully) on the path toward continuing the work without the constraints of COVID-19. We will continue to check on them. We have followed up with potential grant opportunities as well as city ordinances that could be beneficial.” The other said, “Watershed management plans could be implemented IF local funding was made available.”

Approaches to build on the lessons learned in IWA

Three respondents described more abstract approaches to build on lessons learned in IWA. Each of the three considered the approach in unique but interrelated strategies concerning engagement, planning, and funding.

- Engagement: “Keep engaging with communities and the WMA in this region, working with local partners, engaging students in this work.”
- Planning, funding, and engagement: “Need a holistic approach to watershed planning that looks at all aspects of WATER. Tie in all funding opportunities and create a marketing approach and energizes landowners to jump on board.”
- Funding: “There are many future opportunities for this type of flood reduction and flood resiliency projects. It would be great to see the state implement a permanent program to assist with flood reduction. It would also be great to see some NRCS funds aimed at this to assist producers and make it readily accessible.”

Appendix F - Lessons learned through IWA

Participants were asked to describe lessons their organization learned through IWA that could be applied to future work. Out of eight who responded to this question, six described ways of interacting with partners and community members that they learned through their experiences, while two each described providing or receiving information and challenging experiences.

Interaction

The six respondents that described lessons learned related to interactions made comments related to the following themes: communication, buy-in, and collaboration. Related to communication, two respondents emphasized the need for communication saying, “In the future I will spend more time with organizational dynamics and set expectations...early in the process” and “There can always be more communication.” Related to buy-in, two respondents described a need for buy in with one saying, “Partnerships are key. Grassroots formation of WMAs are vital. Simply assigning a WMA doesn’t work well unless there is local support.” Lastly, two respondents described the value of partnerships in their work. These responses are provided in full below:

- “We learned about the great resources we have in the state of Iowa, and how well we are willing to work together despite jurisdictional boundaries.”
- “Our team was fortunate to have project partners that were able to support us through the planning process, and we gave back when and how we could .... That is resilience that we can apply to our work and our lives!”

Information

Two respondents described providing or receiving information that will impact their future work which included providing guidance to the WMA in developing their scope of work related to water quality and water quantity, understanding potential funding sources for their work.

Challenging experiences

Two respondents described lessons that reflected challenging experiences working on IWA. One described that flood resilience planning is difficult and “some [deliverables] do not turn out like you might want.” The other said, “[We] need to develop a better approach for siting projects and [recruiting] willing landowners. The cost share model / requirement did not work very well.”

Appendix G - Impact of IWA in Iowa

When asked what the overall impacts of IWA will have in Iowa, eight respondents provided answers which described nuanced perspectives. Responses all addressed at least one of three categories: results of IWA, future implications for IWA, and nuances about the context of IWA.

Results of IWA

The five comments that addressed the impact of IWA in Iowa described perceptions of the impacts of the program on flooding and/or water quality, positive comments about the program in general, and
education and collaboration. The three respondents that mentioned flooding or flooding and water quality were split in how effective they believe IWA will be on those issues. Two respondents indicated that the program will have a positive impact on these issues with one respondent saying “Terrific and targeted reduction of flood impacts and improvements in water quality.” However, one respondent said that “there will be small local improvements but flooding in Iowa is on a huge scale.” Two respondents focused on the outreach and collaboration aspects of IWA. One said an impact is a “more active WMA in the Upper Wapsipinicon River Watershed” and the other said “the education components do have great value.” The two general positive comments about the project were “I think IWA has been pretty powerful” and “In general, we think this is a good program.”

**Future implications for IWA**

The five comments that considered the future addressed leveraging the work of IWA to continue water resource management work in the state. Three respondents provided specific ways that watersheds or communities can continue to build on this work: continue to fund projects in order to leverage the interest of property owners in implementing practices, recognize that a more active WMA “now has the resources to continue working in the watershed to create a more resilient ecosystem, and review the activities of IWA and consider the best practices and mistakes “which is useful moving forward.” Additionally, two respondents provided more general perspectives of the future: “Time will tell” and “Today it will be limited, but it is a right step into the future.”

**Context of IWA**

In addition to the ideas of how IWA has been or could be impactful in Iowa, two respondents provided comments on the context of IWA which could limit the program’s impact. One respondent focused on the scale of the problem, especially in light of climate change, and the limitations in funding the work that needs to be done to prevent flooding. In their comments, this individual said, “It’s a matter of funding. IWA did a lot, but the flooding in the state is an astounding issue in light of climate change.” The other respondent focused on a worsening environment but focused more on the alteration Iowa’s landscape: “It seems we are swimming upstream given how fast Iowa’s landscape continues to be altered in ways that destroy flood resilience and water quality.”

**Appendix H - Aspects of IWA that seem most replicable in Iowa and beyond**

Looking toward the future of water resources management work within and beyond Iowa, most respondents indicated that flood mitigation should be addressed at the watershed scale (See Table X). In addition, at least one third of all respondents agreed that all listed aspects of IWA appear replicable within Iowa. There was less agreement on other aspects that seem more replicable outside of Iowa.
Appendix I - Advice for the IWA team

When asked what advice the consultants have for the IWA program as it wraps up, seven respondents offered words of wisdom to the program team. Approximately half of the respondents focused on reflections of the program and the other half thought about the implications of this project going forward.

Looking back

The three respondents that provided advice which focused on the implementation of IWA focused on the successes of the program, opportunities to measure or communicate the impacts of IWA, and a reflective comment indicating that the program “needed a bit more thought put into it.” The comments that focused on success and measurement said, “This have been a great project for the state of Iowa, and I look forward to seeing the hydrologic impact our hard work has caused” and “Tell the story of the success of the program and have a party.”

Looking forward

The four respondents that focused their advice on the future each addressed a different element necessary in moving this process forward. At a high level, these responses addressed using the measured impact of the program to understand where there are still “gaps” and how to “close them,” continuing to work in the North Raccoon watershed and learning from perceived failures, maintaining

Figure 4. Frequencies of responses related to aspects of water resources management that should continue within and outside of Iowa

Most respondents indicated that flood mitigation should be addressed at the watershed scale and one third of all respondents agreed that all listed aspects of IWA appear replicable within Iowa.
support for WMAs and finding permanent funding to continue to implement projects. One respondent concluded “Keep doing this work! We desperately need to continue improving our lands and water while keeping people safe, and this program was visionary in its multiplicity. I hope to see more resilience plans on the horizon.”

Appendix J - Additional comments

Three consultants provided additional comments, one provided a point of consideration for WMA sustainability going forward and two provided positive comments about IWA. Related to the WMAs, one consultant said, “With the development of new WMA’s, we have already run into Counties and SWCDs who are overwhelmed since they may include 2-3+ WMA’s. unless there is federal or state funding someday, I think we will lose interest from these entities in WMAs. Many have already expressed concern since the WMAs are starting to ask for funding from local entities.” Two consultants made positive comments. The first said, “Thank you so much for this opportunity. It has been an honor and an experience none of us will forget,” and the second said, “Amazing project. Hope the momentum can continue.”
## Appendix G – Year 6 Outreach Activities

<table>
<thead>
<tr>
<th>Title</th>
<th>Description</th>
<th>Location (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iowa Watershed Approach Brings End-of-Project Tour to Storm Lake</td>
<td>Article about the North Raccoon practice tour</td>
<td>Link</td>
</tr>
<tr>
<td>Watershed Coordinator Success Stories</td>
<td>Presentation at the May 2022 Iowa Watershed Academy</td>
<td></td>
</tr>
<tr>
<td>Empowering Iowans to safeguard their communities</td>
<td>Email to Iowa legislators, March 2022</td>
<td></td>
</tr>
<tr>
<td>The Iowa Watershed Approach: A Replicable Framework</td>
<td>Presentation at the July-August 2022 SWCS International Annual Conference</td>
<td></td>
</tr>
<tr>
<td>State Flood Resilience and Adaptation Planning: Challenges and Opportunities</td>
<td>Report by the Urban Institute which references the Iowa Watershed Approach</td>
<td>Link</td>
</tr>
<tr>
<td>Iowa Watershed Approach Project Tour</td>
<td>Project tour for the Iowa Watershed Approach</td>
<td></td>
</tr>
<tr>
<td>Creating Peace of Mind with Flood Mitigation in the Bee Branch Watershed Virtual Field Day</td>
<td>Virtual Field Day for Bee Branch Creek Watershed</td>
<td>Link</td>
</tr>
<tr>
<td>Iowa Flood Center Legislative Breakfast</td>
<td>Legislative breakfast for the Iowa Flood Center, April 2022</td>
<td>Link</td>
</tr>
<tr>
<td>Iowa’s Watershed Approach: A Model Framework</td>
<td>Article about the Iowa Watershed Approach Framework in the Water Resources Impact January/February 2022 magazine</td>
<td></td>
</tr>
<tr>
<td>Watershed Management Authorities pamphlet</td>
<td>Pamphlet for Iowa legislators about Watershed Management Authorities with legislative requests for funding</td>
<td></td>
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<tr>
<td>Road Detention Structures: Adapting Current Infrastructure for Flood Resiliency and Nutrient Reduction</td>
<td>Virtual Field Day for Upper Iowa River Watershed</td>
<td>Link</td>
</tr>
<tr>
<td>Remarks to SOILs Meeting at Drake Law School</td>
<td>Blog post which references Iowa’s water quality issues</td>
<td>Link</td>
</tr>
<tr>
<td>Event Description</td>
<td>Description</td>
<td>Link</td>
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<tr>
<td>----------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Integrated Water Resources Management Award, presented by the American Water Resources Association</td>
<td>University of Iowa Professor of Civil and Environmental Engineering and Iowa Flood Center (IFC) co-founder Larry Weber has won the prestigious Integrated Water Resources Management Award, presented by the American Water Resources Association</td>
<td><img src="#" alt="Link" /></td>
</tr>
<tr>
<td>Iowa Floodplain &amp; Stormwater Management Association named the Iowa Watershed Approach as project of the year</td>
<td>The Iowa Watershed Approach (IWA) has received the 2021 Project of the Year Award from the Iowa Floodplain and Stormwater Management Association (IFSMA).</td>
<td><img src="#" alt="Link" /></td>
</tr>
<tr>
<td>Excellence on the Waterfront Honor Award for the Bee Branch Creek Restoration Project</td>
<td>The City of Dubuque received a 2021 Excellence on the Waterfront Honor Award from The Waterfront Center for the Bee Branch Creek Restoration Project.</td>
<td><img src="#" alt="Link" /></td>
</tr>
<tr>
<td>Astig Planning receives 2021 APA Iowa Chapter Environmental Planning Award</td>
<td>Astig Planning LLC was awarded the APA Iowa Chapter Environmental Planning award for two Iowa Watershed Approach Flood Resilience outcomes.</td>
<td><img src="#" alt="Link" /></td>
</tr>
<tr>
<td>The East and West Nishnabotna Watershed Coalition Hosts a Fall Field Tour</td>
<td>Project tour for the East and West Nishnabotna River Watershed</td>
<td><img src="#" alt="Link" /></td>
</tr>
<tr>
<td>Cedar River Watershed District, Minnesota Group, Virtual IWA Presentation, March 2022</td>
<td></td>
<td><img src="#" alt="Link" /></td>
</tr>
<tr>
<td>IWA presentation at the Ag Breakfast Series at Johnson County Fair Grounds, February 2022</td>
<td></td>
<td><img src="#" alt="Link" /></td>
</tr>
</tbody>
</table>
## Appendix H – IWA required metrics from the proposal

<table>
<thead>
<tr>
<th>Type of Metric</th>
<th>Metric</th>
<th>Purpose</th>
<th>CE A</th>
<th>Project Partners (IIHR, DNR, etc)</th>
<th>Watershed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dubuque Bee Branch Project #1 (Healthy Homes)</td>
<td>Resiliency Value</td>
<td>At least one improvement in each home will increase the home’s resilience to flooding (e.g., stronger foundation, relocation of furnace).</td>
<td>Process</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Social Value</td>
<td>This neighborhood is inhabited by the most at-risk residents, who often cannot afford to miss work or find new housing after flooding.</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>A) Home improvements will result in increased opportunities for resilient, affordable housing for these populations</td>
<td>Process and Outcomes</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>B) Home improvements will result in reduced mental stress associated with the life disruptions common during flood events.</td>
<td>Process and Outcomes</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Value</td>
<td>Improvements to housing structures will lead to measurable increases in property values.</td>
<td>Outcomes</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents.</td>
<td>Outcomes</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dubuque Bee Branch Project #2 (Infrastructure)</td>
<td>Resiliency Value</td>
<td>Infrastructure improvements will hold water onsite for slow release, as opposed to quickly flushing it downstream. This will lead to a measurable reduction in peak storm water flow. A reduction of expected property damages from future flash flooding events is also expected.</td>
<td>Outcomes</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Social Value</td>
<td>As a STAR certified community, Dubuque aims to ensure that at least 85% of residents live within a half-mile walk of a park or other green infrastructure. Completion of these infrastructure projects will help meet this goal.</td>
<td>Process</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic Value</td>
<td>Measureable increases in property values are expected in the Bee Branch neighborhood to rates that are more in line with the rest of Dubuque.</td>
<td>Outcomes</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Upper Iowa Projects

<table>
<thead>
<tr>
<th>Environmental Value</th>
<th>Detention of water onsite will lead to a measurable improvement in water quality downstream as the water is captured and cleaned via permeable surfaces.</th>
<th>Outcomes</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

#### Social Value

| This project will result in improved resilience to flooding, especially in the L/M income area, through programs to promote awareness and develop a community-wide flood resilience action plan. | X | X |

#### Economic Revitalization

| This project will have an (unquantifiable) benefit to the local economy through preservation of coldwater fishing streams. | X |

### Upper Wapsipinicon Projects

<table>
<thead>
<tr>
<th>Resiliency Value</th>
<th>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of the selected HUC 12s.</th>
<th>Outcomes</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

#### Environmental Value

| Project water-quality goals include reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of the HUC 12s. | X | X |

#### Social Value

| This project will result in improved resilience to flooding, especially in the MID-URN areas, through programs to promote awareness and a community-wide flood resilience action plan. | Process and Outcomes | X | X |

#### Economic Revitalization

| Expected economic revitalization includes increased use (and associated tourism income) of the river as a source of recreation (See BCA, unquantifiable benefits). Further, implemented projects will help to retain soil on the land, preserving Iowa’s agricultural economy. | Outcomes | X | X |

### Middle Cedar Projects

<table>
<thead>
<tr>
<th>Resiliency Value</th>
<th>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes), at the outlet of each HUC 12</th>
<th>Outcomes</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

#### Environmental Value

| Water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12. | Outcomes | X | X |

#### Social Value

<p>| This project will result in improved resilience to flooding, especially in the Vinton L/M income area, through programs to promote awareness and a community-wide flood resilience action plan. | Process and Outcomes | X | X |</p>
<table>
<thead>
<tr>
<th><strong>Economic Revitalization</strong></th>
<th>IWA projects will help reduce future soil loss and erosion, helping to preserve agricultural productivity.</th>
<th>Outcomes</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

**Clear Creek Projects**

<table>
<thead>
<tr>
<th><strong>Resiliency Value</strong></th>
<th>The watershed projects will reduce flood flows at the outlet of Middle Clear Creek by 25%, thereby reducing damage to repetitive loss sites (agricultural lands, roads, infrastructure, homes). The Coralville infrastructure project will protect at least 116 properties.</th>
<th>Outcomes</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Value</strong></td>
<td>Project water-quality goals call for reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of Middle Clear Creek.</td>
<td>Outcomes</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Social Value</strong></td>
<td>This project will result in improved resilience to flooding, especially in the Coralville LMA, through programs to promote awareness and a community flood resiliency action plan.</td>
<td>Process and Outcomes</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Economic Revitalization</strong></td>
<td>IWA projects will reduce future soil loss and erosion, preserving agricultural productivity. Infrastructure mitigation will also create an estimated 16 jobs in Coralville in year one (see BCA).</td>
<td>Outcomes</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**English River Projects**

<table>
<thead>
<tr>
<th><strong>Resiliency Value</strong></th>
<th>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12.</th>
<th>Outcomes</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Value</strong></td>
<td>Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>Outcomes</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Social Value</strong></td>
<td>This project will result in improved resilience to flooding, including the English River LMI area, through programs to promote awareness and a community-wide flood resilience action plan.</td>
<td>Process and Outcomes</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**North Raccoon Projects**

<table>
<thead>
<tr>
<th><strong>Resiliency Value</strong></th>
<th>The IWA in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12. Infrastructure updates in Storm Lake will increase local property values.</th>
<th>Outcomes</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environmental Value</strong></td>
<td>Water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>Outcomes</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Social Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
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</tr>
<tr>
<td>This project will result in improved flood resilience, especially in Storm Lake, by promoting awareness and a community-wide flood resilience action plan.</td>
<td>IWA projects will reduce future soil loss and erosion, preserving agricultural productivity. In Storm Lake, this project will help prevent flooding of homes and businesses.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
<tr>
<td>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past at the outlet of each HUC 12.</td>
<td>IWA projects will help reduce future soil loss and erosion, helping to preserve agricultural productivity.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
<tr>
<td>Project water-quality goals are reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>IWA projects will help reduce future soil loss and erosion, helping to preserve agricultural productivity.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Social Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
<tr>
<td>This project will result in improved resilience to flooding, especially in the MID-URN areas, through programs to promote awareness and develop a community-wide flood resilience action plan.</td>
<td>IWA projects will help reduce future soil loss and erosion, helping to preserve agricultural productivity.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>East Nishnabotna Projects</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
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<td>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12.</td>
<td>Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
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<td>Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
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<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Social Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
<tr>
<td>This project will result in improved resilience to flooding, especially in the LMI area, through programs to promote awareness and a community-wide flood resilience action plan.</td>
<td>Soil erosion is a significant problem in the WNRW and a threat to agricultural productivity. IWA projects will help reduce soil loss and erosion, maintaining Iowa’s important agricultural economy.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>West Nishnabotna Projects</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
<tr>
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<td>Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
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<tr>
<td>Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Social Value</td>
<td>Economic Revitalization</td>
<td>Outcomes</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
<tr>
<td>This project will result in improved resilience to flooding, especially in the LMI area, through programs to promote awareness and a community-wide flood resilience action plan.</td>
<td>Soil erosion is a significant problem in the WNRW and a threat to agricultural productivity. IWA projects will help reduce soil loss and erosion, maintaining Iowa’s important agricultural economy.</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
Appendix I – Bee Branch Healthy Homes History

The mission and goals of the BBHH remained consistent throughout the six years of the program, with team members describing little overall change in their role in the program. During year one, the City of Dubuque BBHH accepted and reviewed applications for participants and conducted home inspections, as well as Home Advocate-conducted intake assessments. Though team members noted that administrative setbacks had delayed the onset of construction, they had already witnessed benefits related to participants’ relationships with home advocates. During year one, the home advocates described doing extensive outreach to make community members aware of the BBHH program.

During year two, BBHH team members described that they were getting both busier and more comfortable with their work in serving the needs of eligible residents. Team members described how their approach to working with participants and their homes needed to be adapted on a case-by-case basis to best meet the needs of the participants. Home advocates continued to meet with participants, to listen to their needs, and to share information about available resources to meet their needs, including help with seeking employment and addressing food insecurity.

During year three, some complaints about participants’ experiences with contractors emerged (though overall reports remained positive). Some expressed varying levels of frustration with the overall quality of the contractors’ workmanship and effectiveness of their communication, as well as the time of the project from start to finish. Issues with contractors ranged from simple lack of attention to detail and miscommunications, to perceived safety violations. Some clients were able to have their problems remedied through intervention from the BBHH home advocates; however, others felt reluctant to reach out to their advocate or were unaware of the scope of the advocate’s role in the program. Despite setbacks, BBHH clients were grateful for the work that was done on their homes.

During year four, work continued, and team members and participants continued to report largely positive experiences, with some complaints of issues with contractors. Work slowed somewhat as the COVID-19 pandemic emerged, but home advocates reported continuing to meet with participants, wearing PPE, as possible. Home advocates also reported sharing additional information and resources with participants about COVID-19 and the process for filing for unemployment (Iowa’s unemployment system was expanded during the COVID-19 pandemic in 2020-21), in addition to the information they had shared with participants in the past.

In year five, the City of Dubuque reported that work had been completed on 263 units. At that time, a representative from Dubuque reported having spent 99% of their administrative budget ($470,000 spent) and 86% of their delivery budget ($7,245,000 spent). Despite the COVID-19 pandemic and some difficulties attracting qualified contractors, a city representative described limited delays to progress during year five. One team member described the shortage of contractors, saying “we are down to three contractors bidding on our work, and two of the three contractors have very small crews and can only handle a couple of projects at a time.”

As of April 2022 (year six), the final 25 housing units were under construction. Upon completion, the BBHH will have worked on 307 housing units and spent $8.5 million on home improvements.
Executive Summary
In July 2021, CEA team members interviewed five Bee Branch Healthy Homes Resiliency Program (BBHH) team members. Team members with the City of Dubuque, Visiting Nurses Association, and the East Central Intergovernmental Association described complementary roles in the program. The purpose of the interviews was to document the processes and outcomes of the BBHH. This executive summary provides an overview of the interview responses with respect to four overarching themes: benefits to participants in the last year, reflections on BBHH metrics, BBHH successes and overall impacts, and BBHH recommendations and potential next steps.

Benefits to participants in the last year
Team members were asked to describe the most common structural improvements and community resources that benefitted program participants in the last year. Responses included:

Structural improvements:
- Sump pumps
- Gutters, downspouts, and downspout extensions
- Landscaping or concrete work to move water away from the structure
- Tuckpointing or repair of mortar in foundations
- Ventilation fans in basements
- New roofs

Team members also described flood prevention measures collectively and efforts to address other outstanding issues in a home as the grant budget or parameters allowed.

Community resources:
- COVID-19 utility and rental assistance, food resources, and information about vaccines
- Weatherization or energy saving kits through Green Iowa

Team members were asked to identify additional resources needed by participants. These included repairs or upgrades that did not qualify for the program because they were not directly related to water inundation and ongoing limitations with accessing weatherization services.

Reflections on BBHH metrics
When the original proposal was written, the team identified a set of metrics for each component of IWA. In each interview, team members were asked to reflect on two key terms used in the metrics as well as the metrics themselves. A summary is provided based on the responses for each term.

Resilience: Team members described resilience as including work to keep as much water out of

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25 Please note that there were two complementary projects happening in the City of Dubuque for IWA. While this report focuses on the BBHH program, there are references by team members to the City of Dubuque infrastructure projects. Those are described in greater detail in the IWA annual reports.
homes as possible, and to get any water out as quickly as possible. Additionally, team members described resilience as limiting damage to property in basements, providing families with resources and connections in the community and support to access those resources, allowing people to stay in their homes safely, and making their homes more comfortable so that they want to stay.

At risk resident and neighborhoods: At risk resident and neighborhood could have any of the following attributions: areas with risk for water intrusion, areas with low-income residents, and homes where residents are living in unhealthy conditions that may impact their health.

Team members were invited to explore progress on the metrics identified for BBHH (See Table 1).

**BBHH successes and overall impacts**

When asked what had gone well in the BBHH program, team members discussed the water-related improvements made to participants’ homes, the number or types of people in the program, community resources recommended to participants, and generating neighbor interest in projects. When asked about the overall impact of the BBHH project in the community, team members largely emphasized the home improvements. Individual team members also listed the following impacts: the resources provided as part of the home advocacy aspect of the program (especially for tenants), training for community service providers to increase awareness of the “importance of healthy homes and how it relates to someone’s overall health”, the City of Dubuque infrastructure projects, and the impact on low-income or fixed-income individuals that “would never have been able to make these repairs themselves.”

**BBHH recommendations and potential next steps**

When asked about challenges faced or recommendations for similar programs in the future, team members mentioned challenges and recommendations related to construction contractors. In addition, team members mentioned aligning expectations between the team and the participants, the COVID-19 pandemic, and team communication.

With respect to next steps or future work, team members noted that additional funding would be needed to continue work similar to BBHH and that additional funding would help existing programs, too. Team members also noted that complementary with some aspects of BBHH, the City of Dubuque has a Lead and Healthy Homes program and a “rehab program” or CDBG-funded Housing Rehab program. Lastly, a team member suggested continuing to follow up with community members about resources available in the community.
Table 1. Overview of BBHH metrics, team reflections, and connections to home advocacy

<table>
<thead>
<tr>
<th>Metric</th>
<th>Reflections</th>
<th>Connection with home advocacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least one improvement in each home will increase the home’s resilience to flooding (e.g., stronger foundation, relocation of furnace)</td>
<td>• Less water intrusion or a reduction in water damage on the properties</td>
<td>• Providing information about how to properly store items, how to clean up mold, and supporting their process to declutter</td>
</tr>
</tbody>
</table>
| Home improvements will result in increased opportunities for resilient, affordable housing for these populations | • Home improvements will provide these opportunities because they’ve made existing housing more resilient  
• Benefits of the City of Dubuque infrastructure projects  
• Neighbors wanting to make improvements based on the BBHH projects  
• A general improvement in the strength of the area | • Providing information about:  
○ Housing programs through the City of Dubuque  
○ Affordable housing opportunities to tenants who were planning to move  
○ Resources for additional home improvements |
| Home improvements will result in reduced mental stress associated with the life disruptions common during flood events | • Less stress related to  
○ Water intrusion  
○ Clean up  
○ Damaged belongings  
○ Paying for repairs  
○ Not having access to areas of the home  
• Tenants and homeowners likely experienced this differently | • Making referrals for mental health counseling resources as needed  
• Discussing the cleanup steps of water intrusion recovery |
| Improvements to housing structures will lead to measurable increases in property values | While the actual impacts of the improvements on property values will not be observable immediately due to the terms of the projects and the unusual housing market, team members described the aspects of the project that will likely have an impact on property values.  
• Upgrades to the homes  
• Money spent on projects  
• Improvements in curb appeal  
• Additional usable space in the home | Both home advocates noted that this aspect of the program is more linked to the construction aspect of the program. |
| Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents | • Reduced the amount of dampness and musty odors in home using exhaust fans, air conditioning, windows, and doors | A home advocate noted that it’s difficult to tell who had improved health outcomes – especially because few participants had asthma |
Introduction and Methods

The following is a summary of five interviews with Bee Branch Healthy Homes Resiliency Program (BBHH) team members. The purpose of the interviews was to document the processes and outcomes of the BBHH. The interview protocol was updated in Year 5 to reflect metrics described in the IWA proposal and consider the entire program holistically. All five interviews were conducted via Zoom videoconferencing by Center for Evaluation and Assessment (CEA) team members during July 2021. Interviews were audio recorded, transcribed, and then coded and analyzed by members of the CEA team.

The same general interview protocol was used for all interviews. As in previous evaluation reports, when possible, responses are aggregated to provide anonymity for the respondents. All interviewees were advised, however, that their anonymity could not be guaranteed because of the small number of respondents and potentially unique responses based on their varied roles in the program. The two home advocates are the only two people who serve the same role in the program, and, where they may have a unique perspective, their comments include their role. A few questions were asked only of sub-groups, as indicated in the interview protocol (see Appendix A).

Please note that there were two complementary projects happening in the City of Dubuque for IWA. While this report focuses on the BBHH program, there are references by team members to the City of Dubuque infrastructure projects. Those are described in greater detail in the IWA annual reports.26

Interviewees were invited to review this summary and make corrections or additions before the summary was considered final and submitted to the United States Department of Housing and Urban Development.

Role with the BBHH

The BBHH team members interviewed span three organizations and four roles. Each section below includes a description of the role in the program and how each role has changed over time based on the participant’s interview responses.

Intake Specialist with East Central Intergovernmental Association (ECIA)

The intake specialist described the that her role is to verify participants and confirm their required documents are turned in and reviewed by the committee. When asked how her role has changed during her time in the program, she said that is has been largely the same with the addition of a couple responsibilities such as delivering radon kits and “little things.”

Rehab Specialist with ECIA

The rehab specialist described that she is the team members who evaluates the property, plans for repairs, and oversees the bidding and construction processes through completion and closeout. When asked how her role has changed during her time in the program, she said her role has largely stayed the same but that sometimes tasks and roles shift due to changes in staffing.

Grant Administrator/Program Manager with the City of Dubuque

The grant administrator/program manager described that he oversees the BBHH and serves as the grant administrator for the City of Dubuque infrastructure projects. The grant administrator/program manager described that his role has evolved over time, especially in response to the departure of the previous program manager.

26 https://iowawatershedapproach.org/resources/iwa-program-evaluation/
Home Advocates with the Visiting Nurses Association

Both home advocates described their role as meeting with participants and their families and “[providing] education on healthy homes topics” while also serving as a point of connection between the participants and the other program staff. One advocate described navigating between talking about home safety, conducting an assessment to see what resource needs the family may have, assisting them with connecting to those resources, and following up periodically to check in on progress in the program or any resources they might need. When asked how their roles have changed during their time in the program, both advocates described that they’ve learned more about community resources that are available and developed partnerships with different community groups. One advocate described that they formed the Green and Healthy Homes Coalition for service providers to learn about each other’s services.

Improvements and Resources in Year 5

Team members were asked to describe the most common structural improvements that were made in project homes within the last year. Additionally, the home advocates were asked to describe what resources participants have been most interested in or need the most in the same time period. Finally, team members were asked to identify additional resources needed by participants. Structural improvements were consistently described as strategies inside and outside of the home to prevent the accumulation of moisture. In home advocacy, there was a breadth of ways that home advocates (HAs) described as supporting community members based on their family’s needs.

Structural Improvements

The rehabilitation specialist listed the following construction practices as most common in BBHH homes. Items with an asterisk were also mentioned by at least one other team member.

- Sump pumps*
- Gutters, downspouts, and downspout extensions*
- Landscaping or concrete work to move water away from the structure*
- Tuckpointing or repair of mortar in foundations*
- Ventilation fans in basements

Additionally, one team member also mentioned some properties getting new roofs as part of BBHH. Two respondents described flood prevention measures collectively. These team members stated that construction was an opportunity for homeowners to “get the much-needed repairs that their house needs” and “they’ve really been able to benefit a lot from what’s being done to their homes, structurally.”

Additionally, two team members described that, as the grant budget and parameters allowed, the team would help to address other outstanding issues27. The team members described situations where repairs largely depend on the specific condition of the roof or mechanicals or the potential impact of a big landscaping project. One described that if roofs are leaking, they could be replaced or if an appliance like a heater or air conditioning were damaged from flooding, they could be replaced, but if they were just old and likely to fail in the near future, they did not qualify to be replaced in the program. Similarly, the other described that the team’s ability to include big landscaping projects would depend on the specific situation and its impact on the other BBHH rehab work in the home.

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27 This will be discussed further in the Additional Resources Needed section.
Home Advocacy

The home advocates were asked to describe what resources participants have been most interested in or need the most during the last year. Both of the HAs mentioned the following list of resources:

- COVID-19 utility and rental assistance, food resources, and information about vaccines
- Weatherization or energy saving kits through Green Iowa

Additional Needed Resources

When reflecting on resources that clients seemed to need which were not currently available in Dubuque, four team members described repairs or upgrades that did not qualify for the program because they were not directly related to water inundation. All four mentioned that there are certain projects that are not always covered through BBHH (i.e., roofs, heater or air conditioning replacements, landscaping projects, pest control), and two of those described that certain projects may or may not be eligible depending on the cause of the issue or potential impact. One team member provided additional context for this need. She said, “There’s always more things that the property owners can use. These are low-to-moderate income property owners, so the properties have had more deferred maintenance over the last 50-75 years – these are primarily old homes. So, yes, there’s always thing that could benefit the property that are outside the scope of work.” Both HAs described ongoing limitations with accessing weatherization services. Specifically, one HA described that at the time of the interview the Community Action Agency and AmeriCorp Green Iowa programs are both providing this service, but there is a wait list so long that “it’s kind of difficult getting them on that list or getting those services.” She described the need for this type of service in the area because many of the homes are older and could benefit from more energy efficiency.

Impact on Participants’ Lives

The BBHH program is designed to help make participants’ structures and community connections more resilient. When the original proposal was written, the team identified a set of metrics for each component of IWA (See callout box below). Team members were asked a set of questions meant to explore progress on the metrics identified for BBHH. First, team members were asked to reflect on key terms used in the metrics to get a sense of how the group was defining each term. Next, participants were invited to consider progress on individual and community metrics.

Key terms

In order to define the accomplishments or progress of the program, team members were asked to reflect on key terms used in the metrics defined in the IWA proposal with respect to the goals of

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20 See Structural Improvements above.
BBHH. For each team, the components of team members’ definitions are included. Frequencies are included in parentheses if mentioned by more than one team member.

**Resilience**

Resilience includes:

- Working to try to keep as much water out as possible, and, if it gets in, get it out as quickly as possible and protect what’s in your basement. (3)
- Providing families with resources and connections in the community and support to access those resources. This will allow families the ability to improve their health and financial situation (2)
- Allowing people to stay in their homes safely and making their homes more comfortable so that they want to stay (2)

**At risk resident and neighborhoods**

At risk resident and neighborhoods were described as:

- Areas with risks for water intrusion, even with a small amount of rainfall (4)
- Areas with low-income residents who may not be able to make repairs on their own (3)
- Homes where residents are living in unhealthy conditions, likely due to water intrusion, which may impact their health

**Metrics identified in the IWA proposal**

At least one improvement in each home will increase the home’s resilience to flooding (e.g., stronger foundation, relocation of furnace). This neighborhood is inhabited by the most at-risk residents, who often cannot afford to miss work or find new housing after flooding.

- Home improvements will result in increased opportunities for resilient, affordable housing for these populations
- Home improvements will result in reduced mental stress associated with the life disruptions common during flood events.

Improvements to housing structures will lead to measurable increases in property values. Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents.

**Progress on Metrics for BBHH from the proposal**

Each description will include a narrative of responses from all team members and a perspective of how home advocates contributed to this metric (directly or indirectly).

**At least one improvement in each home will increase the home’s resilience to flooding (e.g., stronger foundation, relocation of furnace)**

The four respondents that answered this item made comments related to having less water intrusion or a reduction in water damage on the properties. To provide context, two team members described that some properties could not be guaranteed to be completely dry but that there were improvements. One team member said, “We tell them we can’t guarantee we’ll keep 100% of the water out. We’re dealing with 1890s houses in some cases, limestone foundations. We can’t guarantee that they will be bone dry, but ...the majority of people have less water intrusion, are staying dryer, and can deal with what they’re getting.”

Additionally, team members also said that the program was effective at improving the homes’ resilience, improving the appearance of the home, and “a lot of the residents are very happy with the work.”

Complementary with the construction aspects of BBHH, home advocates described providing information resources to participants about how to properly store items (i.e., plastic bins instead of cardboard boxes) and how to clean up mold. In addition, one advocate described supporting participants to “start going through their stuff and figuring out what they can get rid of.”
Home improvements will result in increased opportunities for resilient, affordable housing for these populations

The four respondents that answered this item described ways that the home improvements will provide these opportunities because they've made existing housing more resilient. Two team members specifically described improvements to homes and the other two described improvements to apartment units or rental properties. Quotations are provided below for each category:

- **Home improvements:** “We have made improvements to houses that would be considered affordable for low-to-moderate incomes families” and “In this specific Bee Branch area... if [the residents] are not having water coming in, that would be a big improvement.”
- **Apartment unit or rental improvements:** "There's a lot more options with healthier units in them... [tenants] would have access to healthier apartments because [the BBHH program] did the healthy homes part of it. It wasn't just the water intrusion, there’s a lot of other issues that they helped with ... If there’s electrical issues or safety issues of the home, those were fixed” and “… But even the housing pieces, some of the rental properties, I’ll be honest, were in rough shape. In the last five years, we’ve come in and we’ve turned around and made those repairs.”

Additionally, team members also described the benefits of the City of Dubuque infrastructure projects, neighbors wanting to make improvements based on the BBHH projects, referrals for other housing programs through the City of Dubuque, and a general improvement in the strength of the area (“I’m not sure there’s more affordable housing, but I think, certainly, [the program] has kept people in their houses and ...it's a stronger area now than it was five years ago. I would definitely say that”).

Home advocates described providing information about housing programs through the City of Dubuque, affordable housing opportunities to tenants who were planning to move, and resources for additional home improvements.

Home improvements will result in reduced mental stress associated with the life disruptions common during flood events

Team members described several ways that participants’ mental stress may be reduced from the combination of the BBHH program and the City of Dubuque infrastructure projects:

- **Even though the impacts of water intrusion will vary based on the volume of water, team members described residents having less stress related to that intrusion – whether that is bailing water out of the basement to protect belongings, observing water puddling up, or calling the city to report water in the basement.**
- **“Less stress of having to deal with the cleanup [and] having things ruined” (i.e., wedding photos, furniture)**
- **“Not having to come up with the money...to get the repairs done.”**
- **Being able to use the basement as a living space or for storage**

One team member mentioned that tenants likely did not have the same impacts as homeowners. She noted that many tenants do not use their building’s basement. She reflected, “It sounds like the effect on people’s lives was maybe more prominent for the homeowners. And then the tenants, maybe the social [home advocate] side was what was more impactful for them.”

Home advocates described making referrals to participants for mental health counseling resources as needed and discussing the cleanup steps of water intrusion recovery with participants.
Improvements to housing structures will lead to measurable increases in property values

While the actual impacts of the improvements on property values will not be observable immediately due to the terms of the projects (5-year lien on the mortgage) and the unusual housing market following the COVID-19 pandemic, team members described the aspects of the project that will likely have an impact on property values.

All five team members described upgrades to the homes that would likely increase their values (i.e., windows, furnace, roof, sump pump, tuckpointing, sidewalks, water heaters). In addition, two or three team members each described the amount of money spent on individual projects, improvements on curb appeal, and the additional usable space in the house and the impact that each would likely have on property values.

Two team members made more general comments about these investments: “We have not increased the value of the house dollar for dollar what we put in, but I think it’s going to help them, definitely” and “We want people to stay, we didn’t want [the property] to be abandoned or to be an eyesore or even torn down when it didn’t have to be. So, to come in and help and do that has been really, really good for everybody in the City of Dubuque.”

Both home advocates noted that this aspect of the program is more linked to the construction aspect of the program.

Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents

The impacts of mold and mildew, and their mitigation, varied based on the layout of each home and the severity of the issue. For example, one team member described that improvements in basement spaces wouldn’t have as much impact for homes with exterior basement access. However, three team members described that the BBHH projects improved the air quality in basement spaces or the whole house. They described that the projects reduced the amount of dampness and musty odors in the homes. When describing the projects that would impact air quality, team members mentioned exhaust fans, air conditioning, windows, and doors.

While one team member described that the program was able to help residents who were getting sick, one home advocate noted that it’s difficult to tell who had improved health outcomes – especially because “I really, surprisingly, didn’t have a whole lot of people that had asthma…I thought there would be more of that.”

Overall BBHH Reflections

CEA asked team members to reflect on BBHH’s successes and overall impacts, as well as recommendations and next steps for the program from their perspective. They were also given an opportunity to provide any final comments at the end of the interview.

BBHH successes

When asked what had gone well in the BBHH program, most frequently, team members discussed the water-related improvements made to participants’ homes or the number or types of people in the program. In addition, two team members each mentioned community resources recommended to participants and generating neighbor interest in projects.

All five team members described either the improvements for participants or the number of participants in the program as successes. Four team members specifically mentioned reductions in water in the homes. One team member described that “I think residents were very happy that they no longer had issues. That seems to be the reason they applied for the program.” Complementary with that, another team member said that for most of the participants in the program “the water
intrusion has been corrected or they don’t get near as much in.” While two team members discussed specific numbers (i.e., “over 700 applications,” “We were able to help so many low-income people to get their homes fixed with water issues...It wasn’t just a handful. It was a lot, over 180”), one team member emphasized the program’s growing momentum. She said, “[We] got off to a very slow start, but once we got some momentum going, we’ve been able to really work on a lot of homes and make improvements for a lot of households. I think that’s the biggest success.”

Both home advocates described recommending resources to participants. One home advocate explained that because these were low- to moderate-income families, they may never have used community resources and, as a result of participation in the program, were able to get connected with things they needed but hadn’t know about. Recommendations described by one advocate included the Career Pathways Program, employment support, and resources or grants to make their homes more accessible. The advocates described sharing available resources with the participating families and walking them through the process if they were interested.

Two team members described the success of neighbors seeing what is happening in their community and getting interested. One said, “It takes a few to get started and working for people to go, ‘Oh, that’s what they’re doing’ or ‘that’s what it’s all about.’ Then people get interested and apply.” The other said, “It started out a little slow, and within a year, it just blossomed, just for the fact that when people saw a neighbor getting work done, they went and asked them about it... It caught on very, very well.”

Individual team members also described generating community interest through community meetings and getting more comfortable with the program as they got going (“learning curve”).

**BBHH recommendations**

When asked about challenges faced or recommendations for similar programs in the future, all five team members mentioned challenges or recommendations related to construction contractors. In addition, team members mentioned aligning expectations between the team and the participant, the COVID-19 pandemic, and team communication.

Specifically related to recommendations, two team members suggested that others consider the BBHH model if they are interested in doing this type of project.

Related to challenges with construction contractors, all five team members had perspectives that largely centered on a limited number of contractors bidding on projects. Three team members described that the reason was that contractors, especially the best-known contractors, had demand for new construction projects and preferred those over rehab work. Regardless of the reason, individual team members described that this lack of contractors impacted the quality of the work and project timelines. One team member noted that the program would accept the lowest bid which could also have contributed to lower quality construction in some cases.

Related to aligning expectations for construction work between the team and the participant, three team members had different perspectives on this. Two team members mentioned speaking to participants who were unhappy with the work on their homes. For example, one team member said, “There were some issues with some of the families not [being] happy with the contractors. There were some issues where they weren’t happy with the quality of the work or they felt like the communication wasn’t the best.” A third team member admitted that some of the highest-quality contractors were not the ones bidding on the projects, but also noted that “it’s hard to get A/B (quality) work when you’re dealing with a property that’s maybe in C/D condition.” She continued, “That’s probably the thing, to be more realistic about when you start, you’re not going to end up with a brand new rehabbed shiny project. You might not even be able to tell where we were unless you really know the work that we did.”

Related to the COVID-19 pandemic, two team members described the ways that the program was impacted. One team member described how COVID slowed down the work for about six months at
the beginning and then continued to delay construction projects when members of the crew got sick. The other team member described impacts on team members interacting with participants in the field. He described that before the pandemic, many of the project interactions happened face-to-face but that most of those direct interactions stopped until a vaccine was available. He mentioned that as of spring 2021, the team was starting to interact more while following safety guidelines (i.e., distancing, masks). He described an intentional process to get back to meeting face-to-face. This team member also described the benefit of the one-year extension for the IWA project. He said that the extension has allowed them to use all of their budgeted funds toward completing projects and “just help more people.”

Related to team communication, both Home Advocates mentioned the importance of good communication among the groups working on the project. One team member recommended meetings (even over the phone) periodically “so we’re on the same page.” She described that it would be helpful to know if a participant was not happy to help facilitate that communication or check in with them.

When reflecting on recommendations team members would make to someone interested in doing similar work, two team members said that the BBHH had a good model. One said, “I think anybody that’s looking at future grants and wants to do something will be able to model what we’ve done.” He described that they would see it as “successful,” “worthwhile,” and will garner appreciation from the people helped.

One team member said that they wished that the program could assist with other healthy homes issues (i.e., weatherization) that were not eligible through the grant.

**Overall impact of BBHH**

When asked about the overall impact of the BBHH project in the community, team members largely emphasized the home improvements. Individual team members also offered additional impacts or reflections on impacts to consider.

The four team members that highlighted home improvements described reductions in water intrusion and the gratitude of the participants. One team member described his experience connecting with a participant after the fact and the participant’s gratitude for being able to use his basement again. Summing up his remarks, the team member said, “I always go back to the fact that five, six years ago, when the forecast said rain, people didn’t get to sleep. Right now, when the forecast says it’s gonna rain, people sleep fine, saying ‘I’m glad it’s gonna rain.’ The biggest joy of the whole program is knowing that the comfort is there, and people are very, very, very appreciative of what we’ve been able to do.”

Individual team members listed the following impacts: the resources provided as part of the home advocacy aspect of the program, especially for tenants, training for community service providers to increase awareness of the importance of healthy homes and how it relates to someone’s overall health”, the City of Dubuque infrastructure projects, and the impact on low-income or fixed-income individuals that “would never have been able to make these repairs themselves.”

Additionally, two team members reflected on limitations to the program’s impact on the community. One home advocate commented that they had an impact on their “the clients, especially the tenants, but I feel overall that’s going to be lost because we’re going to hear more of the work that done on [the homes], which, rightfully so, that’s why they’re in the program.” Another team member said that the community likely does not recognize that the program benefits them.

**Next steps with BBHH or similar work in Dubuque**

Team members offered several different thoughts related to next steps or future work.

Two team members noted that additional funding would be needed to continue work similar to BBHH and that additional funding would help the existing programs, too. A team member said, “We know there’s so many homes here that still need repairs.”
Three team members noted that complementary with some aspects of BBHH, the City of Dubuque has a Lead and Healthy Homes program and a “rehab program” or CDBG-funded Housing Rehab program. The Lead and Healthy Homes program has home advocacy like BBHH (“I’m the healthy home advocate for that as well),” and Housing Rehab could offer opportunities for construction components (i.e., sump pumps, tuckpointing, foundation work) in addition to “remodeling type things” (i.e., siding, windows, painting, carpet).

A team member suggested continuing to follow up with community members about resources available in the community. She said, “I feel like there’s so many lost resources. People don’t know, obviously, because they constantly change and it’s hard to keep up on them. If families aren’t involved in any services, they don’t hear about them.” She mentioned resources like loan programs, securing insurance, and finding a medical home or getting to appointments.

**Other comments**

When asked if they had any other comments about the program, three team members made general positive comments about the program. In addition, one team member said, “I hope we can get more funding and we could help more people.”

Other comments that were directly related to comments elsewhere in the interview were described there.
Appendix

Appendix A – Bee Brach Healthy Homes Team Member Interview Protocol

As part of the evaluation of the Iowa Watershed Approach Project, the Center for Evaluation and Assessment is conducting interviews with key personnel from Bee Branch and Healthy Homes Resilience Program. The purpose of the interviews is to document the processes of the Healthy Homes Program.

Your responses will not be reported by name. However, because there are only a small number of team members, complete anonymity cannot be guaranteed.

Your participation in this interview is voluntary. You may decline to be interviewed, you may decline to answer particular questions, and you may ask that the interview not be used even after we have completed the interview.

The interview will take approximately 30 minutes. You may end the interview at any time. Please let me know if you need to leave or if you’d like to take a break and finish the interview later.

Findings from all interviews will be combined into one summary, and you will be given the opportunity to review the summary and make comments, corrections, or additions before the summary is considered final. When it is finalized, it will be given to the Healthy Homes Program staff for their use in planning and to the project funding institution, HUD, at which point it becomes part of the public record for the project.

Role
1. Would you describe your role in the BBHH program at a high level?
2. At this point we’ve talked to you several times over the course of the program. As we are wrapping up our evaluation of BBHH, is there anything that you’d like to share about your role either as it is now or as it’s evolved through the program?

Recommended Resources in the Last Year
3. In the last year, between summer 2020 and summer 2021, what have been the most common things that the program has done for participants?
4. [Home Advocate] During home visits in the last year, as you’ve made referrals for participants to address their needs, which resources have participants been most interested in?
5. What resources or home improvements (if any) do you think participants need or could benefit from that are not currently available in Dubuque?

Improvement of Life for Participants/Program Metrics
When the original proposal was written, the team identified a set of metrics for each component of IWA. The next set of questions is meant to explore progress on the metrics identified for this program. In the following items we will explore terms used in those metrics and perceptions of progress from your point of view. For the items about progress, if you answer yes or no, I will follow up about how you would support that choice, and if you don’t know, I’ll ask who you think we could follow up with to better understand a given metric.

Terms
6. Many of the metrics in the original BBHH proposal refer to “resilience.” How would you define resilience in terms of the BBHH’s goals?
7. Some of the original metrics also referred to “at risk” residents and neighborhoods. How would you define “at risk” residents and neighborhoods with respect to the BBHH program?

Individuals
8. Over the BBHH’s entire existence since 2016, how effective do you think the property improvements aspect of the program has been at increasing homes’ resilience to flooding and water damage?

9. How (if at all) do you think that property improvements reduced the mental stress associated with the life disruptions common during flood events?

10. How (if at all) do you think that property improvements have improved air quality in the homes?

Community

11. Because of the home improvements completed as part of the BBHH, do low- and moderate-income residents in Dubuque have greater access to affordable, resilient housing?

12. How (if at all) do you think that property improvements lead to measurable increases in property values?

13. [Home advocates] Looking back at each of these metrics, how have the home advocacy aspects of the program supported participants in any of these domains?
   - Increasing homes’ resilience to flooding or water damage
   - Reduction in mental stress related to life disruptions common during flood events
   - Reduction in asthma rates among residents
   - Increased access to affordable, resilient housing
   - Increases in community property values

BBHH Overview

14. Again thinking about the BBHH since its beginning, what aspects of the program, if any, do you feel have gone particularly well?

15. What recommendations, if any, would you give to someone wanting to implement a similar program in the future?

16. What do you see as the overall impact of the BBHH in the community?

17. What do you see at the next steps with BBHH or similar work in Dubuque?
   - Are any aspects of the program continuing?
   - Do you know of any other programs doing similar work?
   - Are there aspects of the program you wish would continue but may not?

18. Last question! Do you have other comments about the program, the process – anything else at all?
Appendix K – Bee Branch Healthy Homes program participant interviews, year 6

Introduction
This is a summary of interviews with participants in the Bee Branch Healthy Homes (BBHH) program carried out by the Center for Evaluation and Assessment (CEA) during the spring of 2022. This was the eighth and final set of interviews conducted with BBHH participants whose home improvement projects were completed at least six months prior to the interview.

Methods

Table 2. Program Participants 2020-21

<table>
<thead>
<tr>
<th>Program Participants Eligible for Interviews</th>
<th>Interested Participants</th>
<th>Interviewed Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2022</td>
<td>16</td>
<td>4</td>
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</table>

The BBHH home advocates contacted the 16 program participants in February 2022 for whom construction had been completed in the previous six to 12 months to provide them with information about the opportunity to participate in an interview. The list of participants who could be contacted and said they were interested in participating in an interview was then shared with the CEA, including their contact information and availability. The CEA was able to connect with and interview three of the four interested participants. Among these three participants, two were homeowners and one was a tenant.

The CEA team member conducting the interviews took notes throughout each interview, as participants asked not to be recorded, and these notes were used to construct this report. “They” has been used as a singular pronoun in the summary below to improve readability and ensure the anonymity of the participants. Findings are summarized by interview question.

Findings
Similar to past reports summarizing the feedback from BBHH program participants, the three interviewed participants were generally satisfied with the work that was done on their homes. Unlike in previous years, none of the participants described any negative experiences with contractors. Indeed, one participant spoke glowingly of the contractors and their work, though the other two participants had relatively minor complaints about the way work on their home was implemented. None of the participants reported memorable interactions with the project’s home advocates, instead they emphasized the positive impacts the construction work has had on their home and life. Two participants also emphasized that the application process for the project was complicated, and that this made it more difficult to recommend the program to others. When asked to reflect on the overall impact of the project on their lives, the three participants emphasized the impact of the work done on their homes, and highlighted how their lives were made more comfortable and less stressful.

What work was done on your home?
One homeowner participant described several improvements done on their property, including grading the exterior landscaping to keep water away from the basement, the installation of new windows and window wells that didn’t leak, and the installation of drains in their basement. The other homeowner also mentioned grading, as well as the installation of a carbon monoxide detector and venting to help with dampness and airflow. The tenant participant described that some walls in their home had been painted as a result of the work but reported that most of the work that had been done took place in the basement crawl space.

What was the best part of working with the Bee Branch Healthy Homes Resiliency Program?
Overall, participants described the impacts of the work done on their homes as the best part of the BBHH. The tenant participant described the painting work done in their home as the best part of
participating in the project, noting that they saw this paint each day. One homeowner also described the daily experience of seeing the finished work, noting especially that the new windows did not leak and were very visible. The other homeowner described the best parts of the program as the lack of water coming into their kitchen and the improvement in air quality due to the installed ventilation.

**What problems if any have you encountered working with the BBHH project?**
None of the participants reported serious problems, but two had some complaints about the way the work had been done. One homeowner described some of the gravel work involved in the grading work done on their property as “overkill” but did not have any significant issues with the work done as part of the project. This homeowner described a concern that some of the work done might lead downspouts on the property to freeze in the winter but reported that this had not happened yet and if it did, they knew how to fix the issue themselves. The other homeowner reported having faced no problems with the program but noted that the program was “a little confusing” at first. However, they said those involved in running the program were able to help them understand the process over time. The tenant participant said that, despite work done to seal up the home, they still had issues with mice.

**In what ways were your interactions with the home advocate helpful?**
None of the three interviewed participants reported memorable interactions with home advocates. The tenant participant and one homeowner did not remember interacting with a home advocate or anyone meeting the job description. The homeowner did share, however, that everyone they worked with on the project were patient and thoughtful. The other homeowner said they did not interact with home advocates themselves but reported that the home advocates did work with some of their tenants. They described the work the home advocate did with tenants as “helpful,” and noted specifically that the home advocate helped their tenants with searching for jobs.

**Ratings of Program Components**
The participants were asked to use a five-point scale (where five was the most positive and one was the most negative) to indicate how they felt about four different aspects of the program. As seen in Table 2, participants rated most aspects of the program positively, but noted that the application process was difficult to complete. The tenant and one homeowner participant also said they could not enthusiastically recommend the program to friends and neighbors. The tenant said this was because not all of the contractors and team members they encountered were helpful. The homeowner noted that they had recommended the program to friends and neighbors, but found they were unwilling to apply due to the complexity of the application process. Specifically, they noted that the people he spoke with were concerned about sharing their banking information.

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<tr>
<th>Item</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>N/A</th>
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<tbody>
<tr>
<td>How helpful was it to work with Home Advocates?</td>
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<td>2</td>
<td></td>
<td>1</td>
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<tr>
<td>How easy was it to complete the application?</td>
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<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>How likely would you be to recommend this program to friends or neighbors?</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>How easy was it to work with contractors on construction work?</td>
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<td>3</td>
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</table>

**In what ways do you think participating in the BBHH project will have an impact on your life?**
All three participants described how the work done on their home had improved their life in some
way, emphasizing improved comfort or piece of mind. The tenant participant again emphasized that they liked the painting work that was done in their home but said they had not been into the basement crawl space to see if the work there had reduced or removed water. One homeowner simply said that their life had been improved because there was no longer water collecting in their basement. The other homeowner listed several positive impacts the program had on their life. They described how they no longer worried about mold or carbon monoxide and constantly needing to clean up water in their house, saying this made their life more comfortable. They concluded that they were now able to focus more of their attention on other areas of their home and of their life, and that it was easier to take pride in their property when it is well maintained.

**Do you have any other thoughts about the BBHH you would like to share?**
The two homeowner participants offered some concluding thoughts. One homeowner emphasized repeatedly throughout their interview that their experience was “wonderful” and expressed that they were “very grateful” for the work done. They specifically highlighted that everyone involved in running the program, including contractors, were patient and thoughtful, and mentioned that everyone was particularly kind and generous to their daughter with autism (who they also reported made friendship bracelets for some of the contractors, who graciously accepted). The other homeowner concluded that they liked the program overall and were eager to sign up as soon as they heard about it. This participant commented that the work done added value to their property for little cost, and concluded “what’s not to like?”
Appendix L – Flood Resilience Team history

FRT Progress by Year

Year One
During the first year of IWA, the team focused on fostering connections with relevant groups across the state and engaged in research and discussion related to the best ways to define and measure flood resilience. At first, FRT planned to work with watersheds in a cohort model, with 3 years spent on each cohort, but this was moved away from in order to meet the needs of all watersheds as they worked to develop their watershed plans.

A noteworthy development during year one was that FRT established a partnership with the Iowa Department of Homeland Security and Emergency Management (HSEMD). Driven by both teams’ interest in the human aspects of flood resilience, the teams created a partnership to work with watersheds to develop watershed plans to complement county Hazard Mitigation Plans. This partnership and work continued through all six years of IWA. Similarly, partnerships with Hawkeye Area Community Action Program, Luther College Center for Sustainable Communities, and Northeast Iowa RC&D, forged in year one, developed into central pieces of FRT’s work over the length of the program. Other partnerships that began during year one, however, did not develop much past the first year, including the convening of the Clear Creek Flood Resilience Action Group and engagement with the Resilient America Roundtable (RAR) in Cedar Linn County. A collaboration with the Dubuque Bee Branch Healthy Homes Program (BBHH), also funded by IWA, began in year one but failed to materialize meaningfully until year six.

By the end of the first year of IWA, FRT members defined three goals for the group:
1. Measure, visualize, and communicate flood resilience resources
2. Enhance flood resilience content in formal watershed plans
3. Improve social resources for flood resilience

Year Two
In year two, FRT began work on Flood Resilience Action Plans (FRAPs), documents focused on specific communities. While the documents were originally intended to be case studies of local efforts, the focus expanded in year three to detail relevant strategies to prepare for flooding issues, informed by the community’s local geography and population. The FRAPs were originally planned to be developed in-house by FRT members, but this also changed during year three, when local consultants were brought on to complete most FRAPs. Throughout year two, FRT continued their outreach efforts, connecting especially with WMAs (including attendees, board members, and project coordinators). While WMA members and coordinators initially reported some confusion about the role of FRT, by the end of year two, coordinators indicated that they increasingly understood the role of the FRT and reported benefitting from the FRT through...
clarification of the FRT’s role within IWA, gaining a better understanding of the concept of community resilience, and getting FRT support in creating presentations for local residents.

Year Three

Year three saw a refinement of the goals of FRT. This reorganization remained the framework for the group’s activities throughout the remaining years of IWA. The group’s activities were organized into the following efforts which made progress during year three:

- **Flood Resilience Action Plans and Social Resilience How-To Guide:** During year three, FRT decided that, rather than developing FRAPs in-house, the plans would be developed by consultants hired by FRT. The final product anticipated from these sub-consultants will be community-scale plans that enable community leaders to engage in mitigation efforts, develop more comprehensive plans for responding in times of flooding and disaster, and to help communities be more prepared for disaster and decision making. Seven communities were selected to develop FRAPs, two of which were in progress during year 3. In response to feedback about the presentation of social vulnerability information in community plans, the FRT planned to develop a How-to Guide for planners on ways to incorporate social resilience information into watershed plans in a useful and accurate way.

- **FEMA Multijurisdictional Plans and Flood Mitigation Elements for Watershed Plans:** The FRT collaborated with the HSEMD and the IFC to support the development of FEMA multijurisdictional flood hazard mitigation plans. Specifically, they began developing a methodology to determine if acceptable economic benefit-cost ratios could be achieved using proposed IWA flood mitigation practices to produce an analysis that is “credible and actionable from FEMA’s perspective.” Building on the work from Year 2, the FRT also collaborated with HSEMD to integrate flood mitigation elements into IWA watershed plans.

- **Community Care Coordination System:** Building on discussions with Hawkeye Area Community Action Program (HACAP) from the previous years, and now also in collaboration with the United Way of Linn County, in Year 3, the FRT team continued to seek ways to support vulnerable populations in Linn County during and after flood events.

- **BBHH Social Resilience Survey:** The FRT collaborated with the Bee Branch Healthy Homes (BBHH) team since Year 1 to develop and administer social resilience surveys to participants in the BBHH program.

- **Outreach and Education:** FRT continued regular outreach with local and national stakeholders who were also engaged in community resilience work. Specific outreach efforts and presentations are documented in each IWA Annual Report.

During year three, FRT also worked to visualize flood resilience and social vulnerability information (SVI) onto maps. FRT connected with potential end-users of these maps, who
expressed that the maps were interesting and potentially useful but required more information. Ultimately, these efforts were not pursued, with FRT-lead Craig Just describing them as not very useful, though well-intentioned. He stated that the maps would have taken much more work in order to be useful, or that another tool might have been necessary altogether (Appendix P).

Year Four

In year four, it became clear that three FRAPs would focus on social resilience, three on producing technical documentation for use in applications for implementation funds, and one on both. In year four, two FRAPs were completed and disseminated to stakeholders (Freeport and Vinton). From their findings, the Freeport and Vinton FRAP developers identified recommendations and opportunities to increase resiliency that target communities can implement. FRAP developers at Luther College stressed that the Freeport FRAP is intended to be integrated into other planning documents that address flooding issues, rather than as a stand-alone document. At the same time, work had begun on the Coralville, Quasqueton, and Iowa County FRAPs. Astig Planning, LLC, the developers of the Coralville FRAP, were also hired to develop the social resilience how-to-guide for FRT. The guide was intended to focus on innovative practices and lessons learned and is intended for a national planning audience.

Year four efforts related to multijurisdictional flood mitigation project planning focused on the creation of a formalized process for developing flood mitigation from a watershed approach because that is not the typical process for HSEMD or FEMA. HSEMD especially emphasized the importance of showing a measurable benefit-cost-analysis (BCA) for these projects. In year four, FRT and HEMD began actively pursuing multijurisdictional flood mitigation project applications to submit to FEMA’s Building Resilient Infrastructure and Communities (BRIC) program for the January 2021 and 2022 deadlines. While the multijurisdictional plans were originally intended to be directly informed by watershed plans, it was found that the flood mitigation information in the watershed project plans was not specific enough for the needs of FEMA applications.

Efforts related to the development of a coordinated care system and a self-care train the trainer curriculum began in year four but were delayed due to a change in employment by the central consultant for the project. In partnership with Amy Grunewaldt (former Director of Strategic Collaborations at United Way of East Central Iowa and current... ) and the team at Signify Community, FRT began discussions about how the intersection of flood risk data with other social vulnerability indicators in the My Care Community platform might further enhance a community’s ability to comprehensively care for their at-risk or LMI residents. Additionally, Grunewaldt planned to create a self-care train the trainer curriculum to support case managers in the aftermath of a disaster. The need for such a training had been previously identified by stakeholders from the Hawkeye Area Community Action Partnership (HACAP).
Year Five

The Coralville, Quasqueton, and Iowa County FRAPs were completed and shared with stakeholders in year five. Both the East and West Nishnabotna FRAP and the North Raccoon FRAP were in progress. The Nishnabotna FRAP had an identified community (Riverton) and local planners had been hired to begin planning. The North Raccoon FRAP had an identified community (Gowrie), but efforts to build a partnership with the city had been unsuccessful. Instead, FRT moved forward independently, planning to perform a modeling exercise internally within the Iowa Flood Center to demonstrate potential benefits of flood mitigation projects in the area. The social resilience how-to guide was also completed during year five. The guidebook discusses “an approach for implementing a FRAP and provide additional examples on how to do so within a context of compounded disasters” and “aims to help planners build strategies that are innovative, flexible, and engaging for building community resilience during challenging times.” IFC was working with the University of Iowa College of Engineering to find a permanent online home for the guidebook.

FRT’s collaboration with HSEMD on multijurisdictional flood mitigation project planning continued in year five. The collaboration produced applications for federal funding on behalf of Dubuque County, Dyersville, Vinton, and Iowa County. Dubuque County’s application for $600,000 in planning funds to Natural Resource Conservation Service Watershed and Flood Prevention Operations (NRCS WFPO) was successful, while both Iowa County’s and Dyersville’s FEMA BRIC applications were unsuccessful.

The development of a coordinated care system and a self-care train the trainer curriculum saw significant progress in year five. Three goals were clarified for the project:

1) Develop new tools within the Signify Community platform for identifying clients who have high flood risk and those who identify as having flooded in the past.
2) Develop case manager workflows to aid in managing clients with chronic and acute needs (e.g., flood trauma) and connect clients with appropriate resources.
3) Create, host, and publicly share a Self-Care Train the Trainer Curriculum designed to address the stress experienced by case managers as they work within the midst of traumatic events.

Signify Community (formerly TAV Connect) is an online platform for care coordination produced by Signify Health and used by many organizations that provide community care in Iowa. FRT’s efforts added a new tool for care coordination to the Signify Community platform. This new tool allows care providers to identify, within their current platform, those at risk of flooding or who have experienced flooding in the past. With this new feature in place, care providers will be better able to understand the needs of vulnerable community members and better coordinate their care. A training module for the new workflows was developed and conducted virtually due to COVID-19 (meeting objectives (1) and (2) as described above). Grunewaldt, the contractor hired to oversee the development of the program, reported that the new features and the training module were used at about twenty-seven community-based organizations as of year five.
As of May 2022, CEA has received no updates on objective (3), the Self-Care Train the Trainer Curriculum.

**Year Six**

In year six, FRT activities wound down as IWA funding neared its end. The Gowrie FRAP was completed by IFC. The document, smaller in scale than the other FRAPs, provides information about the North Raccoon watershed, including topography, land use, drainage, and existing BMPs. It recommends Gowrie conduct a stormwater infrastructure assessment, as this infrastructure may be contributing to flood damage in the city. The Riverton FRAP was still in progress as of June 1, 2022, with discussions ongoing between FRT and JEO, the FRAP contractor. Logic models for the Freeport, Vinton, Coralville, and Quasqueton FRAPs were developed by CEA. Freeport and Vinton’s models were shared in the years four and five annual report, respectively, while the Coralville and Quasqueton models can be found in Appendix Q and R.

Originally slated to begin in year three, analysis of the BBHH social resilience survey data began during May 2022. Issues related to data access delayed the analysis.

Despite several unsuccessful FEMA funding applications, Larry Gioffredi of HSEMD said that the design and engineering work that went into the application for FEMA can now be reused to pursue funding through different sources, including state flood recovery fund and planned to continue HSEMD’s efforts to support Iowa communities in pursuing these applications. See Appendices N and O for full summaries of Gioffredi’s reflections on the legacy of HSEMD’s work with IWA.
Appendix M – Resilience outreach to IWA watersheds

Resilience Outreach to IWA Watersheds
This appendix has been assembled to provide evidence about Flood Resilience Team efforts to “promote awareness” in the IWA watersheds. Programs to “promote awareness” have been broadly defined by the FRT to include outreach and education activities.
The following sections outline outreach efforts about flood resilience generally and outreach directly related to the Flood Resilience Action Plan efforts.

Outreach efforts about flood resilience
In IWA Years 2 and 3, FRT conducted outreach to the IWA watersheds. Here are excerpts from the IWA Mid-Program Review.

Year 1
“UI FRT members engaged in research and discussion related to the best ways to define and measure flood resilience, presented their program during two rounds of WMA meetings, and fostered connections with other people and groups in the state interested in flood resilience work.”

Year 2
“In August-October 2017, WMA meeting attendees across project watersheds reported varied levels of understanding of the role of UI FRT. During May-August 2018, the UI FRT either presented WMAs with an introduction to flood resilience or a discussion of resilience as it applies to flood mitigation and hazard planning work. In all cases, when asked in a survey to identify which aspects of the flood resilience work were most important to their watersheds, responses were varied and included things such as providing them with links to emergency management agencies, the “social side” of resilience, the potential to plan and mitigate flooding based on models and simulation, and the need for more communication and awareness about flood risks and mitigation potential.
In Year 2, the UI FRT led and participated in meetings with parties both internal and external to the IWA. The purpose of some of the meetings was to explore potential connections, and then build on these connections. These connections included groups from private industry related to water issues, RC&Ds, and existing disaster recovery coalitions.
Over the course of Year 2, the PCs indicated that they increasingly understood the role of the UI FRT and reported benefitting from the UI FRT through clarification of the UI FRT’s role within IWA, gaining a better understanding of the concept of community resilience, and getting UI FRT support in creating presentations for local residents. One watershed planner said they planned to use UI FRT support for “connecting the resiliency plans with hazard mitigation plans so they are recognized by FEMA and emergency management.”

Year 3
“In addition to the targeted activities of the UI FRT, the team regularly interacted with local and national stakeholders who were also engaged in community resilience work.”
## Outreach efforts related to the Flood Resilience Action Plans

<table>
<thead>
<tr>
<th>Watershed</th>
<th>FRAP outreach</th>
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<tbody>
<tr>
<td>Clear Creek</td>
<td>• Exploratory phase: Meetings with partners and stakeholders</td>
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<tr>
<td></td>
<td>• Outreach and education: COVID-safe outreach activities (social media collaborations, a video campaign, emails, postcards, two online workshops in the summer, phone calls, interviews and surveys)</td>
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<td>• Data collection: Online and in-person surveys, workshops for community input, submission of stories</td>
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<td></td>
<td>• Dissemination: FRAP published on website, presentation to City Council, distribution via social media, copies of plan available at library and food pantry</td>
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<td>• Astig Planning LLC received an award at the APA Iowa Chapter Annual Conference for their work on the Coralville Flood Resilience Action Plan.</td>
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<tr>
<td>East and West Nishnabotna</td>
<td>• Riverton Road Technical Advisory Committee would bring community members (watershed project coordinator, IDNR representative for an impacted area) into meetings when input was needed</td>
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<tr>
<td></td>
<td>• In March 2022, team members from JEO and IFC described current efforts on their Riverton Road Mitigation Study, the EWNWMC Flood Resilience Action Plan. They reported that the project will wrap up in June 2022.</td>
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<tr>
<td>English River</td>
<td>• The English River/F67 report was wrapped into a proposal for FEMA Building Resilient Infrastructure and Communities (BRIC) proposal submitted in January 2021</td>
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<tr>
<td>Middle Cedar</td>
<td>• Planning &amp; Development: Attend community events and Benton County Disaster Recovery Coalition meeting, conduct one-on-one meetings with community leaders and elected officials, key informant interviews with Vinton residents who experienced flooding, conduct doorstep interviews with Vinton residents, conduct phone interviews with citizens who experience flooding, organize community conversations with Vinton residents who experienced flooding, survey community conversations attendees</td>
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<td></td>
<td>• Dissemination: Publish online the Flood Resilient Vinton website, send digital PDF to project stakeholders, Facebook post by Iowa Valley RC&amp;D, press release with information on how to find report, presentation at 2020 IWA project management meeting, BCDRC, and City of Vinton Council</td>
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<tr>
<td>North Raccoon</td>
<td>• N/A – Gowrie FRAP process did not involve community input or dissemination</td>
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<tr>
<td>Upper Iowa</td>
<td>• Planning &amp; Development: Interview community members, survey community members</td>
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<td></td>
<td>• Dissemination: Public online on Luther website, share with Northeast Iowa RC&amp;D, present during summer workshops for watershed managers, organize community meeting</td>
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<td></td>
<td>• Follow up: Facilitate a meeting with formal response team, participate in the planning of the Winneshiek County hazard mitigation plan, ongoing information communication with Freeport community members</td>
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<tr>
<td>Upper Wapsipinicon</td>
<td>• Planning &amp; Development: Communicate with residents, home community meetings, disseminate survey to residents</td>
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<td>• Dissemination: Printed copies provided to the city, FRAP shared on Upper Wapsi WMA website</td>
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<td>• In August 2021, Evelsizer presented the Quasqueton Flood Resilience Acton Plan.</td>
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Appendix N – Partner interview, HSEMD

Partner Interview: Larry Gioffredi (HSEMD) and Logan Drake (CEA)
September 13, 2021

In Fall 2021, the CEA team conducted interviews with key team members from several IWA Partner organizations. The interviews focused on understanding the Partners’ perceptions of IWA and their views of how work related to the IWA might continue after the project’s funding expires. Questions covered perceptions of each partner’s contributions to the IWA, outcomes and shortcomings of the IWA in general, the impact of the IWA on the partner organization, and ideas for how the work of IWA could go forward in Iowa.

Larry Gioffredi represented the Iowa Department of Homeland Security and Emergency Management and the following summarizes their answers to each interview question.

Looking back over the last 5+ years, what do you see as your organization’s most important contributions in IWA?
Gioffredi described HSEMD’s efforts to integrate local hazard mitigation planning at the scale of an entire watershed as his organization’s most important contribution to IWA. He emphasized how, prior to IWA, the organization’s work had largely operated at a more discrete, local community level. He also described the production of flood risk assessment tools as another important contribution and stated that those tools should be able to help inform communities’ future risk assessments in a more consistent and better-informed way.

How (if at all) do you see your organization building on these IWA experiences going forward?
Gioffredi described how he hoped to leverage the creation of the risk assessment tools to create a positive feedback loop between HSEMD and the communities they support. “As these jurisdictions continue with their risk planning, the actions they take can then inform what products we deliver to them.” He highlighted a difficult balance between providing products and resources that are useful while not being so tailored to a single community that they cannot be used elsewhere.” In a context of limited resources, he also emphasized that it would be difficult to continue to provide the same level of support and products across the entire state, but also emphasized how collaborative efforts with organizations such as the Iowa Flood Center and the DNR could broaden the scope of work beyond what HSEMD could accomplish alone.

What do you think will be the overall impact of IWA in Iowa?
Gioffredi described the overall impact of the IWA as “solid,” and again emphasized the value of hazard mitigation planning on the watershed scale. He also explained how focusing on the watershed scale had given him an appreciation for the interconnected nature of water quantity (flooding) and water quality. By recognizing that connection going forward, he said “we have a foundation to leverage additional resources” by building water quantity components into their work with organizations such as IDALS and DNR to extend existing funding.

If we could go back in time to the beginning of the project, what could have been done differently to improve IWA?
Gioffredi emphasized that he saw the overall project as successful. He described how, in retrospect, he would have liked to see the program focus on understanding flooding from a flood stage elevation perspective, rather than focusing on peak flow reduction. He stated that considering flood elevation is what causes damage to property, rather than peak flow, which may not impact properties at all depending on the flood elevation. He described this lesson as emerging from the work of the IWA, rather than being known up front,
and cautioned that it would have been difficult to define flooding in terms of flood stage within the scope of the application, due to difficulties in measuring flood state in a meaningful way.

Looking forward, what aspects of IWA should continue in the state? What will need to happen for this to become reality? What challenges exist that could work against progress going forward?

Gioffredi again emphasized the value of integrating hazard mitigation planning with watershed planning. He described watershed scale planning as “the future” and as the most effective use of limited resources. To make that a reality, he argued that federal resources need to recognize the importance of operating at the watershed scale and that local jurisdiction need to learn to “look beyond their own boundaries” and collaborate meaningfully. He described WMAs as an essential means of enabling that collaboration and argued that the IWA WMAs need to be “ongoing entities” with coordinators that can bring local communities together to collaborate. He stated that it would be ideal if FEMA funds, or other federal funding, could be directed through HSEMD to watershed coordinators to maintain those positions, but said that such an arrangement was not possible currently. “We might be able to throw a couple dollars to them to help with individual projects,” but not to regularly support the coordinator.

When you think back on your (or your organization’s role) in the IWA, what are you most proud of?

Gioffredi expressed his pride in the collaborations HSEMD had engaged in with IWA partners and local jurisdictions as part of the IWA and with the Best Practices Guide HSEMD had developed for those local jurisdictions as part of the IWA. He described how the guide would serve as a tool that local communities could use to identify resources and potential projects to implement at the watershed scale.
Appendix O – HSEMD interview

Interview Summary: Larry Gioffredi (HSEMD)
November 29, 2021

Glossary of Terms
BRIC: Building Resilient Infrastructure and Communities (FEMA grant program)
DNR: Department of Natural Resources
FEMA: Federal Emergency Management Agency
HMA: Hazard Mitigation Assistance (FEMA grant program)
HMGP: Hazard Mitigation Grant Program (FEMA grant program)
HSEMD: Iowa Department of Homeland Security and Emergency Management
HUD: US Department of Housing and Urban Development
IDALS: Iowa Department of Agriculture and Land Stewardship
IWA: Iowa Watershed Approach
NRCS: Natural Resource Conservation Service

Summary
In November 2021, Larry Gioffredi and Valerie Decker met to discuss Gioffredi’s reflections and lessons learned from the Iowa Department of Homeland Security and Emergency Management’s role in IWA. The interview was designed in alignment with the evaluation questions defined for this component of the project. The four questions discussed included:

• At a high level, what does this process for developing flood mitigation project plans in target areas in Iowa look like?
• In your opinion, to what extent is this process replicable across communities in Iowa?
• What opportunities, challenges, and lessons learned did you encounter along the way?
• Do you anticipate that this type of support will be available through your organization in the future?

The following is a summary of the conversation organized by high-level topics.

Process for developing flood mitigation projects
Gioffredi described the standard process for working with FEMA’s HMA funding programs, including HMGP and BRIC, while acknowledging the funding process looks different when working with other organizations such as NRCS, DNR, or IDALS. Gioffredi described two tracks along which projects can be submitted to FEMA through HSEMD. First, an applicant can initiate the process when there is a need for a project referenced in their flood mitigation plan by contacting HSEMD. Second, HSEMD can actively seek out applicants who meet the general requirements needed to fulfill state-level hazard mitigation priorities and solicit applications. Gioffredi stated that Jim Marwedel’s work has largely fallen in this latter track.

Gioffredi then described the process HSEMD uses to move from project proposals to formal applications submitted to FEMA. He listed several factors HSEMD uses to determine which applications are “valid” and should be supported by HSEMD. These factors included an integration of the applicant’s watershed plan and the FEMA hazard mitigation plans, project feasibility, alignment with state level flood mitigation priorities, and alignment with the area’s own hazard mitigation plan.

Once a project is determined to be valid, Gioffredi described how the applicant develops a detailed scope of work—including design, engineering, and a benefit-cost analysis. HSEMD then reviews the completed
application and, if they still support it, submit the application to FEMA for consideration.

**Replicability Across Iowa**
Gioffredi stated that he saw the watershed approach as generally replicable across Iowa, but he noted that the watershed approach may not work in every Iowa community because of their geographic characteristics. For example, he described how a community located near the headwaters of a watershed would be a better target for a watershed-based practice than a community located further downstream. Additionally, he described how many small communities in Iowa do not have enough infrastructure at risk in order to meet the benefit-cost results required for federal funding. In his work so far, he described encountering some communities that meet the geographic requirements for a watershed-scale project but lack the infrastructure value to enable federal funding. In this way, he said the watershed approach is not replicable in every Iowa community, but that there is a subset of communities where the watershed approach can be deployed to great effect. He stated that he and Marwedel developed a method for determining if a community is a viable candidate for a watershed project based on the area in the watershed above them and the significance of their infrastructure. Using this framework, he hopes to be able to develop an inventory of possible projects to have on hand when funding opportunities arise.

**Lessons Learned, Opportunities, and Challenges**
Gioffredi stated that going forward HSEMD hopes to utilize the funding available within BRIC funding for project scoping to provide greater, more consistent hands-on assistance to applicants in developing their applications. He described how HSEMD has always had staff willing to provide this more intensive support but that funding limitations have made that level of engagement unsustainable. However, he said that the BRIC application process HSEMD worked on with the English River watershed taught them that this support can be very valuable.

Gioffredi also described how his own understanding of the watershed approach and flood resilience has changed through his experience with the IWA. He described realizing that while resilience and mitigation are complimentary, they are not the same and stated that a focus on resilience within mitigation efforts helps maintain a focus on helping vulnerable communities. While this combination is valuable, Gioffredi described how it can also produce complications when working with multiple federal agencies. For example, he stated that FEMA is typically more focused on flood mitigation while HUD’s primary focus is assisting vulnerable populations. Going forward, however, he said that his work with IWA has taught him to consider in each project how it may be able to benefit vulnerable communities.

Gioffredi described the willingness of HSEMD’s federal partners—including FEMA, NRCS, and the US Army Corps of Engineers—to consider watershed scale projects as an opportunity he hoped to continue to leverage. He stated that many of these partners, especially FEMA, had traditionally focused primarily on localized projects, but that the IWA had prompted them to begin considering larger-scale watershed projects. He described his observation that these federal partners have begun to offer more consistency in how they define certain concepts within their application process and stated that HSEMD plans to continue to monitor and leverage this growing awareness and acceptance of watershed scale projects.

Additionally, Gioffredi described opportunities to repurpose applications which failed to secure federal funding. As an example, he cited Dyersville’s unsuccessful FEMA application, and said that the design and engineering work that went into the application for FEMA can now be reused to pursue funding through different sources, including state flood recovery fund.

He also mentioned that the concept of the watershed approach has not yet been introduced to or embraced by all the staff within HSEMD’s HMA programs. He described this as an opportunity for continuing to
increase awareness of the watershed approach. While Marwedel’s efforts within the Mitigation Bureau have embraced the watershed approach, Gioffredi said that additional resources focused on the watershed approach would allow the organization to scale the number of watershed projects they were able to support. He described his vision of continuing to educate HSEMD staff on the watershed approach, allowing them to better identify watershed-scale opportunities, and integrating this vision into existing HMA programs rather than creating a separate watershed program.

Finally, Gioffredi described the continued uncertainty around federal funding for flood mitigation as an ongoing challenge. While he stated the emergence of set-asides such as the one featured in the BRIC program provide some degree of predictable funding, federal funding is inherently unpredictable, especially when trying to leverage funding from multiple programs across multiple federal agencies. He stated that collaborative organizations such as the FEMA Region Seven group and the Silver Jackets meetings would be valuable means of bringing together many partners, including federal agencies, to continue dialogue and collaboration.
Appendix P – Partner interview, Flood Resilience Team

Partner Interview: Craig Just (Flood Resilience Team) and Logan Drake (CEA)
9/8/21

In Fall 2021, the CEA team conducted interviews with key team members from several IWA Partner organizations. The interviews focused on understanding the Partners’ perceptions of IWA and their views of how work related to the IWA might continue after the project’s funding expires. Questions covered perceptions of each partner’s contributions to the IWA, outcomes and shortcomings of the IWA in general, the impact of the IWA on the partner organization, and ideas for how the work of IWA could go forward in Iowa.

Craig Just represented the Flood Resilience Team, and the following summarizes his answers to each interview question.

Looking back over the last 5+ years, what do you see as your organization’s most important contributions in IWA?
Just described FRT’s most important contribution as “helping our state hazard mitigation planning folks build the capacity to apply for federal dollars to mitigate our flooding issues in Iowa.” He stated that FRT’s “biggest goal” was to make the state of Iowa more competitive for federal flood mitigation dollars, and that recently submitted FEMA BRIC applications put together in collaboration with Jim Marwedel of HSEMD was a major success toward that goal. He described expecting Marwedel and HSEMD to “carry the mantle… forward” and continue to put together applications into the future, with or without the direct help of the FRT.

How (if at all) do you see your organization building on these IWA experiences going forward?
Just described how his own work and career would progress after IWA. Now that the FRT has established flood mitigation capacity in Iowa, he stated that he expects to “let that capacity be maintained by others” while continuing to work on issues of water quality in collaboration with communities. He described how future work to utilize relationships he had built up with state agencies by being part of the IWA. As an example, he cited a recent grant related to wastewater work that he was awarded “all through ties and people that I met through the IWA,” and which emerged from a conversation which started at a IWA partner meeting.

What do you think will be the overall impact of IWA in Iowa?
Just emphasized that the IWA had shown that change can be made in the state. “If you work hard, hustle, you can make change… you can’t deny that now… because it just got done.” Going forward, he said, the question is how to do this same work at a larger scale. Now, he said, it is up to leaders at the state or federal level to continue and expand this work because there are “no excuses [that] it’s complicated and we don’t know how to do it.”

If we could go back in time to the beginning of the project, what could have been done differently to improve IWA?
Just described how efforts to visualize the geography of social vulnerability in areas the IWA worked did not produce useful results. Just described how he had pushed for the creation of these maps in order to provide useful visuals of vulnerability and ensure the project’s funding did not exclusively benefit wealthy communities. However, “in the end, those [maps] aren’t really very useful.” He stated that the maps would have taken much more work in order to be useful, or that another tool might have been necessary altogether. He concluded that “if I had to do it again, I wouldn’t have bothered spending time on that.”

Looking forward, what aspects of IWA should continue in the state? What will need to happen for this to become reality? What challenges exist that could work against progress going forward?
Just emphasized the importance of watershed coordinators for connecting with landowners, completing projects, and holding watershed communities together. “Every community needs a mayor... they need someone to be a champion. And I think without that it’s just going to regress back to the way it was, and you’re going to get watershed management authorities that are going to come undone.” He expressed little hope that state-level agencies such as DNR would provide funding to continue paying for watershed coordinators after IWA and theorized that private partnerships with organizations like the Iowa Soybean Association or the Iowa Ag Water Alliance might be able to provide the necessary funding. He also described how cities at the bottom of a watershed might have an interest in paying for a coordinator, given the city’s geographical position within the watershed. He cautioned, however, that not every watershed has such an anchor city.

When you think back on your (or your organization’s role) in the IWA, what are you most proud of? Just began his answer by stating that the FRT had “met all of our north star goals,” and then discussed his specific pride in the FRAPs (Flood Resilience Action Plans) developed in several communities by the FRT as part of the IWA. He emphasized how the FRAPs “have already been used to apply for more money,” fulfilling his goal of having the documents be useful and practical, rather than “stuffy, sit on the shelf documents.”

He also expressed pride in submitting a FEMA BRIC application in collaboration with Jim Marwedel of HSEMD. “Even if it doesn't get funded. The fact is people now know about that program... so now hopefully we could repeat.”

Finally, Just said he was proud of the Planning Guide developed by Astig Planning on behalf of the FRT. He described repeatedly hearing from professional planners that they felt unable “to stick all the parts together to do a watershed-based plan” as they had never been trained how to do so. The planning guide addresses this lack of planning, he said, and will be disseminated at the American Planning Association meeting and will be submitted for publication in planning magazines.

What else would you like to say about the IWA project? What haven’t I asked you that you wanted to say? Just described how the IWA had “totally transformed his entire career” and emphasized the focus on benefiting the state as a whole, the connections he made with state agencies, and the large scale of projects undertaken by the IWA. He concluded that he is “bound and determined” to have his future work benefit Iowa as a whole.
Appendix Q – Coralville Flood Resilience Action Plan Logic Model

Coralville Flood Resilience Action Plan Logic Model

Primary Audience: 1) Coralville City Council and 2) Coralville city staff

Issues to be addressed by Coralville FRAP:

Main issues identified: 1) frequent stormwater flooding, 2) displacement of low and moderate income (LMI) residents, 3) flood education gap among residents, and 4) service gaps for LMI residents.

Anticipated Impact: Improving the social resilience of socially vulnerable communities, especially low to moderate income residents.

Impact on residents: Residents will have access to greater social infrastructure (through nonprofits and other service providers).

Impact on City of Coralville: The FRAP will highlight remaining gaps in flood resilience at the neighborhood and community levels to guide future planning and can be added to the list of flood and stormwater protections already in place.

Impact on non-profits: Non-profits are more aware of the needs of LMI residents and are better able to collaborate to provide services during disaster-related events.

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<tr>
<th>Input</th>
<th>Activity</th>
<th>Phase</th>
<th>Activity</th>
<th>Participation</th>
<th>Output</th>
<th>Immediate</th>
<th>Intermediate</th>
<th>Long-Term</th>
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<tbody>
<tr>
<td>• Astig staff (planning and facilitation)</td>
<td>Exploratory phase</td>
<td>Developing project and outreach strategies</td>
<td>Astig staff</td>
<td>City officials (administration, mayor, and staff)</td>
<td>City: City of Coralville considers social resilience in additional to structural mitigation when considering flood management.</td>
<td>Both the city and residents have a clearer plan in place for social resilience in response to floods.</td>
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<tr>
<td>• City officials</td>
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<td>Meetings with partners and stakeholders</td>
<td>“Partners and collaborators”</td>
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<td>• John Boller at CCFP (community engagement and graphic design)</td>
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<td>• Judy Joyce at Impact 7G (ideation and networking with businesses)</td>
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<tr>
<td>Outreach and Education</td>
<td>COVID-safe outreach activities, including social media collaborations, a video campaign, emails, postcards, two online workshops in the summer,</td>
<td>Astig staff Community members John Boller at the CCFP</td>
<td># and types of social media collaborations (and engagements #s)</td>
<td># of phone calls and interviews (# of people contacted)</td>
<td>City: The Coralville FRAP informs future planning and flood work, and is revised every two years. The city adopts changes to invest in outreach and educating the public on flood risks and resources.</td>
<td>Coralville invests in the local social infrastructure to enable social resilience.</td>
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Ultimately:
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<tr>
<th><strong>Data Collection</strong></th>
<th><strong>Resident</strong></th>
<th><strong>Non-profit</strong></th>
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<tr>
<td>One on one interviews</td>
<td>Residents: Coralville residents have a stronger understanding of flooding and climate change issues.</td>
<td>Non-profits: Relationships between non-profit services are strengthened in order to fill gaps that would further serve LMI residents during disaster-related crises.</td>
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<tr>
<td>Online survey for nonprofits and service providers</td>
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<td>Educational in-person survey for community members</td>
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<td>Workshops which collected community input</td>
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<td>Submission of flood stories to website</td>
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<tr>
<td><strong>Review</strong></td>
<td><strong>Completed FRAP draft</strong></td>
<td><strong>Coralville has more equitable flood protection and preventative measures for LMI residents.</strong></td>
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<tr>
<td>Drafting of FRAP</td>
<td>Astig staff John Boller at the CCFP</td>
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<td>Draft review by city staff</td>
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<td>Dave Johnson (Coralville Community Development Director)</td>
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<td>Impact 7G</td>
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<td></td>
<td>Other</td>
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<tr>
<td>Dissemination</td>
<td>Coralville staff and Council</td>
<td>Astig Staff Coralville City Council</td>
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<tr>
<td>FRAP published on website</td>
<td>Presented to City Council</td>
<td>Distribution via social media</td>
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**Contextual Factors:** 1) Funding needed to enact recommended activities, 2) Coralville does not have a planning department to implement flood resilience activities, 3) “In addition, it may require incentives so that local governments have resources, incentives, and tools to promote social equity, particularly in affordable housing that is livable, safe, and free from frequent flooding”

**Assumptions:** Coralville would need to invest in more community outreach as well as staff, boards, and commissions that work in the area of social equity, climate and environmental justice. Additionally, the city would need to access funding for these initiatives to create plans or execute adopted plans.
Appendix R – Quasqueton Flood Resilience Action Plan logic model

Quasqueton Flood Resilience Action Plan Logic Model

Primary Audience: 1) City of Quasqueton officials (Mayor and Council)

Secondary Audience: 1) Residents of Quasqueton; 2) Landowners around Quasqueton

Issues to be addressed by Quasqueton FRAP: 1) Reduce the effects of flash flooding in the community; 2) Educate and improve communication between city officials and residents on the previous actions the City has taken to mitigate flooding in the community, future action the City can take, and how residents can continue to mitigate flooding in their homes

Anticipated Impact: 1) City officials – will benefit because they will have specific action steps and funding strategies to further reduce flooding in the community. They will also have materials and effective strategies to educate their residents; 2) Residents – will learn about ways they can reduce flooding in the community and will be able to work with the City to create a more resilient community

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<th>Input</th>
<th>Activity</th>
<th>Outcome</th>
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<td>Planning &amp; Developmen</td>
<td>Identify case study community</td>
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<td>Gather information about community and communicate with residents</td>
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<td>Hold community meetings</td>
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<td>Disseminate survey to residents</td>
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<td>Conduct GIS analysis looking at the geologic, hydrologic, and other</td>
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</table>
### Contextual Factors:
1) Buy-in from landowners;
2) Lack of space for flood reduction conservation practices;
3) Funds to implement practices for residents and surrounding landowners

### Assumptions:
After learning more about flooding and how to protect themselves, the City and residents must take action to manage stormwater and make their properties more flood resilient.
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Introduction
Since January 2016, team members from the Center for Evaluation (CEA) have been conducting an evaluation of the Iowa Watershed Approach. The purpose of this evaluation, as defined in the original program proposal, was to document the IWA’s activities and to collect information demonstrating the merit and worth of the program. Doing so has been no simple matter, however, given the program’s scope and ongoing development.

On what criteria should merit be based? How should worth be defined? From the project’s very beginning, the CEA team knew that the answer to these and other fundamental questions would be in continuous flux. In order to meet the needs of the program’s stakeholders, our work needed to stay flexible, adapting to the program’s evolution over time and to our changing understanding of the program itself.

This document serves as a high-level overview of our efforts to document and understand the structure, complexities, and successes of IWA. We provide a high-level overview of our evaluation methods and highlight specific reflections throughout the process. Collectively, this document functions as a reference for others hoping to learn from or design an evaluation of a complex and developmental program like IWA.

IWA Overview
The Iowa Watershed Approach (IWA) was described in the original proposal as “a collaborative project that brings together local, state, federal, and private organizations to work together to address factors that contribute to floods and nutrient flows.” With funding from the United States Department of Housing and Urban Development (HUD), IWA has six stated goals: 1) reduce flood risk; 2) improve water quality; 3) increase resilience; 4) engage stakeholders through collaboration and outreach/education; 5) improve quality of life and health, especially for vulnerable populations; and 6) develop a program that is scalable and replicable throughout the Midwest and the United States.

The IWA consists of several program components: 1) rural projects and planning, 2) urban infrastructure projects, 3) flood resilience activities, 4) the Bee Branch Healthy Homes Resilience Program, and 5) dissemination and sustainability activities. These five components are each supported by state and local partners and funds from Housing and Urban Development.

- Rural projects and planning: The rural work of IWA was facilitated in eight watersheds through Watershed Management Authorities (WMAs) consisting of member communities which make decision about water resources at the watershed-scale. Each IWA WMA was unique in terms of the local terrain, culture, priorities, strengths, and challenges. Each watershed functioned as a distinct entity, forging differing paths to accomplish the goals of IWA. Broadly, the activities of IWA WMAs included organizing the WMA, developing a watershed plan, and facilitating the construction of best management practices on the landscape.

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1 While IWA was originally funded as a 5-year program which received notice of funding in January 2016 and officially began in October 2016, the program received a time-only extension which extended the program into a 6th year.
- **Urban infrastructure projects:** In three urban communities within Iowa, IWA funded projects to address significant unmet infrastructure needs. Each urban infrastructure project was selected to reduce flooding impacts in low- or moderate-income (LMI) communities.

- **Flood resilience activities:** The activities of the Flood Resilience Team (FRT) worked toward the IWA’s broad goal of “increasing resilience” in Iowa through the development of flood resilience planning documents, the formalization of a process for applying for funding from federal agencies for watershed-scale projects, and the enhancing of a digital platform for coordinating the care of those affected by flooding in Iowa.

- **Bee Branch Healthy Homes Resilience Program (BBHH):** The BBHH facilitated the funding and construction of structural improvements to the homes of low- and moderate-income property owners and renters in Dubuque, Iowa to increase their resilience to flooding. The BBHH also offered these residents and their families community resource consultations to address their needs related to flooding and other difficulties.

- **Dissemination and sustainability:** To address IWA’s goal of “developing a program that is scalable and replicable throughout the Midwest and the United States,” local and state-level partners began sharing the successes and lessons learned in IWA during the second half of the project. The sustainability of IWA could be considered both in terms of how IWA communities continue the work and how entities outside of Iowa implement elements of IWA.

**Focus of the Evaluation**

Given the scale and scope of IWA, several types of evaluation were needed to address the program’s multi-faceted nature.

The evaluation of the impacts of installed practices are being measured by our colleagues from the Iowa Flood Center, Iowa Water Center, and Iowa Department of Natural Resources. Those results have been documented in the Phase II Hydrologic Reports for each of the participating watersheds. These reports answer the question: “How did flood risk or water quality change as a result of the IWA projects?”

While our colleagues are focused on measuring the physical aspects of IWA, CEA focused on the “people parts” of the program.

The CEA’s role in IWA has been to document what is happening in IWA and collect information about the experiences of the people who have interacted with the program. In addition to attending almost every partner meeting and WMA meeting, we have also solicited feedback from partners, board members, key staff members, consultants, and landowners participating in IWA. This has helped us paint a picture of what has worked in IWA, what didn’t work so well, and what should live on in the state from the perspectives of these stakeholders. The plan for the evaluation was documented formally in a series of evaluation plans submitted as part of our quarterly reports. The final versions of each of the three plans are included as Appendices A, B, and C.
Evaluation Activities

The evaluation activities for IWA changed throughout the program in order to adapt to the current activities of IWA, to respond to questions from the leadership team, or to reflect the evaluation team’s changing understanding of the program and its stakeholders. CEA team members participated in and documented meetings, reviewed documents and web resources, and surveyed and interviewed stakeholders. At a broad level, stakeholders included community leaders or staff members; WMA leaders, staff members, or consultants; the state-level partners funded or otherwise committed to IWA ("IWA partners"); consultants working with IWA partners; and landowners and residents that participated in IWA programs. The different stakeholders with types and frequencies of data collection are described below in Table 1.

Table 1. Stakeholders and types and frequency of data collection

<table>
<thead>
<tr>
<th>Stakeholder Type</th>
<th>IWA Role</th>
<th>Type(s) of Data Collection</th>
<th>Years of Data Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Y1</td>
</tr>
<tr>
<td>IWA partners</td>
<td>IWA partner</td>
<td>Survey, Interview</td>
<td></td>
</tr>
<tr>
<td>WMA project coordinators</td>
<td>WMA stakeholder</td>
<td>Survey, Interview</td>
<td></td>
</tr>
<tr>
<td>BBHH team</td>
<td>Participant</td>
<td>Interview</td>
<td></td>
</tr>
<tr>
<td>WMA meeting attendees</td>
<td>WMA stakeholder</td>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>WMA board members</td>
<td>WMA stakeholder</td>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>Watershed planners</td>
<td>WMA stakeholder</td>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>Watershed key informants</td>
<td>WMA stakeholder</td>
<td>Interview</td>
<td></td>
</tr>
<tr>
<td>BBHH clients</td>
<td>Community participants</td>
<td>Interview</td>
<td></td>
</tr>
<tr>
<td>IWA advisory board</td>
<td>IWA partner</td>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>FRT partners</td>
<td>IWA partner consultant</td>
<td>Interview</td>
<td></td>
</tr>
<tr>
<td>FRAP planners</td>
<td>IWA partner consultant</td>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>WMA board chairs</td>
<td>WMA stakeholder</td>
<td>Interview</td>
<td></td>
</tr>
<tr>
<td>BBHH contractors</td>
<td>Community stakeholder</td>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>IWA leverage partners</td>
<td>IWA partner</td>
<td>Survey</td>
<td></td>
</tr>
<tr>
<td>Storm Lake City Manager</td>
<td>Community stakeholder</td>
<td>Interview</td>
<td></td>
</tr>
<tr>
<td>WMA consultants</td>
<td>WMA stakeholder</td>
<td>Survey, Interview</td>
<td></td>
</tr>
<tr>
<td>Landowners</td>
<td>Participant</td>
<td>Survey</td>
<td></td>
</tr>
</tbody>
</table>
Reflections

Over the course of this six-year project, the evaluation team learned many lessons about how to evaluate a program like IWA. In this section we describe our reflections on key aspects of the evaluation process: 1) building our understanding of the program, 2) defining measures of success, 3) defining resilience, 4) learning how to report results usefully, and 5) bringing new team members into the evaluation.

Building Connections to Build Understanding

The evaluation team recognized an early need to develop a holistic understanding of the program; a difficult task given the scope and developmental nature of IWA. To understand the program’s many components, the activities within each, and the progress of each toward their respective goals, the CEA team made early efforts to build productive and meaningful relationships with key stakeholders. CEA’s in-person presence at most IWA meetings across the state, especially early in IWA, was key to facilitating relationship development. This allowed IWA implementers to recognize CEA team members and helped CEA understand the key players and on-the-ground reality of the various pieces of the program. While not all stakeholders connected or engaged with CEA in equal measure, many relationships greatly informed CEA’s understanding of the program as it evolved and allowed for the evaluation to be refined and focused over time as the team’s understanding of the program and the content matter (the watershed approach to flood management) developed in partnership with stakeholders.

As the program developed, these relationships were also essential for data collection. Some data (such as key informant interviews) was collected directly from people with whom CEA developed ongoing relationships, while other data collection (such as landowner surveys) was greatly facilitated by having relationships with key personnel across the IWA. The feedback from these stakeholders allowed CEA to make strategic decisions about which data collection methods would work best for each audience (for example, prioritizing either interviews, online surveys, or mailed surveys depending on the team’s understanding of the audience’s capacity and technological know-how).

While many efforts to build connections with stakeholders were successful, despite best efforts, CEA was not able to build productive relationships with all partners. CEA should have made more intentional efforts to engage a partner group with a leadership position within IWA in the evaluation process. This would have informed the evaluation methods and supported the development of a shared understanding of the purpose of the evaluation and reduce role confusion. In addition, the stakeholders from at least one partner group were wary of the role of CEA throughout the program and opted not to engage in any evaluation activities. This was a missed opportunity to have their guidance around the design and focus of the evaluation and to document their efforts on the project from their perspective. In this case, the CEA team members were unsure how to address this challenge.

Defining Success

CEA’s list of evaluation questions guided the evaluation design and data collection activities and therefore shaped how success was defined for IWA. This list of questions, and therefore CEA’s definition of success, evolved over time. Lists from four points in time (June 2017, October 2019, December 2020, and January 2022) are included in this document in Appendices E through H. The final list of questions included:

- What was the context in which IWA operated between 2016-2022?
• What did the overall implementation of IWA look like?
• What is the overall impact of IWA in Iowa?
• What aspects of IWA appear to be most replicable within and beyond Iowa? (Context specific, perspectives of stakeholders)

CEA used these evaluation questions as well as metrics, indicators, and deliverables (see Table 2) as points of consideration when describing the progress and successes of IWA over all six years. However, given the complexity of starting a program of this scale, in the early years it was often too early to evaluate the impacts of IWA. Even by the end of the six-year program, it was difficult or impossible to evaluate the success of activities intended to produce impacts well beyond the timeline of the HUD award. In the final IWA evaluation report, CEA provided an overview (see Appendix D) of the program’s progress on the metrics defined in the original NDRC proposal as well as progress on other outcomes identified by key stakeholders as important over the course of IWA. This served as CEA’s best effort at defining and summarizing the progress, successes, and shortcomings of IWA’s sprawling activities but still fails to provide insight into the long-term impacts of the program. It would be worth investing in a future follow-up study of these outcomes to understand the long-term impact on the landscape as well as changes to watershed-focused policy, planning, and practices in Iowa.
## Table 2. Criteria for documenting progress or success in IWA

<table>
<thead>
<tr>
<th>Program Component</th>
<th>Metrics, Indicators, or Deliverables Used to Describe Progress</th>
</tr>
</thead>
</table>
| Watershed Management Authorities | Watershed NDRC Metrics  
• Reduce flooding and improve water quality  
• Reduced soil loss  
• Improvements in recreation capacity  
Other measures of success or progress for the WMAs  
• Spending IWA funding  
• Evidence of an engaged WMA  
  o Quorum  
  o Moving the work forward |
| Infrastructure Projects | Infrastructure NDRC Metrics  
• City of Coralville  
  o Protect properties  
• City of Dubuque Bee Branch Creek Restoration Project  
  o Reduce peak storm water flow and property damages from future flash flooding events  
  o Improve proximity to park or other green infrastructure  
  o Improve water quality  
• City of Storm Lake  
  o Prevent flooding of homes and businesses |
| Bee Branch Healthy Homes Resiliency Program | Bee Branch Healthy Homes NDRC Outcomes  
• At least one improvement in each home will increase the home’s resilience to flooding  
• Home improvements will result in reduced mental stress associated with the life disruptions common during flood events  
• Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents  
• Home improvements will result in increased opportunities for resilient, affordable housing for these populations  
• Improvements to housing structures will lead to measurable increases in property values |
| Flood Resilience Team | Flood Resilience Team NDRC Outcomes  
• Community-wide Flood Resilience Action Plan  
• Conduct outreach activities either to:  
  o Collect information to inform the FRAP  
  o Share the results of the FRAP  
  o Share information about social resilience more broadly  
Other Activities  
• FEMA multijurisdictional plans and Flood mitigation elements for watershed  
• Support the development and implementation of a Community Care Coordination System  
• Bee Branch Healthy Homes Social Resilience Surveys Analysis |
Defining Resilience

While IWA was funded through the National Disaster Resilience Competition, the central concept of resilience lacked a single measurable definition or framework which could be easily evaluated. Again, leaning on relationships developed with key stakeholders, CEA took a broad approach to understanding resilience early in the program’s implementation and only explored a formal framework for understanding resilience as a concept in the program’s fifth year.

The team found that program stakeholders had different perspectives on and definitions of resilience, shaped by their position within the state and within IWA. Rather than reifying one definition as correct and evaluating all aspects of the program in light of it, CEA eventually developed a resilience framework which encompassed all of the ways in which IWA partners saw themselves as working toward resilience throughout the program.

The team developed a list of outcomes based on primary documents, meeting and observation notes, and interview and survey data that were compiled into draft logic models for the project. After identifying program outcomes, each outcome was aligned to a theme and category to produce a broad framework which saw resilience, in terms of IWA, as encompassing three categories: 1) capacity building, 2) household impacts, and 3) community impacts. These broad categories were used to organize the discussion of outcomes in the final evaluation report for IWA.

- **Capacity Building**: Setting the stage for future work
- **Household Impacts**: Outcomes of direct actions taken through the program at the household scale
- **Community Impacts**: Outcomes of direct action taken through the program at a scale beyond the household—usually a community or watershed

In a presentation to the American Evaluation Association in 2021, our team aligned these outcomes to another resilience framework developed by the Zurich Flood Resilience Alliance to get a sense of how the two frameworks fit together to describe different levels and dimensions of resilience in IWA.

This iterative process of building understanding over time and being open to different perspectives of resilience was necessary to develop a robust and defensible framework and process, especially given that the perspectives of stakeholders and program implementers on the potential and possibilities of resilience work changed as the program grew and developed.

Identifying Useful Questions to Structure Data Sharing

Given the scope of IWA and its disparate parts and given CEA’s extensive process monitoring and data collection activities, the CEA team quickly discovered a tension between providing reports which were concise and useful for IWA partners and providing reports which captured the wide range of data and narrative captured by the team. As the program developed, several strategies aided the CEA team in balancing these opposing imperatives:

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• Writing a shorter report (less than 30 pages) which provides an overview of the narrative or lessons learned with respect to the report’s topic, while leaving most of the supporting data and documentation in appendices. This produces a concise, readable report while also providing more data to back up the report’s claims and additional nuance for any reader who may find it useful.

• Paying careful attention to the construction of a hyperlinked, navigable table of contents for longer reports which allows the reader to quickly make sense of a large report and navigate to the portions relevant to them.

• As described in the “Defining Success” section above, as the program developed the CEA team developed and refined a set of evaluation questions along with key stakeholders. Over time, these evaluation questions served as the organizational structure for reports.

Onboarding Evaluation Team Members
As mentioned previously, IWA is a complex program which involves many stakeholders and nuanced and sometimes changing activities. Adding further complexity to the evaluation of such a program, the evaluation team itself also changed over time. For our purposes, it was very helpful to have a team member that had been part of IWA from the beginning as the project manager. This person was able to assign tasks to her colleagues and review documents in the context of her experience in the program. While onboarding new colleagues into this evaluation was a challenge given the scope of the program, bringing new team members in also provided opportunities to check collective understanding of the program and bring new ideas in the evaluation efforts.
Appendices

Appendix A – Iowa Watershed Approach Process Monitoring Evaluation Plan, Finalized in IWA Year 1

The purpose of the Iowa Watershed Approach (IWA) Process Monitoring Evaluation is to document the activities of the IWA and collect information related to the merit and worth of program activities and deliverables. The Center for Evaluation and Assessment (CEA) is an IWA partner and will implement a collaborative and participatory evaluation designed to explore, support, and monitor the processes undertaken by the IWA to increase Iowa watershed communities' resilience to flooding. The evaluation will be conducted in adherence with The Program Evaluation Standards (Yarbrough, et al., 2011).

To carry out the process monitoring evaluation of the IWA, the CEA will observe and document IWA activities and engage with a diverse body of stakeholders to provide evidence of the roles and contributions of people participating in the IWA as a whole, and the Watershed Management Authority (WMA) work in particular. Findings will be reported on a rolling basis to the IWA team and collaborators to inform program improvements. Written reports will be submitted quarterly to the Iowa Economic Development Authority (IEDA) and the US Department of Housing and Urban Development (HUD) following the protocol established by the IEDA/HUD for reporting. More extensive annual written reports and a final written evaluation report will also be submitted to the IWA team, IEDA, and HUD.

[Two components of the IWA, the Bee Branch Healthy Homes Resilience Program (BBHHRP) and the work of the University of Iowa Flood Resilience Team, while existing under the umbrella of the IWA, are somewhat self-contained and have their own evaluation plans that are included in this plan as Section A and B, respectively.]

Brief Description of Iowa Watershed Approach (IWA)

The IWA is one of 13 projects funded in January 2016 under the National Disaster Resilience Competition (US Department of Housing and Urban Development, 2016). According to the IWA grant proposal (Iowa Watershed Approach, 2015), the IWA will accomplish six specific goals in the 8 project areas:

1. Reduce flood risk
2. Improve water quality
3. Increase resilience
4. Engage stakeholders through collaboration and outreach/education
5. Improve quality of life and health, especially for vulnerable populations
6. Develop a program that is scalable and replicable throughout the Midwest and the United States.

The IWA calls for the WMA, with the support of the HUD NDRC funds and the IWA partners, to be the agent of change in eight designated watersheds across the state of Iowa.

Stakeholders

The stakeholders in any program are defined as those who benefit from, are affected by, or who have an interest in the program or its evaluation (Yarbrough, et al., 2011). The IWA involves three main categories of stakeholders.

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The first group of stakeholders are the IWA partners. These groups receive IWA funding and are key in supporting the project across the state. The IWA partners are:

- The University of Iowa (Iowa Flood Center, IIHR, the IWA Flood Resilience Team)
- Iowa State University, (Iowa Water Center, Extension and Outreach, and Iowa Nutrient Research Strategy)
- The University of Northern Iowa (Tallgrass Prairie Center)
- Iowa Department of Natural Resources
- Iowa Department of Agriculture and Land Stewardship
- Iowa Homeland Security and Emergency Management Department
- Iowa Economic Development Authority
- The Cities of Dubuque, Storm Lake, and Coralville
- Benton, Buena Vista, Fremont, Iowa, Johnson, Mills, Winneshiek, and Howard Counties

The second group of IWA stakeholders are the leverage partners. Leverage partners are a diverse collection of entities from across the state of Iowa who wrote letters of support for the IWA grant proposal and indicated their willingness to provide assistance to the IWA in a way consistent with each of the groups’ expertise and mission. Leverage partners include public and private agencies including (but not limited to): conservation non-profits, agriculture industry groups, water quality interest groups, city and county associations, state and federal entities related to water quality and/or quantity. [A complete list of the IWA leverage partners is included in the grant application.]

The third category of stakeholders are those within each watershed. According to Iowa Legislation regarding 28e agreements required to form Watershed Management Authorities, all eligible political subdivisions must be invited to be part of the WMA. Eligible political subdivisions include: municipalities, counties, and Soil and Water Conservation Districts (SWCDs). In order to carry out the work of the WMA, each WMA will also employ a project coordinator and enter into a contract with a planning entity to formulate a watershed plan. WMAs will also engage with various other local and/or regional organizations to support their work including: RC&Ds, USDA/NRCS offices, conservation non-profits, etc. The WMAs will also interact in some cases with elected officials at the local, state, and federal level. Finally, in order to install conservation practices as part of the IWA, WMAs will seek the involvement of landowners and any other interested community members in each watershed. Project implementation will in turn involve engineers and contractors.

Finally, by extension, the IWA will potentially have an impact on all Iowa residents, and the country at large.

_Evaluation Questions_

The IWA is a complex project supported by many IWA partners whose goals are both discrete and collaborative. Each IWA partner submitted a Scope of Work document that describe their planned responsibilities and deliverables to the IWA. Despite the somewhat specific goals of each of the IWA partner groups, the IWA is also, to a great extent, a project that is developmental in nature and as a result the evaluation employs an iterative process. The course and progress of the IWA is dependent on factors both physical (hydrologic factors, weather, geology) and human (project coordinators, planning staff, consultants, and landowners) and the ways in which these physical and human factors combine to affect progress toward the project goals will be different in each of the eight different watersheds.

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To design a process monitoring evaluation plan that would be sensitive to these factors and responsive to the developmental nature of the IWA, the CEA met with members of the IFC staff to identify and prioritize what was to be examined by the evaluation. During the discussion, following in the spirit of the watershed as the key entity for change, the WMA emerged as the focal point for the evaluation, with the emphasis on how IWA partners interact with, and support the WMAs.

The CEA began to focus on the evaluation questions to be addressed by evaluation activities. The CEA generated these evaluation questions based on discussions with the UI IWA program team. Because of the developmental nature of the IWA, these questions may be supplemented during the course of the project by emerging questions. The evaluation has been designed to address the following evaluation questions:

1. What does the overall implementation of the IWA actually look like?
2. What does the work of the WMAs look like? (In what ways does the formation (for new WMAs) and the work of watersheds differ?)
3. What are the characteristics of WMAs? (Who are the official members? What is the structure (committees, leadership, boards, etc.)? What kinds of participation is there by other non-voting groups (e.g. non-profits, conservation groups)?)
4. How does the planning process differ between WMAs? (Who are the planners? How do they work with the project coordinators? How do they make use of data and other support from the IWA partners?)
5. How does the role of the coordinator vary from WMA to WMA? (How do they interact with the WMA? How do they make use of data and other support from the IWA partners?)
6. What are the roles of the partners in the IWA and how does that differ between WMAs?
7. What is the level of landowner interest in conservation practices relative to available funding?

Additional evaluation questions will emerge as the planning and implementation processes evolve.

_Evaluation Design and Data Collection Methods_

In order to monitor and document the IWA program, Table 1 shows the evaluation activities the CEA will conduct (proposed frequencies for data collection events are listed in parentheses).

Table 1

<table>
<thead>
<tr>
<th>CEA IWA Evaluation Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. IWA Kickoff Meeting Survey (Once, Year 1)</td>
</tr>
<tr>
<td>2. IWA Flood Resilience Kickoff Survey (Once, Year 1)</td>
</tr>
<tr>
<td>3. IWA Watershed Key informant Interviews (Biennial (Years 1,3,5)) (Extended in Years 3 and 5 to IWA partners)</td>
</tr>
<tr>
<td>4. IWA WMA Project Coordinator Surveys (Annual (at least))</td>
</tr>
<tr>
<td>5. IWA WMA Board Surveys (Annual (Years 2-5))</td>
</tr>
<tr>
<td>6. IWA Watershed Planner Interviews (Biannual during planning years (Years 2-4))</td>
</tr>
<tr>
<td>7. IWA WMA Meeting Attendee Surveys (Biannual)</td>
</tr>
<tr>
<td>8. IWA Advisory Board Surveys (Annual)</td>
</tr>
<tr>
<td>9. IWA Partner Surveys (Annual)</td>
</tr>
</tbody>
</table>

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10. IWA Leverage Partner Surveys (Annual (Years 2-5))
11. Visualization and Information System User Surveys (TBD, Beginning in Year 2)
12. Ongoing documentation of program activities (ongoing)
13. BBHHRP Home Advocate Interviews (Annual)*
14. BBHHRP East Central Intergovernmental Association (ECIA) Interviews (Annual)*
15. BBHHRP Client Follow-up Surveys (Annual)*
16. Evaluation activities focused on the work of IWA Flood Resilience funded partners (TBD)*
17. Other evaluation activities as needed

*Note: Evaluation activities 13-16 are described in the individual evaluation plans for the BBHHRP and the IWA Flood Resilience Program Evaluation Plan appended to this plan as Appendices A and B, respectively.

Table 2 demonstrates the ways in which CEA evaluation activities align with IWA activities and topics of interest. Topics of interest have also been aligned to the evaluation questions and/or to the IWA partner scope of work documents. Some of the activities (and their associated evaluation events) have already occurred or, if part of a series of events, have already been initiated. The CEA will embed formative evaluation into all evaluation activities. [For a timeline of evaluation events, see Section D.]

Table 2

<table>
<thead>
<tr>
<th>IWA Topic/Activities of Interest</th>
<th>Evaluation Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>IWA Kickoff Meetings (Q2 2016)</td>
<td>1, 12</td>
</tr>
<tr>
<td>H&amp;H Focused Quarterly Meetings (Q3 2016)</td>
<td>7, 12</td>
</tr>
<tr>
<td>Hiring Watershed Coordinators</td>
<td>12</td>
</tr>
<tr>
<td>Flood Resilience Focused Quarterly Meetings (Q4 2016)</td>
<td>2, 7, 12</td>
</tr>
<tr>
<td>Local key informant views of watershed health and water management at three points in time</td>
<td>3</td>
</tr>
<tr>
<td>IWA Advisory Board Meeting</td>
<td>8, 12</td>
</tr>
<tr>
<td>Visualizations and Information Systems (IWA Specific)</td>
<td>11, 12</td>
</tr>
<tr>
<td>Ongoing Watershed Coordinator Duties</td>
<td>4, 12</td>
</tr>
<tr>
<td>Service Provision</td>
<td>Page(s)</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Watershed Planning</td>
<td>6, 12</td>
</tr>
<tr>
<td>Ongoing IWA Partner Service Provision</td>
<td>4, 5, 12</td>
</tr>
<tr>
<td>Ongoing IWA Leverage Partner Service Provision</td>
<td>4, 12</td>
</tr>
<tr>
<td>Watershed Coordinator Training and Support</td>
<td>4, 12</td>
</tr>
<tr>
<td>Collaboration among partners</td>
<td>8, 9, 10</td>
</tr>
<tr>
<td>Landowner interest in practices compared with available resources</td>
<td>4</td>
</tr>
</tbody>
</table>

**Metaevaluation**

Annual written evaluation reports and the final evaluation report will include an internal metaevaluation. The purpose of an internal metaevaluation is to demonstrate that the evaluation design, procedures information collected, and outcomes abide by *The Program Evaluation Standards* and other relevant standards (Yarbrough, et al., 2011). Questions addressed by the metaevaluation may include whether the evaluation was practical, responsive to stakeholder needs, and resulted in materials that were useful to the stakeholders.

**References**


Appendix B – Bee Branch and Healthy Homes Resiliency Program Evaluation Plan from the Center for Evaluation and Assessment, Finalized in IWA Year 1

Points of contact for Center for Evaluation and Assessment: Valerie Decker & Julie Kearney
Points of contact for Dubuque: Sharon Gaul & Cori Burbach
Points of contact for IIHR: Larry Weber & Breanna Shea

The Center for Evaluation and Assessment (CEA) will be providing program evaluation guidance and services to the Bee Branch and Healthy Homes Resiliency Program (BBHHRP). The CEA will be centering its evaluation activities on the role, accomplishments, and effects of this home advocate service and flood resilience program as components of the Iowa Watershed Approach Project (IWA). In addition, in the IWA proposal, CEA is charged with documenting progress toward the following metric related to BBHHRP: Home improvements will result in increased opportunities for resilient, affordable housing for these populations and home improvements will result in reduced mental stress associated with the life disruptions common during flood events. All of these purposes will be addressed in CEA’s evaluation activities.

Primary program evaluation activities

0. **CEA BBHHRP Evaluation plan (June, 2017)**
1. **BBHHRP Home Advocate Data Collection**: CEA will provide guidance, where requested, related to the BBHHRP Home Advocate Client Interview and Flood Resilience Survey.
2. **CEA BBHHRP Home Advocate Interview** (Annual): CEA will interview home advocates annually to inform program improvements and document processes.
3. **CEA BBHHRP East Central Intergovernmental Association Interview** (Annual): CEA will interview team members from the East Central Intergovernmental Association (ECIA) annually to inform program improvements and document processes.
4. **CEA BBHHRP Client Follow-up Survey** (Rolling, after construction has been completed for each client): CEA will survey or interview BBHHRP clients about their experiences with the home advocate and outcomes related to recommendations received. This activity informs improvements and documents outcomes.
5. **CEA Formative Report to BBHHRP Team and IWA Project Team** (Annual, Years 1-4)
6. **CEA Final Report to BBHHRP Team and IWA Project Team** (Year 5)

This evaluation plan is based on the current project plan. If the project implementation plan changes, the evaluation plan will be revised.

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3 [http://www.cityofdubuque.org/2339/Bee-Branch-Healthy-Homes-Resiliency-Prog](http://www.cityofdubuque.org/2339/Bee-Branch-Healthy-Homes-Resiliency-Prog)
3 If anything particularly noteworthy emerges from the evaluation, CEA will provide a brief quick-turnaround report for the BBHHRP team. Otherwise, evaluation findings will be reported annually (activities 4 & 5).
<table>
<thead>
<tr>
<th>Project Year</th>
<th>Evaluation Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1:</strong></td>
<td></td>
</tr>
<tr>
<td>October 2016-</td>
<td>Conduct BBHHRP program evaluation activities</td>
</tr>
<tr>
<td>September 2017</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0. Design evaluation plan</td>
</tr>
<tr>
<td></td>
<td>1. Assist in developing the BBHHRP Home Advocate Data Collection</td>
</tr>
<tr>
<td></td>
<td>1. BBHHRP Home Advocate Resilience Survey developed by IWA Flood Resilience team</td>
</tr>
<tr>
<td></td>
<td>2. BBHHRP Home Advocate Client Interview developed by BBHHRP team</td>
</tr>
<tr>
<td></td>
<td>2. Develop CEA BBHHRP Home Advocate Interview protocol and Interview Home Advocates</td>
</tr>
<tr>
<td></td>
<td>3. Develop CEA BBHHRP ECIA Interview protocol and Interview ECIA Team Members</td>
</tr>
<tr>
<td></td>
<td>4. Work with Home Advocates to determine format, develop, and administer CEA BBHHRP</td>
</tr>
<tr>
<td></td>
<td>Client Follow-up Survey</td>
</tr>
<tr>
<td></td>
<td>5. Deliver first year formative report to BBHHRP—Due September 30</td>
</tr>
<tr>
<td><strong>Year 2:</strong></td>
<td>Conduct BBHHRP program evaluation activities</td>
</tr>
<tr>
<td>October 2017-</td>
<td></td>
</tr>
<tr>
<td>September 2018</td>
<td>2. CEA BBHHRP Home Advocate Interview</td>
</tr>
<tr>
<td></td>
<td>3. CEA BBHHRP ECIA Interview</td>
</tr>
<tr>
<td></td>
<td>4. CEA BBHHRP Client Follow-up Survey</td>
</tr>
<tr>
<td></td>
<td>5. Deliver second year formative report to BBHHRP—Due September 30</td>
</tr>
<tr>
<td><strong>Year 3:</strong></td>
<td>Conduct BBHHRP program evaluation activities</td>
</tr>
<tr>
<td>October 2018-</td>
<td></td>
</tr>
<tr>
<td>September 2019</td>
<td>2. CEA BBHHRP Home Advocate Interview</td>
</tr>
<tr>
<td></td>
<td>3. CEA BBHHRP ECIA Interview</td>
</tr>
<tr>
<td></td>
<td>4. CEA BBHHRP Client Follow-up Survey</td>
</tr>
<tr>
<td></td>
<td>5. Deliver third year formative report to BBHHRP—Due September 30</td>
</tr>
<tr>
<td><strong>Year 4:</strong></td>
<td>Conduct BBHHRP program evaluation activities</td>
</tr>
<tr>
<td>October 2019-</td>
<td></td>
</tr>
<tr>
<td>September 2020</td>
<td>2. CEA BBHHRP Home Advocate Interview</td>
</tr>
<tr>
<td></td>
<td>3. CEA BBHHRP ECIA Interview</td>
</tr>
<tr>
<td></td>
<td>4. CEA BBHHRP Client Follow-up Survey</td>
</tr>
<tr>
<td></td>
<td>5. Deliver fourth year formative report to BBHHRP—Due September 30</td>
</tr>
<tr>
<td><strong>Year 5:</strong></td>
<td>Conduct BBHHRP program evaluation activities</td>
</tr>
<tr>
<td>October 2020-</td>
<td></td>
</tr>
<tr>
<td>September 2021</td>
<td>2. CEA BBHHRP Home Advocate Interview</td>
</tr>
<tr>
<td></td>
<td>3. CEA BBHHRP ECIA Interview</td>
</tr>
<tr>
<td></td>
<td>4. CEA BBHHRP Client Follow-up Survey</td>
</tr>
<tr>
<td></td>
<td>6. Deliver final report to BBHHRP—Due September 30</td>
</tr>
</tbody>
</table>
Appendix C -- Iowa Watershed Approach Flood Resilience Evaluation Plan, Final Revision in IWA Year 3

As part of the program evaluation of the Iowa Watershed Approach (IWA), the Center for Evaluation and Assessment (CEA) will conduct the program evaluation of the Flood Resilience Team’s (FRT) activities.

The purpose of the Flood Resilience Evaluation is to document the activities of the FRT and collect information related to the process and perceived successes of the program activities and deliverables. Accordingly, evaluation activities will occur at different scales based on feasibility and need. Findings will be reported on a rolling basis to the FRT and its collaborators to inform them of progress. Additionally, formal reports will be submitted annually to the Iowa Economic Development Authority (IEDA) and the US Department of Housing and Urban Development (HUD).

IWA Flood Resilience Program Goals¹
The FRT aims to communicate the needs of socially vulnerable residents (including low to moderate income residents) to community and state decision-makers and provide these residents with social and financial support to prepare for, respond to, recover from, and mitigate the impacts of floods.

The IWA Flood Resilience program strives to address their aims through four goals:

1. Measure, visualize, and communicate flood resilience resources
2. Enhance flood resilience content in formal watershed plans
3. Improve social resources for flood resilience
4. Develop a robust and replicable IWA Flood Resilience program

Flood Resilience Team Activities
The activities of the FRT have been defined based on IWA partner and community engagement over the course of the first three years of the program. In collaboration with the FRT lead, Craig Just, the CEA has defined the major activity categories and partners as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FEMA multijurisdictional plans</td>
<td>Iowa Department of Homeland Security and Emergency Management (HSEMD) and the Iowa Flood Center (IFC)</td>
</tr>
<tr>
<td>2. Flood mitigation elements for watershed plans</td>
<td>HSEMD</td>
</tr>
<tr>
<td>3. Bee Branch Healthy Homes Social Resilience Surveys</td>
<td>Dubuque Bee Branch Healthy Homes Program</td>
</tr>
<tr>
<td>4. Support the development and implementation of a Community Care Coordination System</td>
<td>United Way of East Central Iowa and Hawkeye Area Community Action Program (HACAP)</td>
</tr>
<tr>
<td>5. Community-wide Flood Resilience Action Plans (FRAPs)</td>
<td>Local watershed planners for each community</td>
</tr>
<tr>
<td>6. Social Resilience “How-to-guide”</td>
<td>Local watershed planner</td>
</tr>
<tr>
<td>7. Outreach and education in the form of presentations, trainings, and participation in WMA meetings</td>
<td></td>
</tr>
</tbody>
</table>

¹ Source: Iowa Watershed Approach (IWA)
National Disaster Resilience Competition Metrics for Resilience

In the National Disaster Resilience Competition (NDRC) proposal\(^2\), the authors specified resilience metrics for each watershed. Community Flood Resilience Metrics for each IWA watershed were written in the proposal. The following approximates the metrics given that the target areas or populations are different for each watershed: “Improved resilience to flooding, especially in [specified local area] area, through programs to promote awareness and develop a community-wide Flood Resilience Action Plan.” Programs to “promote awareness” have been broadly defined by the FRT to include outreach and education activities.

Evaluation Activities

In order to monitor the activities of the IWA Flood Resilience program and document the FRT’s progress toward achieving the NDRC metrics for resilience, the CEA will conduct the following activities:

- Attend meetings and events during which the FRT presents their materials or participates in planning discussions
- Review emails and other documents provided by the FRT
- Interview or survey program stakeholders to collect in-depth information about the IWA Flood Resilience program activities, as needed.

The CEA will communicate regularly with the FRT and/or the collaborating partner to refine and articulate the scope of evaluation activities to meet the needs of the projects/activities as they evolve.

## Appendix D - Metrics for HUD from the proposal

<table>
<thead>
<tr>
<th>Type of Metric</th>
<th>Metric</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resiliency Value</strong></td>
<td>At least one improvement in each home will increase the home’s resilience to flooding (e.g., stronger foundation, relocation of furnace).</td>
<td>Process</td>
</tr>
<tr>
<td><strong>Social Value</strong></td>
<td>This neighborhood is inhabited by the most at-risk residents, who often cannot afford to miss work or find new housing after flooding.</td>
<td>Process and Outcomes</td>
</tr>
<tr>
<td></td>
<td>A) Home improvements will result in increased opportunities for resilient, affordable housing for these populations</td>
<td>Process and Outcomes</td>
</tr>
<tr>
<td></td>
<td>B) Home improvements will result in reduced mental stress associated with the life disruptions common during flood events.</td>
<td>Process and Outcomes</td>
</tr>
<tr>
<td><strong>Economic Value</strong></td>
<td>Improvements to housing structures will lead to measurable increases in property values.</td>
<td>Outcomes</td>
</tr>
<tr>
<td><strong>Environmental Value</strong></td>
<td>Reduction of mold and mildew will lead to improved indoor air quality and reduced asthma rates among residents.</td>
<td>Outcomes</td>
</tr>
<tr>
<td><strong>Resiliency Value</strong></td>
<td>Infrastructure improvements will hold water onsite for slow release, as opposed to quickly flushing it downstream. This will lead to a measurable reduction in peak storm water flow. A reduction of expected property damages from future flash flooding events is also expected.</td>
<td>Outcomes</td>
</tr>
<tr>
<td><strong>Social Value</strong></td>
<td>As a STAR certified community, Dubuque aims to ensure that at least 85% of residents live within a half-mile walk of a park or other green infrastructure. Completion of these infrastructure projects will help meet this goal.</td>
<td>Process</td>
</tr>
<tr>
<td><strong>Economic Value</strong></td>
<td>Measurable increases in property values are expected in the Bee Branch neighborhood to rates that are more in line with the rest of Dubuque.</td>
<td>Outcomes</td>
</tr>
<tr>
<td><strong>Environmental Value</strong></td>
<td>Detention of water onsite will lead to a measurable improvement in water quality downstream as the water is captured and cleaned via permeable surfaces.</td>
<td>Outcomes</td>
</tr>
<tr>
<td><strong>Social Value</strong></td>
<td>This project will result in improved resilience to flooding, especially in the L/M income area, through programs to promote awareness and develop a community-wide flood resilience action plan.</td>
<td></td>
</tr>
<tr>
<td><strong>Economic Revitalization</strong></td>
<td>This project will have an (unquantifiable) benefit to the local economy through preservation of coldwater fishing streams.</td>
<td></td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>Activities in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td></td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of the selected HUC 12s.</td>
<td></td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Project water-quality goals include reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of the HUC 12s.</td>
<td></td>
</tr>
<tr>
<td>Social Value</td>
<td>This project will result in improved resilience to flooding, especially in the MID-URN areas, through programs to promote awareness and a community-wide flood resilience action plan.</td>
<td></td>
</tr>
<tr>
<td>Economic Revitalization</td>
<td>Expected economic revitalization includes increased use (and associated tourism income) of the river as a source of recreation (See BCA, unquantifiable benefits). Further, implemented projects will help to retain soil on the land, preserving Iowa’s agricultural economy.</td>
<td></td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes), at the outlet of each HUC 12</td>
<td></td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td></td>
</tr>
<tr>
<td>Social Value</td>
<td>This project will result in improved resilience to flooding, especially in the Vinton L/M income area, through programs to promote awareness and a community-wide flood resilience action plan.</td>
<td></td>
</tr>
<tr>
<td>Economic Revitalization</td>
<td>IWA projects will help reduce future soil loss and erosion, helping to preserve agricultural productivity.</td>
<td></td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>The watershed projects will reduce flood flows at the outlet of Middle Clear Creek by 25%, thereby reducing damage to repetitive loss sites (agricultural lands, roads, infrastructure, homes). The Coralville infrastructure project will protect at least 116 properties.</td>
<td></td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Project water-quality goals call for reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of Middle Clear Creek.</td>
<td></td>
</tr>
<tr>
<td>Social Value</td>
<td>This project will result in improved resilience to flooding, especially in the Coralville LMA, through programs to promote awareness and a community flood resiliency action plan.</td>
<td></td>
</tr>
<tr>
<td>Economic Revitalization</td>
<td>IWA projects will reduce future soil loss and erosion, preserving agricultural productivity. Infrastructure mitigation will also create an estimated 16 jobs in Coralville in year one (see BCA).</td>
<td>Outcomes</td>
</tr>
<tr>
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</tr>
<tr>
<td>Resiliency Value</td>
<td>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12.</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Social Value</td>
<td>This project will result in improved resilience to flooding, including the English River LMI area, through programs to promote awareness and a community-wide flood resilience action plan.</td>
<td>Process and Outcomes</td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>The IWA in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12. Infrastructure updates in Storm Lake will increase local property values.</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Social Value</td>
<td>This project will result in improved flood resilience, especially in Storm Lake, by promoting awareness and a community-wide flood resilience action plan.</td>
<td>Process and Outcomes</td>
</tr>
<tr>
<td>Economic Revitalization</td>
<td>IWA projects will reduce future soil loss and erosion, preserving agricultural productivity. In Storm Lake, this project will help prevent flooding of homes and businesses.</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past at the outlet of each HUC 12.</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Project water-quality goals are reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12.</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Social Value</td>
<td>This project will result in improved resilience to flooding, especially in the MID-URN areas, through programs to promote awareness and develop a community-wide flood resilience action plan.</td>
<td>Process and Outcomes</td>
</tr>
<tr>
<td>Economic Revitalization</td>
<td>IWA projects will help reduce future soil loss and erosion, helping to preserve agricultural productivity.</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Resiliency Value</td>
<td>This approach in the targeted watersheds will reduce flood flows by 25%, thereby reducing damage to repetitive loss sites of the past (agricultural lands, roads, infrastructure, homes) at the outlet of each HUC 12.</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Environmental Value</td>
<td>Project water-quality goals call for the reduction of nitrate loads by 30% and phosphorus loads by 20% at the outlet of each HUC 12</td>
<td>Outcomes</td>
</tr>
<tr>
<td>Social Value</td>
<td>Process and Outcomes</td>
<td></td>
</tr>
<tr>
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<td>----------------------</td>
<td></td>
</tr>
<tr>
<td>Economic Revitalization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil erosion is a significant problem in the WNRW and a threat to agricultural productivity. IWA projects will help reduce soil loss and erosion, maintaining Iowa’s important agricultural economy.</td>
<td>Outcomes</td>
<td></td>
</tr>
</tbody>
</table>
Appendix E – IWA Evaluation Questions List, June 2017

- What does the overall implementation of the IWA actually look like?
- What does the work of the WMAs look like? (In what ways does the formation (for new WMAs) and the work of watersheds differ?)
- What are the characteristics of WMAs? (Who are the official members? What is the structure (committees, leadership, boards, etc.)? What kinds of participation is there by other non-voting groups (non-profits, conservation groups, etc.)?
- How does the planning process differ between WMAs? (Who are the planners? How do they work with the project coordinators? How do they make use of data and other support from the IWA partners?)
- How does the role of the coordinator vary from WMA to WMA? (How do they interact with the WMA? How do they make use of data and other support from the IWA partners?)
- What are the roles of the partners in the IWA and how does that differ between WMAs?
Appendix F – IWA Evaluation Questions List, October 2019

Overall
1. What does the overall implementation of the IWA actually look like?

WMAs
2. What are the characteristics of the WMAs?
   o Who are the official members?
   o What is the structure (committees, leadership, boards, etc.)?
   o What kinds of participation is there by other non-voting groups (e.g. non-profits, conservation groups)?
3. What does the work of the WMAs look like?
   o In what way(s) does the work of WMAs differ?
   o What influence are WMAs able to have on state policy?

4. Current and future success
   o What does the leadership see their needs are to be successful and how do they relate to the WMAs?
   o What is the role of the RC&D with respect to the success of the WMAs?

Watershed Planners
5. How is the work of the planners informed by interactions with and support from the project coordinators and IWA partners?
   o How does the planning process differ between WMAs or watershed planning organizations?
6. What is novel about the IWA-funded watershed plans and how are they utilized by the WMAs?

Project Coordinators (PCs)
7. What role(s) or function(s) does the PC perform?
8. How do they interact with the WMA?
9. What resources are useful to PCs and how do they utilize them?
10. How does the oversight and placement of PCs influence their responsibilities and actions?

Best Management Practices (BMPs)
11. What is the level of landowner interest and engagement in conservation practices relative to available funding?
12. What are the challenges and successes related to the implementation of BMPs in the various watersheds?

IWA Partners and Leverage Partners
13. What are the roles and contributions of the partners in the IWA across the WMAs and/or Iowa?

Flood Resilience Team
14. What defines the “flood resilience framework?”
15. What activities did the IWA implement that had the potential to contribute to a community’s resilience to flooding?
16. How did “programs to promote awareness” contribute to resilience to flooding for these community members?

Dubuque Bee Branch Healthy Homes
17. How did the activities of IWA benefit low- to moderate-income individuals?
18. In what ways did this group have increased opportunities for resilient, affordable housing?
19. In what ways did this group have reduced mental stress associated with the life disruptions common during flood events?

Storm Lake
20. In what ways did the activities of the IWA benefit the community and potentially reduce flooding?

Dissemination
21. In what way have the IWA Partners disseminated the lessons learned and promoted replicability of the watershed approach within and beyond Iowa?
22. What aspects of the IWA are of greatest interest to potential adopters of the watershed approach?
23. What aspects of the IWA appear to be most replicable within and beyond Iowa?
Appendix G – IWA Evaluation Questions List, December 2020

Overall
1. What does the overall implementation of the IWA actually look like?
2. What is the overall impact of IWA in Iowa?

WMAs
3. What are the characteristics of the WMAs?
   o Who are the official members?
   o What is the structure (committees, leadership, boards, etc.)?
4. What does the work of the WMAs look like?
   o What kinds of participation are there by voting and non-voting groups (e.g. non-profits, conservation groups)?
   o In what way(s) does the work of WMAs differ?
   o What influence are WMAs able to have on state policy?
5. Current and future success
   o What are the short-term and long-term goals of the WMAs?
   o What does the WMA board need in order to be successful?
   o What is the role of the RC&D with respect to the success of the WMAs?
8. How are WMAs going to continue to lead efforts for water resources management after HUD funding ends?
   o Funding mechanisms
   o Staff support

Watershed Planners
6. How is the work of the planners informed by interactions with and support from the project coordinators and IWA partners?
   o How does the planning process differ between WMAs or watershed planning organizations?
7. What is novel about the IWA-funded watershed plans and how are they utilized by the WMAs?

Project Coordinators (PCs)
8. What role(s) or function(s) does the PC perform?
9. How do PCs interact with the WMA?
10. What resources are useful to PCs and how do they utilize them?
11. How does the oversight and placement of PCs influence their responsibilities, actions, and access to resources?

Best Management Practices (BMPs)
12. What is the level of landowner interest and engagement in conservation practices relative to available funding?
13. What are the challenges and successes related to the implementation of BMPs in the various watersheds?

IWA Partners and Leverage Partners
14. What are the roles and contributions of the IWA partners across the WMAs and/or Iowa?
15. What does the future of IWA or a watershed-approach look like for each partner group? How can they continue to support IWA after the HUD funding ends?

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Flood Resilience Team
16. What defines the “flood resilience framework?”
17. What activities did the IWA implement that had the potential to contribute to a community’s resilience to flooding?
18. How did “programs to promote awareness” contribute to resilience to flooding for these community members?

Dubuque Bee Branch Healthy Homes
19. How did the activities of IWA benefit low- to moderate-income individuals?
20. In what ways did this group have increased opportunities for resilient, affordable housing?
21. In what ways did this group have reduced mental stress associated with the life disruptions common during flood events?

Storm Lake
22. In what ways did the activities of the IWA benefit the community and potentially reduce flooding?

Dissemination and Sustainability
23. In what way have the IWA Partners disseminated the lessons learned and promoted replicability of the watershed approach within and beyond Iowa?
24. What is the role of the WMAs of Iowa in the sustainability of the Watershed Approach?
25. What aspects of the IWA appear to be most replicable within and beyond Iowa?

WMA Consultants
26. How are WMA consultants going to continue to lead efforts for water resources management after HUD funding ends?
27. How were processes similar and/or different in different watersheds?
28. What are the roles and contributions of the WMA consultants across the WMAs and/or Iowa?
29. What does the future of IWA or a watershed-approach look like for consultants?
30. How can they continue to support IWA after the HUD funding ends?

Context [Bonus questions for CEA]

- What external factors influenced the progress or success of IWA as a whole? How did those factors change IWA’s implementation or outcomes? [High-level, vision of IWA]
- What external factors influenced IWA partners’ and/or contractors’ abilities to complete their planned work for IWA? What was the original vision? How did their vision have to change as a result? [Local level, influence on specific tasks or components]
Appendix H – IWA Evaluation Questions List, January 2022

A. What did the overall implementation of IWA look like?

Capacity building and sustainability –

For each group of interest (WMAs, implementation communities, PCs, partners, consultants)

1. What were the roles and characteristics of those groups?
2. What were the differences between groups, individuals, or watersheds?
3. How did groups operate or create products that may be different from their usual work?
4. What resources or collaborations were most useful?

Community impacts –

5. What activities did IWA implement that had the potential to contribute to a community’s flood resilience?

B. What is the overall impact of IWA in Iowa?

Capacity building—

1. What were the successes, challenges, and lessons learned from the perspectives of the WMAs, implementation communities, PCs, partners, and consultants? [Don’t forget to fold in FRT and BBHH into these lessons learned]
   - Successes – Replicable, award-winning work products (watershed plans, technology developments)
   - Challenges-
   - Lessons learned - Lessons learned that are now standard practice

Household impacts—

2. How did the activities of IWA benefit LMI individuals?
3. In what ways did the group of BBHH participants have increased opportunities for resilient, affordable housing and reduced mental stress associated with the life disruptions common during flood events?

Community impacts—

4. In what ways did the IWA activities benefit the community, contribute to flood resilience, and potentially reduce flooding? [Be sure to consider the Bee Branch/City of Dubuque effort son Bee Branch Creek; FRT and the FRAPs, etc]
5. What were the challenges and successes related to the implementation of BMPs in the various watersheds?

C. What aspects of IWA appear to be most replicable within and beyond Iowa? (Context specific, perspectives of stakeholders)

1. How have IWA partners disseminated the lessons learned and promoted the replicability of the watershed within and beyond Iowa?
2. What does the future of a watershed approach in Iowa look like for partners, WMAs, implementation communities, and consultants? [Here is a place to explore capacity building going forward; bringing to bear the successes, challenges, and lessons learned in the context of Iowa]

3. What mechanisms or opportunities exist (if any) for WMAs to promote sustainability of the watershed approach in Iowa? What challenge exist that stand in the way of this work?

D. What was the context in which IWA operated between 2016-2022?

1. What external factors impacted IWA?
2. How did these factors impact the efforts or potential outcomes for individual groups or the program as a whole?