Spring 2018

Winneshiek County Soil and Water Conservation District

Upper Iowa River Watershed Project

Photo courtesy of Jordan Kjome - Decorah, Iowa

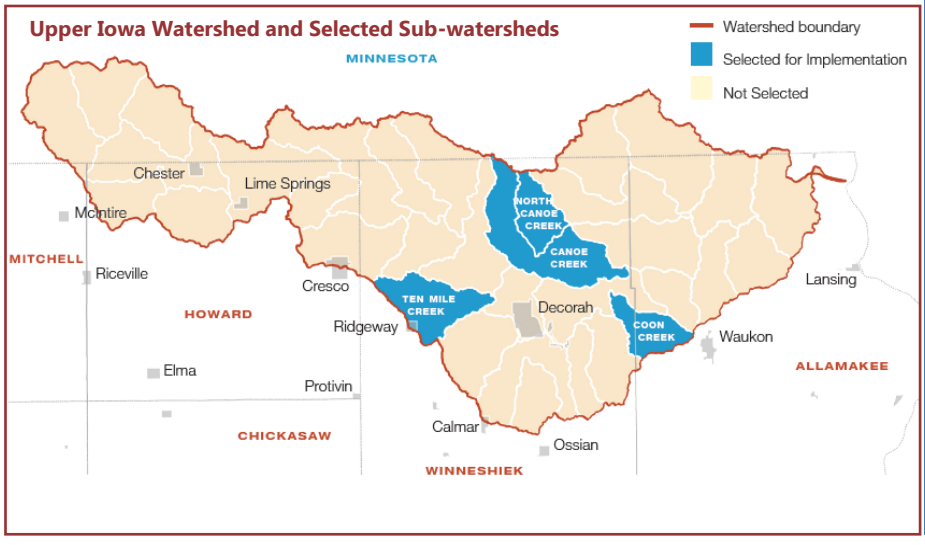
Project Background

In **2016 the State of Iowa secured a $96.7M federal FEMA Disaster Resilience Grant** issued through Housing and Urban Development (HUD) **to address flooding** issues throughout the state.

The money was then split up amongst watersheds in the state that qualified for assistance. **The Upper Iowa River (UIR) Watershed** was one of selected watersheds and received **around $4 million to implement water retention projects**. In order to maximize the effect of these projects, four sub-watersheds within the UIR watershed were selected to concentrate practices in.

The selected sub-watersheds are: Ten-Mile Creek, North Canoe Creek, Canoe Creek, and Coon Creek.

Input from many professionals (NRCS/SWCD staff, DNR, local emergency management services, County Engineers, Northeast Iowa RC&D, FWS, Iowa Flood Center, etc.) as well as info from landowner surveys and public comments were used to select the watersheds. Some factors that helped determine the watersheds included: eligible areas, areas that are frequently damaged during heavy rain events, potential for projects, landowner interest, and areas of significant public value/awareness.



The Iowa Watershed Approach (IWA) is a vision for Iowa's future that voluntarily engages stakeholders throughout the watershed to achieve common goals, while moving toward a more resilient state. It is a replicable model for other communities where the landscape has lost its natural resilience to floods. This program is not only about Iowans helping Iowans, but also about demonstrating Iowans' commitment to agricultural stewardship, to the environment, to their neighbors, and to the future. The goals of the IWA include the following:

- Reduction of flood risk;
- Improvement in water quality;
- Increased resilience;
- Engagement of stakeholders through collaboration, outreach, and education;
- Improved quality of life and health for Iowans; and
- Development of a replicable program.

To learn more about the IWA check out: www.iowawatershedapproach.org

What is a WMA?

In 2010 legislation was passed in Iowa allowing the formation of Watershed Management Authorities (WMA) by local leaders. A WMA is a voluntary board of directors made up by members of cities, counties, and Soil and Water Conservation Districts (SWCD) within a specified watershed. They act as a facilitator in a collaborative effort for local water quality and quantity improvement.

Duties of a Watershed Management include: 1) assess the flood risks in the watershed; 2) assess the water quality in the watershed; and 3) assess options for reducing flood risk and improving water quality in the watershed.

The Upper Iowa River WMA is 1 of 22 WMAs formed in the state. In addition to helping direct how to address concerns with flooding and water quality, a watershed that has a WMA has better chance at receiving grants or funding to put towards those efforts. This is how the UIR-WMA was able to receive approximately $4M to put towards projects over the next 3 years. This helps out the local economy, while reducing flooding and improving water quality.

The UIR-WMA has quarterly meetings in the Decorah City Council Chambers which are open to the public. The next meeting is scheduled for Thursday, June 14th, @5pm. Feel free to join us and ask any questions you have.

More information about the UIR-WMA can be found at:

upperiowariver.org/watershed-management-authority

Upper Iowa River
Watershed Management Authority

Why did we receive this grant?

Iowa is often referred to as the **most transformed state in the county.** Once dominated by tallgrass prairie, its transformation has made it **a highly efficient agricultural community that has been the backbone for the state's success** and whose productivity contributes greatly to feeding the world.

From **1988-2016 Iowa had 951 flood related FEMA disaster declarations and ranks 4th in the nation** for most declarations in this category, with many of the declarations occurring in NE Iowa. It's estimated that **damages from these events have totaled in the billions of Iowa dollars.** In 2008, during the worst flood event on record, Winneshiek and Allamakee County combined reported over $2M in damages to just roads and bridges.

But there has been a trade off...the transformation has drained 90% of our wetlands, and converted 99% of its original prairie to either row crops or pavement. Through tiling, ditching, straightening streams, and storm drains we have created a system that is highly effective at removing water from the landscape. **The transformation took us from a state that was adapted to handling heavy rain events to one that is very susceptible to flash flooding and soil erosion**.

Because of the UIR's history of costly flood events it was 1 of 9 selected watersheds in the state to receive funding for these projects

By taking a preemptive approach and investing in flood reducing practices now, we can reduce occurrences of costly flood damage in the future.

This not only allows more tax payer dollars to go towards community improvement instead of maintaining current infrastructure, but also helps to protect the wellbeing of our neighbors from these destructive events.

RESILIENCE: the capacity to recover quickly from difficulties; *toughness.*

What is a Watershed?

A watershed is the area of land where all of the water that falls within and drains off of it ends up at a common outlet. Think of when a drop of rains hits the ground, if it were to stay at the surface how would it flow down the landscape to a stream? And at what point does that stream meet another stream?

For instance, rain that lands in the Canoe Creek watershed (one of the 4 selected sub-watersheds) will ultimately end up in Canoe Creek, which then empties into the Upper Iowa River, which then empties into the Mississippi River, and on to the Gulf of Mexico.

As you can see to the left, there can be many types of land uses within a giving watershed. Differences in land use can have significant impacts on how fast water flows off the landscape. Adding conservation practices and water retention structures in a watershed will reduce the time it takes for water to leave the landscape, reducing occurrences of flash flooding and improving water quality.

Focusing conservation efforts at a sub-watershed level have shown to be an effective method for successful implementation with measurable results.

There are nearly 641,000 acres in the Upper Iowa Watershed. It is characterized by a diverse land cover consisting of a mix of cropland, grassland, forest, and residential/commercial development. Cropland is the principal land cover, accounting for 41.5% of the watershed, followed by grassland at 35.2% and forest at 19.1%. The remaining 4.2% is artificial or water.

Northeast Iowa Resource Conservation & Development

As part of the UIR Watershed Project, Northeast Iowa RC&D is working with partners to develop an UIR Watershed Resiliency Plan. The Plan will be used by the UIR WMA and their partners to help identify resource concerns and opportunities, and to direct future voluntary efforts in the watershed that will minimize flooding and improve water quality. The Plan will also inform city storm water management efforts and is expected to be incorporated into county hazard mitigation plans. In addition to providing direction, the Plan will help the WMA and their partners be more competitive when applying for future funding opportunities, including cost share for producers and community storm water runoff projects. Northeast Iowa RC&D has been working with partners in the UIR Watershed since 1998 when they worked with Winneshiek SWCD and other local partners to coordinate the development of the first large watershed plan in the State of Iowa. Since then they have helped SWCDs across the region secure millions of dollars in state and federal funding for personnel and producer cost share. They have also worked with dozens of communities and counties to secure grants for roads, bridges, trails, and other community infrastructure projects, as well as invasive species control, native plantings and stream restoration. To learn more about Northeast Iowa RC&D check out their website at northeastiowarcd.org or call their office at 563-864-7112.

NORTHEAST IOWA RC&D
Resource Conservation & Development

Targeted Practices

The most immediate action we can do to increase flood resilience is the adoption of practices that retain water in the landscape. **Ponds, wetlands, and sediment control basins** can all be designed to temporary hold water during heavy rain events, reducing the occurrence of flash flooding downstream. These practices can also be placed in areas susceptible to erosion to prevent or fix gully formation.

The UIR Watershed Project is **offering 75% cost-share for landowners to install the above mentioned practices.**

Higher value projects will be prioritized to insure we get the most "bang for our buck" when installing structures. Projects are evaluated by the amount of water retained, cost, and location in the watershed.

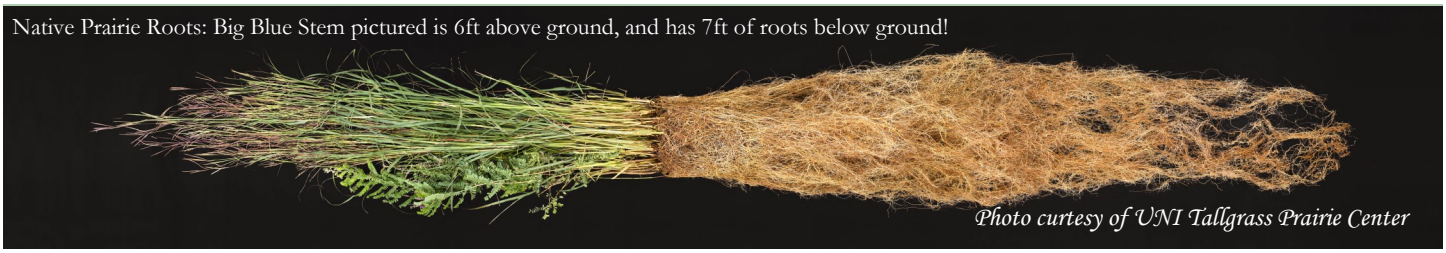
We are also working with county engineers to identify ideal sites where gravel roads can be built up and utilized as a structure to retain water during heavy rain events. When a potential site is identified, adjacent landowners will be contacted to ask their cooperation in the project. With these projects landowners **will not** be responsible for the cost of the project. However, we would request permission to allow land on the upstream side of the road to temporarily pool water or may request access to fill material.

In other cases a project being planned on your neighbors land may pool water onto your property either permanently or temporarily. In these situations an easement may be requested to allow this to occur.

I would like to stress that all projects are voluntary. Designs & cost obligations will be determined before a landowner is committed to anything. Keep in mind, **no one practice will be the cure-all to the situation. It will take a community effort between many landowners to ensure the projects success.**

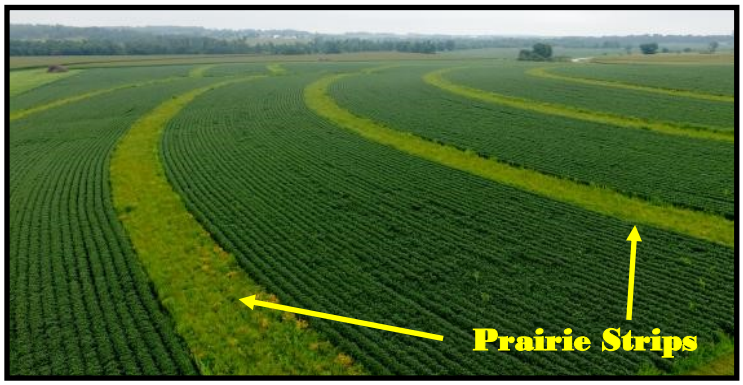
Other conservation practices like **terraces, cover crops, no-till, contour buffers, filter strips, grazing management, saturated buffers, and denitrifying bioreactors** will all help slow the flow of water off the landscape. Although these practices aren't cost-shareable through the UIR Watershed Project, there are several other programs available that can offset the cost of installation.

Taking steps to improve **soil health** can also have significant impacts on how fast water moves off the landscape, as well as additional benefits to the producer such as **improving plant nutrient uptake, protecting crops from drought or oversaturation, and reducing erosion.** Adopting systems that utilize no-till and cover crops **can increase organic matter by .1% a year.** Although that may not sound like a lot, that equates to an **additional 2,000 gallons of water per acre** that can be stored in the landscape…and over 10 years, an additional 20,000 gallons of water per acre!



Adding native prairie to your fields can also have significant impacts on runoff and water quality. Many native prairie plants have stiff tall growing stems that can slow water and hold back soil. They also have deep fibrous roots that promote water infiltration and nutrient uptake.

Studies have shown that **adding just 10% of native vegetation at strategic locations in crop fields can reduce water runoff by 40% as well as reducing sediment and nutrient runoff by 80-90%!** Filter strips, contour buffers, and prairie STRIPS can all contribute to this.



Past success and moving forward

The need for and effectiveness of these projects can be illustrated in the fact that **Iowa ranks 3rd in the nation with the most constructed watershed structures**. Texas being the 1st (huge state) and Oklahoma the 2nd, with projects starting as far back as the 1950s.

Past watershed projects have had significant impacts on reducing flood damages. A similar project was done in Winneshiek County from 2000-20013, **where 19 structures were installed in the Bear Creek Watershed** (along with many other conservation practices). County employees report after these projects were completed there are far **fewer instances of road wash outs**. Fisherman claim that that after heavy rains in the area, the Bear Creeks are the trout streams to head to because its **waters clear out much faster** than other area trout streams. **Farmers** have also stated that they have had to **fix less floodplain fencelines** after the project's completion.

Success stories like this can be seen across the state such as in the **Soap Creek Watershed**, in southern Iowa, which **installed around 130 water retention structures** in its watershed resulting in a **43% reduction in peak flow** during heavy rain events.

"[The] project has created jobs and outside income for our small communities … The structures have increased the value of ag land, not only for the landowners, but for those downstream as well." ~ Soap Creek Landowner

The Upper Iowa River, although not yet to Iowa's water quality goals, is known to have lower pollutant levels in its streams when compared to other streams across the state. It also supports a nationally renowned fishery in which over the years more and more of its streams have been able to support trout, as well as more natural reproduction within them. **This is a testament to the watershed's dedicated community members that care about their land and their neighbors.**

But there is still room for improvement. As other watersheds across the state have had opportunities like this to better their situation, this is now **your watershed's opportunity** to improve its flood resilience.

Unfortunately, **we only have about 3 years to utilize these funds** before they may have to be returned. Success of this project will ultimately be up to watershed residents stepping up and coming together to make lasting improvements towards our communities flood resilience.

Several projects are already in the works, but more will be needed to have a significant impact. If you believe your land has potential for a projects feel free to contact me to set up an appointment for a sight visit and consultation.

As someone that grew up in the UIR Watershed and frequently recreates within, I am looking forward to meeting others in the watershed to see how we can come together to continue improving the area for future generations to enjoy.

Matt Frana | *Upper Iowa Watershed Project Coordinator*

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Check out these websites to learn more about the project:

* WINNESHIEKSWCD.ORG/UPPER-IOWA-RIVER

* UPPERIOWARIVER.ORG * IOWAWATERSHEDAPPROACH.ORG

Winneshiek County SWCD

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Hello, my name is Matt Frana, Project Coordinator for the Upper Iowa River Watershed. I'm excited to tell you about a **limited time, voluntary opportunity** that is happening in your watershed!

Through the **Iowa Watershed Approach** and **Upper Iowa River Watershed Management Authority** a **grant** has been **secured** to **implement practices** in the watershed **that reduce flood risk** and improve water quality, with the ultimate goal of building a community that is highly resilient to flooding.

Through this grant we are able to provide cost-share towards targeted practices for landowners in the selected priority sub-watersheds. If you received this newsletter you likely live in or own land in one of the priority sub-watersheds and are eligible to receive **75% cost-share towards targeted practices**. The targeted practices include **ponds, sediment control basins, and wetlands. Funds are only secured for a limited time, so be sure not to miss out on this opportunity!**

THE UPPER IOWA WATERSHED PROJECT IS **OFFERING 75% COST-SHARE** FOR LANDOWNERS TO INSTALL WATER RETENTION STRUCTURES. PRACTICES INCLUDE:

* WATER AND SEDIMENT CONTROL BASINS
* PONDS
* WETLANDS

See inside for more details….