



STEWARDSHIP NEWSLETTER

Spring/Summer 2019

crawfordstewardship.org

Drinking Water is Top Priority

Citizen advocacy needed to catalyze change

By Eli Mandel

Wisconsin has been facing multiple drinking water crisis for some time. Recently, we have seen increased priorities and attention shifting to address these public health threats in our water. Focus all across the state is reaching a critical point, culminating in newly elected Governor Evers declaring 2019 "the year of clean drinking water".

Crawford Stewardship Project has been working on these issues for over a decade, and is advocating for our rights to clean drinking water at the local, regional, and state level every day.

We launched our Drinking Water Education & Testing Program this winter, subsidizing and coordinating the testing of 53 private wells in Crawford County. Our efforts are focused on working to catalyze a multi-county coordinated testing in the heart of the Driftless, as well as increased protections for our

groundwater, now!

As part of our work to highlight the need for private well testing programs in our area, CSP staff have been attending local and state conservation meetings and lobbying our elected representatives to address groundwater contamination. The sensitive nature of our karst hydrogeology, which allows surface pollutants to infiltrate our drinking water, can lead to contamination and health impacts. Both nitrate, bacterial, and heavy metal pollutants can cause a wide-range of health issues, with many still being discovered, whose presence prevent many from drinking their well water in Wisconsin. Many more have contaminated water, but have not tested and so are not aware they have a problem.

Our state agencies recognized karstic geological sensitivity and studied contamination of drinking water in Eastern Wisconsin. This led the WDNR to

pass "Sensitive Area" modifications to NR 151 Runoff Management Implementation, as the regulatory structure of nutrient management plans (NMPs) and current best management practices fail to protect groundwater quality in their karst geology.

Though these new regulations have not yet been implemented, new research by U.S. Department of Agriculture microbiologist, Mark Borchardt, shows how important it is for all karstic areas of Wisconsin to receive further protections for their drinking water.

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Why we monitor ... and how you can take part!

By Omaru Heras

Have you ever thought about the Driftless region as a whole?

On the surface, we see rolling hills, trees, and wildlife, springs, streams, and rivers. Below the surface there exist fractures, caverns, underground rivers, and aquifers.

In between, we have a sadly eroding layer of some of the

best soil on the planet, and connecting these worlds are many springs, caves, and sinkholes.

These worlds are actively interacting with each other. Our rain and surface water becomes our groundwater, which, in turn pulses through our multitude of coldwater streams. This same water feeds our ecosystems, and fills the aquifers we drink from.

Monitoring the water is one of the best ways to know the health of the driftless karstic body on which we live. We can not have health and prosper if our water becomes contaminated. Unfortunately, major sources of potential contaminants abound on our sensitive flow-through hydrogeology.

CSP's Water Quality Monitor-

ing Program, working in concert with our partners at Valley Stewardship Network and the Wisconsin DNR's Water Action Volunteers, has been testing and assessing surface water quality for a decade in streams of particular concern.

With three main sites of concern to monitor monthly or

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A truly heartfelt thank you to every one of the 203 wonderful individuals, families, businesses, and organizations who donated to Crawford Stewardship Project in the last year, keeping us going strong into the future. We are honored to continue this work for you, for this community, and for this beautiful place we call home.

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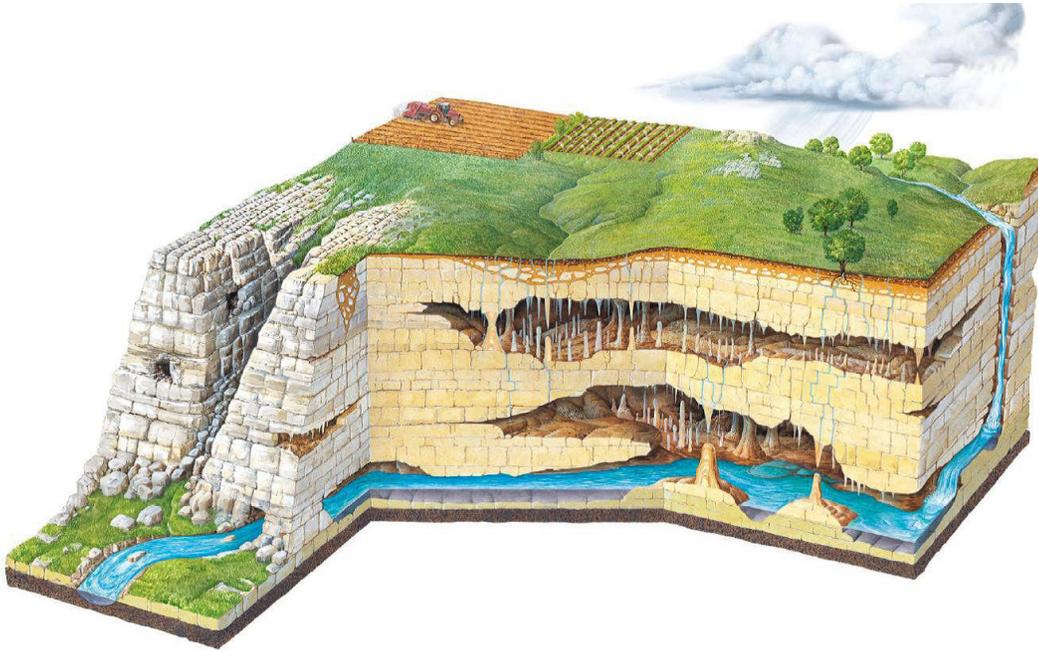
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more often as needed, and plans to add more this season, we could use more volunteer water monitors in our project! This is an enjoyable way to get outside and visit a body of water, while producing important scientific data to inform our actions and those of our municipalities and state agencies.

This season's local water quality monitoring trainings:

Crawford Co: Steuben Lodge on May 4.

Vernon Co: Esofea County Park on May 11.

Trainings are 10 a.m. - 3 p.m. Lunch will be provided.

We are also in the process of setting up our own lab for bacterial and phosphorous testing, for any citizen scientists out there who would like to get involved in that end of our project!

For this, or for questions about the trainings, contact Omaru Heras, CSP Water Quality Monitoring Coordinator (oheras@crawfordstewardship.org).

Aside from providing these trainings and coordinating testing at sites of additional concern, CSP will be commenting on the Wisconsin DNR's new bacterial contamination standards, and will be advocating for sensible water protections at every level.

We do this because we recognize that all water is connected, and water influences everything. If we protect our streams, we protect our community health, as well as the health of the multi-billion dollar tourism and recreation industry. By monitoring, we can gather the information needed to track threats to our watersheds and help farmers keep their nutrients on their land. While the streams we monitor may be small, they are important to the many living beings who rely on them, and all lead into major rivers such as the Kickapoo, the Wisconsin, and the Mississippi.

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Borchardt found nitrate and bacterial contamination comes mostly from agriculture, in an interview with WPR and Wisconsin Center for Investigative Journalism, he said, “Where we see the strong relationships, the strong linkages, those are with agricultural factors. So that would suggest that agriculture is primarily responsible for those two contaminants”.

The number one risk factor for bacterial contamination was well proximity to a manure pit, with wells three miles away still showing some risk. Nitrate contamination is linked to the presence of agricultural fields, distance to the nearest ag field, distance to nearest manure lagoon, and depth to bedrock. It is well documented that 90% of nitrates found in groundwater come from fertilizers and manure from farming operations.

Locally, momentum and action are manifesting in our communities. This February, Crawford County Conservationist Dave Troester reported to the county Land & Water Conservation Committee that, “The ball is definitely rolling, and there is the possibility that Crawford, Richland, and Vernon counties will be able to collaborate in an initiative similar to the SWIGG [Southwest Wisconsin Groundwater and Geology] study currently underway in Grant, Lafayette, and Iowa counties. However, in Crawford and Richland counties, our major barrier is finding funds to pay for testing.”

Local leaders in Crawford and Vernon counties, the Tainter Creek Producer-Led Watershed Council, continue to use state funds to test wells in their watershed, as well as implement-

ing conservation practices and holding educational events. This shining example of local farmers coming together to work towards solutions is exactly the kind of action we need.

Further, we need a coordinated effort to study our local hydrogeology and test our drinking water. Both local government action and state funding are needed to accomplish these goals. For this to manifest we need your help!

Recently, Dave Troester told the Land & Water Conservation Committee that he briefed the Crawford County Finance Committee, “well water testing is becoming a higher profile citizen issue, and there is a lot of interest in pursuing testing in Crawford County.” Your County officials need to hear from you, too!

Please reach out to your elect-

ed representatives, both at the county level (your County Board Supervisor) and your representatives in the State Capitol. Tell them that these issues are a top priority for our communities: both the need for a large-scale groundwater and geological study and testing, as well as the need for further protections to ensure our rights to clean drinking water.

*Join us on April 27, 11 a.m. - 12:30 p.m., at the Crawford County Highway Dept. for our **Public Drinking Water Forum**. UW-Extension Groundwater Education Specialist Kevin Mazarik will join Crawford Stewardship Project staff to discuss the results from our recent well testings and the state of our drinking water in the area. The forum is free and open to the public.*

Industrial Ag on the move

We will show a different way is possible

By Forest Jahnke

It has come to our attention that a 10,000 sow Concentrated Animal Feeding Operation (CAFO) may be in the planning process for installation along Harvest Lane, south of Steuben. Neighbors have already been asked to receive manure from the potential facility.

We are unsure of the timeline, and no permits have yet been applied for, though our sources report that spreading land is being requested for spreading season of 2020. We are on high alert for permit applications, and in the meantime suggest that all neighbors get their wells tested as soon as possible.

Our predictions a decade ago of the consequences of having too many animals concentrated on not enough land over karstic hydrogeology have proven, unfortunately, all too accurate.

After ten years of monitoring



Keynote speaker Dan Shelliam of Windy Hill Ranch near Hazel Green (inset) describes his regenerative agriculture experiences as “A great deal, in so many ways!”

streams downgrade from the Roth Feeder Pig CAFO’s operations near Wauzeka, we have

found alarming results for coliforms, *E. coli*, and phosphorous on a regular basis. Antibiotic resistant bacteria have also been found. Rarely are results under state standards for streams and rivers, and often surpass standards by two to ten fold, or even more, resulting in the DNR designating a small stream we monitor as “impaired” last year.

We have watched, through reviews of their annual Nutrient Management Plans, as soil phosphorus has skyrocketed well beyond allowable levels from over-spreading on many fields.

We have helped neighbors test their wells, as proximity to a manure lagoon and ag fields with nutrient overloading are the top risk factors for drinking water issues, as has been seen in La Crosse County and elsewhere where monitoring wells have been installed. A recent analysis of the substantial data collected in eastern Wisconsin by Mark Borchardt, of the USDA Ag Research Services, confirmed this correlation.

We have been busy in the last months supporting allies

in surrounding counties with their own struggles with threats from industrial agriculture. In Grant County, we attended the permitting hearing for a hog CAFO in Rockville surrounded by the most dramatically sink-hole-riddled terrain we’ve seen in the region.

Meanwhile, the Pipestone “Timberwolf” CAFO outside of Fennimore (with the 7.3 million gallon manure lagoon on top of a large recognized sink-hole) constructed their brand new facility and even held an open house in empty barns to convince the public that this vertically integrated out-of-state corporation cares and will do no harm. However, reports from neighbors of Pipestone’s two year old “Blakes Point” facility include a disregard for erosion control measures, unlicensed borrow pits, high mortality rates, and cracking cement. Despite well-reasoned and science-backed concerns from neighbors, these facilities in Grant County continue to be permitted with little or no additional conditions.

“Different way” continued page 5



Cost cutting, yield boosting, water absorbing, nutrient retaining, carbon capturing, life-promoting... our panel was happy to explain the many benefits of regenerative agriculture!

Members of the panel for the regenerative agriculture event Saturday, March 30, at the University of Wisconsin-Platteville included, back row from the left, Ag Equipment Technician Instructor John Kvigne from Southwest Wisconsin Technical College in Fennimore; Daniel H. Smith, Regional Nutrient and Pest Management Specialist with UW-Madison; and UW-Platteville Assistant Professor of Soil and Crop Science Dr. Andrew D. Cartmill. In the front row are (left) farmer Tom Hamm and (right) Joshua Kamps, Agriculture Educator with the UW Extension in Lafayette County.

Photo courtesy of David Ralph

*“Different way” continued
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In stark contrast, to the north, La Crosse County public officials are showing an impressive level of oversight and concern for the groundwater issues identified around the Babcock Genetics hog CAFO near Holmen, requiring more monitoring wells, and demanding regulatory action to prevent further drinking water contamination.

We can also report on many opportunities in sustainable agriculture, after an exciting day of learning at the Grant County Rural Stewardship Project Farmer-to-Farmer Regenerative Ag event we co-sponsored, and yet another season coming up of pasture walks of local rotationally grazed farms. As your loyal local environmental watchdog, Crawford Stewardship Project will let you know of all threats and opportunities as we learn of them.



By Eli Mandel

With the new year, Crawford County has a new UW Extension agriculture agent. Adam Hady, who lives with his family outside of Boaz, will be splitting his time and duties between Crawford and Richland counties, the latter where he has worked since 2004. Adam earned his bachelor's degree in animal science from UW-River Falls and a master's degree in adult education from UW-Platteville.

Introduction to UW Extension Ag Agent Adam Hady

Adam says of his new position, “As with all of Extension, we are the outreach education arm of the University System. I can bring some knowledge and resources of the University to the Crawford County agricultural community through workshops, field days, media communications and one-on-one interactions.”

When asked about the uniqueness of this area, he responded, “the topography and landscape are what makes Crawford County special. From an agricultural perspective this leads to a lot of diversity in production systems and commodities.”

How can you help us all be better stewards of our land and waters? “I think the best way that I can help is to be the resource that can provide unbiased research based in-

formation to individuals and the public, so they can make informed decisions that will benefit the land and water resources.”

Lastly, we asked about what solutions does he see for farmers in the area? How can we make farming a sustainable profession in this region? “I don't know if there is a one size fits all answer to the solutions in the area, I do think if producers/ farmers/ landowners are able to increase management capacities, ask the right questions, and make informed sound decisions the ability to be more sustainable increases.”

Adam is available by visiting the Crawford County UW-Extension Office at 225 North Beaumont Road, Suite 240, Prairie du Chien, calling 608-326-0223, or email adam.hady@ces.uwex.edu.

CSP Karst research spreading to Grant County... and informing statewide conversations

By Forest Jahnke

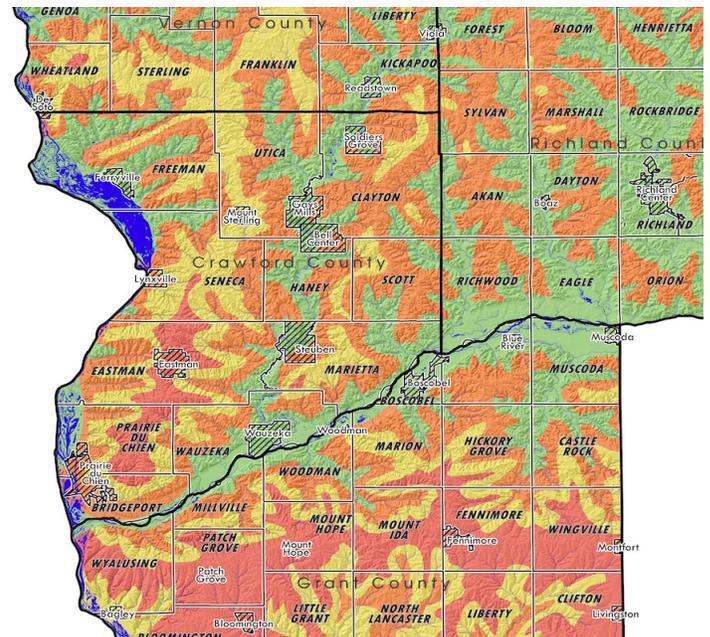
With so much going on, our momentum on the Karst Landscapes and Groundwater Susceptibility Survey has slowed, but important progress continues to be made as we look into possibilities of getting our research published, and we continue to share our maps and methodologies with surrounding counties.

This summer and fall, University of Wisconsin, Platteville, Geology Professor Lynette Dornak will be using the methodology Legion GIS developed for us to identify “closed depression” points in Grant County. In a Driftless landscape, each closed depression (a hole, indentation, or pit) indicates either human or underground karst influence.

“This project will allow my GIS students to engage in a learning exercise that will help them to refine their skills and also make a real-life contribution to our surrounding community,” says Professor Dornak.

This dataset will be ripe for the sort of karst citizen science events we held here in Crawford County in the last couple years, allowing regular folks to help sort out the sinkholes from the culverts, cattle ponds, building foundations, and other human impacts.

Our research continues to be invaluable and timely at hearings across the region and state, as we push for the state to recognize the sensitivities of this area and take action to protect our groundwater.



Our shared geology shows lobes of carbonates and sandstones. A limestone cap over much of Grant County makes them particularly susceptible to sinkholes, springs, and other karst features.

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Karst Exploration 2019

September 14

1-4:30pm

Steuben Lodge

48193 County Rd E, Steuben

**Join us for another karst adventure to learn
about the world beneath our feet!**

1-2pm - Professor Kelvin Rodolfo will present an
engaging 500 million years of geological history
and what that means for our lives.

2-4:30pm - Explore local sinkholes to see for yourself
the results of karst geology on our landscape.

*Please bring appropriate clothing for walking
through fields and woods.*

Light refreshments provided.