



# DEEP ROOTS

A NEWSLETTER FOR  
FARMERS AND FARMLAND OWNERS  
IN IOWA COUNTY WISCONSIN

WINTER 2018

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**IOWA**  
**County** GOVERNMENT  
WISCONSIN

**LAND CONSERVATION DEPARTMENT**

# HELLO

MEET THE IOWA COUNTY LAND CONSERVATION STAFF AND SEE WHAT WE'VE BEEN WORKING ON.

## KATIE ABBOTT

County Conservationist

[Katherine.Abbott@iowacounty.org](mailto:Katherine.Abbott@iowacounty.org) | 608.930.9893

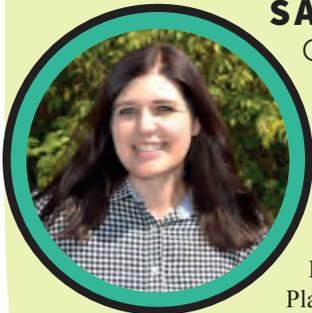


I've dedicated my career to conservation because I believe that profitable farms and businesses can coexist with healthy soil, water, and wildlife, and that everyone in a community is better off when they do. I've worked in Iowa County for over 12 years helping farmers and landowners with conservation programs. I first worked as a Project Coordinator for Southwest Badger Resource Conservation and Development Council, then as the Conservation Programs Manager for Driftless Area Land Conservancy. I have a Bachelor of Science degree in biology with an environmental science minor from UW-Eau Claire, and a Master of Science degree in Conservation Biology from the University of Minnesota. I'm proud to call rural Iowa County my home and raise my family here. It's a privilege to be able to work with the great people in this area to protect our shared natural resources and find creative solutions to challenges.

## SARAH HOVIS

Conservation Technician

[Sarah.Hovis@iowacounty.org](mailto:Sarah.Hovis@iowacounty.org) | 608.930.9894



I have a B.S. in Plant and Soil Science and my M.S. in Soil and Water Quality. I have interned with the Kewaunee County Land Conservation Department and Natural Resource Conservation Service, worked as a Soil Conservationist for NRCS in Spokane County Washington and spent the last two years at the Tennessee Department of Agriculture in CAFO permitting/Nutrient Management Plan reviews and Nonpoint Source Pollution Grant management. I am excited to be back in my home state of Wisconsin to work with landowners in preserving and protecting our natural resources!

## LANDON BAUMGARTNER

Conservation Specialist

[Landon.Baumgartner@iowacounty.org](mailto:Landon.Baumgartner@iowacounty.org) | 608.930.9895



I am the main point of contact for the Farmland Preservation Program and Nutrient Management Plan monitoring. I am originally from Northwest Illinois where I worked for the NRCS in several counties. I am a graduate of George Williams College of Aurora University in Williams Bay, WI where I earned my Bachelor of Science Degree in Environmental Science. During schooling I worked at small organic farms and was active in the Future Farmers of America (FFA). Now back in Wisconsin, I look forward to exploring southwest Wisconsin's public lands, volunteering, and getting to know members of the local community.

## MAYME KEAGY

Department Assistant

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As a rural resident of Ridgeway, WI, I have a great passion for land conservation in Iowa County. I have an extensive background in project management, administrative support, marketing, graphic design, digital and print media, photography and video production. Contributing to my community is an important component of my career and lifestyle. I volunteer through the UW-Extension Master Gardening Program and sponsor refugees in the Madison area.

# 2018

## SUMMARY REPORT



### Nutrient Management Planning

29 plans cost-shared totaling 2,780 acres and \$38,630



### Soil & Water Projects

7 Projects completed totaling \$34,358 of cost-share.

### Farmland Preservation

745 farms have Certificates of Compliance, covering 152,187 acres (about 43% of the County's farmland) which equates to over \$1.1 million in tax credits to County farmers.



### Conservation Enhancement Reserve Program

37 agreements completed covering 1,072 acres and totaling \$343,085 in payments.

### Partnerships & Special Projects



Partnered with Grant and Lafayette Counties to begin the two-year Southwest Wisconsin Groundwater and Geology study. Three hundred well samples were collected in early November.

Partnered with Michael Fields Agriculture Institute and UW-Extension to complete Nine-Key-Element Watershed Plans for two watersheds.



### Communication & Outreach

Co-organized with UW-Extension the Iowa County Youth Conservation Field Day for 254 sixth graders.

# BUILDING A SOIL LEGACY

**KATIE ABBOTT**

County Conservationist

**40 YEARS OF NO-TILL EXPERIENCE HAVE SHOWN THE BENEFITS**



**“No-till works. It saves labor, time, and fuel, but number one is it saves the soil.”**

Bob Bunker first used a no-till drill on 15 acres of his Rewey farm in 1976, one of the first adopters in the County. He bought the drill after reading and hearing about no-till from his equipment dealer, and tried it out on a grassy bottom field far back where no one could see.

It turned out to be a good crop, so he added a little more into no-till each year. Since 1992 all the cropland in his 480-acre farm has been under a no-till system. He sold his disc and chisel plow, and never looked back.

Overall, Bob said he is well-satisfied and his fields look great. “No-till works,” Bob said. “It saves labor, time, and fuel, but number one is it saves the soil.”

Bob said a common myth is that no-till leads to weeds and less production, but he pointed out that herbicide-resistant crops have greatly helped with weed control and he has seen yields up to 220 bushels of corn per acre.

“The biggest advantage is soil erosion reduction,” Bob continued. With larger equipment his contour strips have doubled

up, but keeping heavy residue has protected his soil. “I follow the three R’s,” he said, “Residue, residue, residue.”

He’s eliminated soil compaction issues and never worries about crusting or needing to rotary hoe. “Emergence is a little slower due to colder soil, but the crops catch up, and better seed varieties keep coming along. Plus the crops do better in dry years.”

“It takes time to build soil; it’s not something that’s instant.”

Bob also fertilizes according to soil tests and a Nutrient Management Plan, and is careful to haul smaller loads of manure if the soil is soft to reduce compaction.

“It takes time to build soil; it’s not something that’s instant,” Bob pointed out. “But I’ve seen results within one year.”

Bob recalled the small dairy and sheep operation of his youth, the moldboard plow his grandfather used, and how easily that loose soil washed. “My grandpa said no-till

## Bob’s no-till advice:

- Start small and hire someone with a no-till drill
- New farmers should start with a no-till system to save on initial investments
- Don’t listen to your grandparents (or other naysayers)

would never work, but I didn’t listen to him.” Bob and his wife, Elaine, quit milking in 1991, and now raise beef, sheep, and rotate corn, soybeans, alfalfa, and small grains on his cropland.

Bob grew up and raised his four children on his farm that his grandparents bought in 1940. He hopes some of his twelve grandkids, now aged between 4 and 11, take over the farm someday. He knows the soil will be ready when they do.

“I’m just using the land for the time-being,” he said, “I want it to still be there for my grandchildren and their grandchildren.”

# GROUNDWATER

**KATIE ABBOTT**

County Conservationist

## SOUTHWEST WISCONSIN GROUNDWATER AND GEOLOGY STUDY: WHAT FARMERS NEED TO KNOW

Iowa, Grant and Lafayette Counties have teamed up to fund a study to determine the extent of well contamination, the sources of contamination, and the risk factors in southwest Wisconsin. The Counties are contracting with researchers from the Wisconsin Geological & Natural History Survey, the USDA Agricultural Research Service, and the U.S. Geological Survey.

Southwest Wisconsin is naturally susceptible to groundwater contamination because we have shallow soil and bedrock full of fractures. The soil doesn't always adequately filter water before it hits rock. Once water meets bedrock, it can quickly move through the various cracks, heading toward wells and groundwater, or eroding away sinkholes and caves.

This study is partially in response to community concerns and water quality issues in other parts of the state with bedrock and soils similar to what we have here. There was also talk at the state level of applying new manure spreading restrictions to southwest Wisconsin, which didn't happen. This all has made us realize we need to learn much more about water quality in our area.

So far we know there *is* a problem with water quality here. The study's first round of well samples, taken last November, found 33% of the wells tested in Iowa County had either total coliform, E. coli, or high nitrates. Between the three Counties, 42% of wells had at least one contaminant.

This is not a new problem. In Iowa County, our early study results are very consistent with 30 years of past well testing data. It hasn't gotten worse, but it hasn't gotten better either.

We don't know the causes or risk factors yet however, especially when it comes to bacteria. Total coliform, which was in 26% of wells tested, does not usually cause illness and does not necessarily mean the groundwater is bad. It is found both in fecal and environmental sources, and can sometimes enter a well from the surface through soil, insects, or spiders.

However, total coliform is used as an indicator that other pathogens may be present. E. coli bacteria, found in 3% of wells, occurs from direct contamination by fecal waste, and is a serious health risk. In our next step, researchers will take specialized samples and test for pathogens to identify ones specific to humans, cattle, or pigs. This will give us important details on the true extent of pathogen contamination and if they are coming from septic systems or livestock.

“Once the study is completed in 2020, we will look at the data and see if any County or regional solutions are needed. If so, we are committed to working with local stakeholders on solutions that are both achievable and effective.”

For nitrates, in Iowa County, 13% of wells were over the state health standard of 10 parts per million (ppm). Any nitrate amount over 2 ppm is considered human-caused.

High levels of nitrates are very dangerous to babies and pregnant women, causing life-threatening blue baby syndrome and associated with neural tube defects in developing babies. More research is also linking nitrates in drinking water to adult health issues, including thyroid disease and colorectal cancer.

Annual well testing is recommended, with more frequent tests if babies or pregnant women drink the water, or if the color, odor, or taste of the water changes. If a test comes back positive for bacteria, the water should not be used unless the water is boiled first, especially if E. coli was found. A second sample should be taken, and if bacteria contamination is confirmed, the well should be disinfected.



Water quality is also important to herd health. Nitrates over 20ppm can cause problems, especially if there are already high nitrate levels in feed. Calves are vulnerable to bacteria like cryptosporidium and E. coli.

We will determine the relationships between contamination and factors such as well design, depth to bedrock, soil type and land use for both nitrates and bacteria. This will give us data on what makes a well more vulnerable to contamination. We've also applied for funding to learn more about characteristics of a clay layer in our bedrock and if it could act as a barrier to contamination.

Once the study is completed in 2020, we will look at the data and see if any County or regional solutions are needed. If so, we are committed to working with local stakeholders on solutions that are both achievable and effective.

Please don't hesitate to call County Conservationist Katie Abbott with any questions: 608-930-9893.

**Sinkholes or unused wells can allow contaminants to enter groundwater. The Land Conservation Department can provide cost-sharing to decommission an old well or mitigate a sinkhole. Call Sarah Hovis at (608) 930-9894 for details.**

Careful use of nitrogen fertilizers will not only help protect groundwater, but will also help your bottom line. The old method of applying 1 lb of N per 1 bushel of corn yield is no longer recommended. It's important to consider the cost of fertilizer when planning your rates; if fertilizer cost is high and corn prices relatively low, your fertilizer investment may not pay off. More N doesn't *always* mean a higher yield.

## **WE RECOMMEND:**

- **following UW-Extension recommendations for N, which provide optimal rates based on crop yield, quality, and economic return**
- **accounting for legume and manure credits; manure sampling helps refine N needs**
- **applying N in spring rather than fall**
- **using sidedress or split applications on sandy or poorly-drained soils**
- **considering preplant or pre-sidedress soil tests in certain scenarios**

**UW-Extensions Nutrient Applications Guidelines can be found online at <https://learningstore.uwex.edu/Assets/pdfs/A2809.pdf> or contact us at 930-9891 to get a copy. You can also learn more at a Nutrient Management Planning class. Call us for details!**

# BEST PRACTICES

**SARAH HOVIS**  
Conservation Technician

**Cattle with unlimited stream access can degrade streambanks and impair water quality.**

## STREAM CROSSINGS

Streams that meander through open pasture are part of what makes Iowa County so picturesque. These streams with deeply cut banks and changing flows can also pose a problem. Sometimes they can impede livestock or machinery passage throughout the farm. Stream crossings provide a stable way to access areas divided by flowing waterways.

A rock ford crossing designed by the LCD would install a rock layer as a portion of the channel bottom and shape the bank approach back at a slope fit for the landscape. In addition to making an easier crossing for livestock and machinery, the stream banks are protected from eroding and collapsing when traffic is directed to the shaped access point. The crossing would be designed to withstand water force from a 10 year storm.

Stream crossings should not alter or impede stream flow. After heavy rain events, crossings should be checked for signs of damage, erosion, or large obstructions in the stream that could alter their ability to function correctly.



Photo: Sarah Hovis

**A streamcrossing with exclusion fencing helps to protect the banks and keep soil in place.**



Photo: NRCS

**Grassed waterways with established vegetation can slow down water force, increase infiltration, and minimize runoff.**



Photo: Sarah Hovis



Photo: Wiki Commons

## GRASSED WATERWAYS

Water is essential for crop growth, but when combined with steep slopes and low soil infiltration, it can lead to field cutting and soil erosion. Gullies that form in fields can accelerate erosion, cause problems for machinery access and destroy valuable crop land. Grassed waterways with established vegetation can slow down water force, increase infiltration, and minimize runoff.

Waterway design by the LCD staff includes reshaping and grading the land to prevent or fill gullies and choosing an appropriate grass mix to be planted. The waterway will be

designed to handle the force of water from a 10-year storm runoff event. Waterways can be mowed or hayed periodically once established. In order to preserve the integrity of the waterway, it should not be used as a road or crossed with heavy equipment, the edges should be avoided when tilling, and spray equipment shut off when crossing the waterway.

**For more information, technical assistance or to inquire about possible cost-sharing opportunities contact Sarah Hovis at LCD (608-930-9894, [sarah.hovis@iowacounty.org](mailto:sarah.hovis@iowacounty.org))**

# FARMLAND PRESERVATION

## LANDON BAUMGARTNER

Conservation Specialist

In Iowa County, following these standards could mean you are eligible to receive a \$7.50/acre annual income tax credit.

For more details on rules and eligibility, visit [https://datcp.wi.gov/Pages/Programs\\_Services/FarmlandPreservation.aspx](https://datcp.wi.gov/Pages/Programs_Services/FarmlandPreservation.aspx) or contact Landon Baumgartner at (608)930-9895.

Wisconsin's Farmland Preservation Program (FPP) rewards farmers with income tax credits for following conservation practices outlined in state statutes. In Iowa County, following these standards could mean you are eligible to receive a \$7.50/acre annual tax credit. Some of the standards include:

- Maintaining a 5 ft. buffer of vegetated land between tilled land and streams.
- Maintaining and following an up to date nutrient management plan (NMP).
- Maintaining tolerable annual soil loss totals on all fields.
- Ensuring there are no significant gullies, feedlot runoff, wastewater discharge, or streambank integrity issues.
- Following all local ordinances and state standards concerning manure storage structures.

The County Land Conservation Department must certify that your farm follows the conservation standards before you can take the credit.

# HELP WITH THE HARD QUESTIONS



The LCD staff understands what a difficult time it is economically for farmers, and our hearts go out to anyone struggling to make ends meet and needing to make tough choices. Staying mentally healthy is especially challenging, and especially important. The Wisconsin Farm Center can help you by providing information and support on almost anything farm-related, ranging from personal and family difficulties to animal health. Here are just some of the services they provide:

- Financial Planning- Assistance with cash flow analysis, farm feasibility or debt analysis, business planning or debt restructuring.
- Farm Successions- Assistance with all aspects of farm succession including business plans, viable entry and exit strategies, support during the transfer process, and identifying options.
- Conflict Mediation- Assistance with dispute resolution with creditors, family members, neighbors or other agencies by assigning trained mediators.
- Counseling Services- Identifying low or no-cost counseling for farmers and their families.
- Someone to talk to.

For more information please visit [FarmCenter.wi.gov](http://FarmCenter.wi.gov) or call 1-800-942-2474 on weekdays from 7:45 am to 4:30 pm. Farm visits are available by appointment.

# DEEP ROOTS

**IOWA**  
*County* WISCONSIN GOVERNMENT  
**LAND CONSERVATION DEPARTMENT**  
1124 PROFESSIONAL DRIVE, STE 500  
DODGEVILLE, WI 53533

Non-profit org  
U.S. Postage  
PAID  
Permit #1  
Madison, WI

608.930.9891

[www.iowacounty.org/departments/landconservation](http://www.iowacounty.org/departments/landconservation)

## UPCOMING EVENTS

### LAND CONSERVATION COMMITTEE

**Dave Gollon**  
Board Chair

**Dan Nankee**  
Vice Chair

**Rod Anding**  
Member at Large

**Ron Benish**  
County Supervisor

**Kevin Butteris**  
County Supervisor

**Roger Dax**  
FSA Member

**Don Leix**  
County Supervisor

**Thomas McGraw**  
Member at Large



### RAY ARCHULETA: BUILDING BETTER SOIL

FEBRUARY 7, 2019 | 9:30a - 3:00p

BARABOO ARTS CENTER | 323 WATER ST., BARABOO, WI

Acclaimed soil health expert Ray Archuleta will conduct a one-day program on the benefits of building better soil. The cost is \$20, which includes lunch and program materials. 4.5 CEUs are available for Certified Crop Advisors.

Registration is required. Contact Justine Bula for more information:

608-355-4842 or [justine.bula@saukcountywi.gov](mailto:justine.bula@saukcountywi.gov).



### WISCONSIN COVER CROP CONFERENCE

FEBRUARY 20, 2019

HOLIDAY INN | STEVENS POINT, WI

Farmers and ag professionals from around the state are coming together again to share and learn about all things cover crops. More info and registration at: <https://fyi.uwex.edu/covercrop/>



### MONEY MATTERS ON THE FARM: BUDGETING, COST-SHARING, AND MANAGED GRAZING

GOLDEN SANDS RC&D and WISCONSIN FARMERS UNION  
FEBRUARY 15, 2019 | MAUSTON

Topics include budgeting and farm finance, managed grazing, EQIP and other Cost-sharing opportunities. Hot catered lunch included with \$20 registration.

More info: <https://www.goldensandsrcd.org/money-matters-on-the-farm>