



CONSERVATION CHRONICLE

Newsletter of the Conservation, Planning, and Zoning Department

To conserve natural, cultural, and community resources by promoting, planning, and implementing efficient and effective programs.

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“Soil Without Biology is Geology”

In February, nationally renowned soil health expert Ray Archuleta came to Baraboo to talk to a group of farmers, land owners, conservation staff, and county residents about the importance of soil health. Archuleta is a dynamic and energetic speaker whose passion for regenerative agriculture and soil health is contagious. Archuleta and [Understanding Ag LLC](#) work to educate producers and consumers on the importance of restoring soil health through biomimicry and regenerative agricultural practices. Understanding that healthy soils are more productive and gaining a better understanding of how soils function are key to any producer.

His presentation in Baraboo included multiple demonstrations showing the effects of tillage on the soil biology while explaining the crucial role that the soil biology plays in the formation of soil aggregates and its relationship to the overall soil health. Archuleta discussed the many benefits that can be reaped when we see our soil as a living, breathing organism and recognize it as an ecosystem. Looking at agriculture and farming as part of a complex ecosystem and not something that operates outside of or is immune to the happenings of nature was a theme that was present throughout the presentation.

Archuleta showed his depth of knowledge on soils and focused on the soil health principles. No matter what kind of soil one might have or operation it might be, these principles are the same: 1. Keep the soil covered; 2. Minimize soil disturbance; 3. Plant



Sauk County's Rainfall Simulator demonstrates five soil health principles



Ray Archuleta Farmer Panel (left to right): Ken Nolden, Jamie Haag, Ray Archuleta, Roger Bindl, Darren Yanke

diversity; 4. Provide continuous living roots year round; and 5. Integrate livestock.

Joining Archuleta for a panel discussion were four farmers from Sauk County: Roger Bindl from Spring Green, an experienced no-tiller; Ken Nolden from Rock Springs, who has a dairy that incorporates cover crops and rotational grazing on the farm;

Darren Yanke from Echo-Y Farm and the 2018 Conservation Farm Family of the Year, who incorporates a long list of soil health and conservation practices on the family farm outside of Loganville; and Jamie Haag from Reedsburg, who has created his own compost to use as a soil amendment in place of pricey potash and lime. The panel fielded a number of questions from the crowd with a wide array of topics ranging from cover crop mixes to machinery. They each provided a brief introduction and testimony of what they have seen on their lands since incorporating different soil health and conservation practices. They shared their experiences, both the successes and the failures, along the way.

Thank you to the farmer panel for sharing your experiences and knowledge, all of the volunteers, and Compeer and UW-Extension for the donations that helped to make this event possible.

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Sign Up Now for Conservation Programs

Most conservation programs are open for signup anytime throughout the year and there is no time like the present! Staff can help you determine which program best meets your needs. Applications are scored as they are received and funding is applied to the highest-ranking projects until funding runs out. Here are some of the available programs to consider:

- **Technical and Financial Assistance** is available to landowners to install conservation practices to reduce soil erosion, protect water quality, and conserve the natural resources of Sauk County. If approved, landowners can receive up to 70% cost-sharing to install conservation practices including stream crossings, streambank stabilization, and grassed waterways.
- **Nutrient Management Program** assists landowners with the development of plans that address the proper application of fertilizers and animal waste to crop fields and pasture land. Eligible costs include soil sampling tests and plan development by a qualified consultant.
- **Baraboo River Watershed Regional Conservation Partnership Program (RCPP)** is a special pool of funding for the Baraboo River Watershed in Sauk and Juneau Counties. Technical and financial assistance is available to install conservation practices that prevent soil erosion and reduce agricultural runoff to ground and surface waters. Eligible practices include rotational grazing infrastructure, cover crops, and streambank stabilization.

Please call the CPZ Department at (608) 355-3245 to discuss the conservation needs for your property.

Sauk County Institute of Leadership

What is the next step in your leadership journey? The Sauk County Institute of Leadership (SCIL) is a nine-month program committed to developing informed, civic minded leaders dedicated to a vibrant Sauk County. The participants meet once a month from September through May on the second Thursday of each month. The first session is an overnight retreat and the remaining eight are day-long sessions. Each session focuses on a different set of leadership skills and community issues. The workshops include both classroom and project-based experiences designed to ensure an engaging learning process.

As a result of the program, participants identified a significant increase in their understanding of community issues and leadership practices as well as the confidence to take on new leadership roles in their homes, communities and/or places of employment. As part of a post-program evaluation, SCIL graduates also noted substantial improvements in their effectiveness as decision makers and leaders in their current roles. They also valued the opportunity to grow and develop a diverse network of local resources and contacts.



Sauk County Institute of Leadership's September retreat at Durward's Glen.

Here is a testimonial from one of our recent graduates: "SCIL has been the best leadership development experience I have had. This opportunity was packed full of exercises and presenters that helped to develop new skills and sharpen others that already existed. There were many valuable lessons learned that I will be able to use not only in my professional life but also personally."

Applications are due June 1st and additional information (including the application) is available at <http://www.saukcountyinstituteofleadership.org/>. For additional information, please contact Jessica Munz, at UW-Platteville Continuing Education at 608.342.1305 or munzje@uwplatt.edu

Earthworms: Bioengineers of the Soil

Worldwide, there are over 7,000 species of earthworms ranging in length of 1 inch up to 2 yards!

Earthworms are blind, have five hearts, and have both male and female reproductive organs. One myth of earthworm reproduction is that if you cut them in half, the two halves will regenerate into two new worms. Although worms can regenerate small portions of their bodies, they do not reproduce this way.



Earthworms have long been identified by farmers as indicators of soil health. They can help decompose crop residue and create channels that allow water, air, and roots to enter the soil. Allowing greater water infiltration through these channels reduces runoff and soil erosion.

Together with soil microbes, earthworms are great digesters/shredders that transform insoluble plant materials into castings. One earthworm can produce ten pounds of castings per year. A healthy soil can contain millions of worms per acre producing thousands of tons of castings. It comes as no surprise that Charles Darwin once claimed, "Earthworms are the intestines of the soil."

Field Condition	Earthworm population (per acre)
Plow + cont. corn	39,000
No-Till + cont. corn	78,000
Plow + corn soybean	235,000
No-Till + corn soybean	549,000
Fallow field/pasture	1,568,000
Fallow field + manure	5,098,000

In conventionally tilled fields, it is common to find little or no earthworm activity. Every time a field is tilled, the soil structure is destroyed, leaving little opportunity for earthworms to persist. Similarly, earthworms find it difficult to exist in monocultures, soil compaction, or soils with low pH, low organic matter, or low calcium levels. The adjacent table demonstrates the impacts of tillage and crop rotation on earthworm populations.

Earthworm castings are rich in phosphorus, nitrogen, carbon, and calcium and are well balanced in macronutrients, secondary, and micronutrients, making them an ideal organic amendment/fertilizer with greatly increased nutrient solubility. Earthworms utilize a calciferous gland for metabolism and digestion of residue, similar to a gizzard in birds. As a result, earthworm castings have a pH of 6.9 due to the presence of granules similar to lime. Earthworms utilize the calcium as a cement for building soil structure that allows for better water infiltration and nutrient cycling.

Earthworms can exist in any environment as long as you cater to their needs. Below are some ways to attract earthworms to your farm fields:

- Reduce or eliminate tillage
- Correct soil acidity and imbalances
- Diversify crop rotation with legumes
- Add winter cover crops
- Apply manure or compost
- Add mixed animals to your cropping system
- Manage intensively rotated pastures

FSA: 2018 Farm Bill

The Agriculture Improvement Act of 2018 (the 2018 Farm Bill) signed by the President on December 20, 2018, reauthorizes all programs administered by the Farm Service Agency (FSA) and makes modifications to most of them. Most of the programs are authorized through 2023. A select few are authorized and funded indefinitely.

USDA and FSA are working diligently on establishing policy, sign ups, and deadlines. Information will be provided once it becomes available.

For more information on this, please contact the FSA office at (608) 355-4420 ext. 2 or email curt.norgard@wi.usda.gov

Koenig Recognized as 2019 Outstanding Conservation Employee



On March 14, Serge Koenig was recognized as the 2019 Outstanding Conservation Employee at the annual Wisconsin, Land and Water Conservation Association Conference awards banquet. This award recognizes an individual who has made a significant contribution to land and water conservation. Serge has worked with Sauk County CPZ Department for 24 years as a conservation technician. His passion for conservation is contagious and his ability to effectively communicate with landowners is envied by many. This has helped him to successfully install conservation practices on hundreds of farms across Sauk County. We are so fortunate to have Serge as a part of our team here in Sauk County. Congratulations on this well deserved award!

Assistance is Only a Phone Call Away!

Contact the CPZ office at (608) 355-3245 if you are interested in any of the services listed:

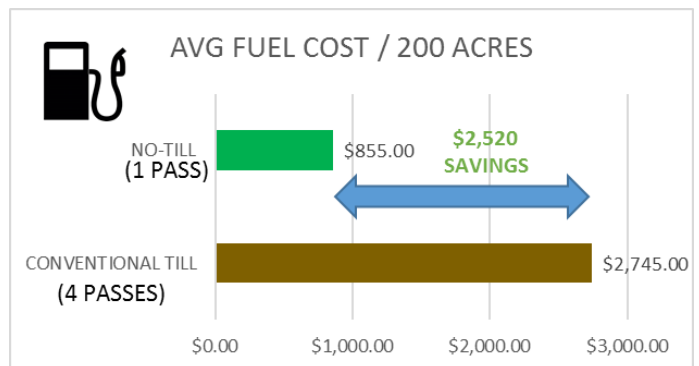
- **Soil Health Assessment:** CPZ staff are available to complete free soil health assessments on farms. Staff will determine how well your soil can absorb water, using compaction and infiltration tests. A slake test will also be completed to determine your soil's vulnerability to runoff and erosion.
- **Soil Sampling:** Soil samples will help you identify where lime applications should occur and is the basis for your nutrient management plan. Soil augers and soil sample bags are available at the CPZ office.
- **Nutrient Management Plan Writing Assistance:** Our staff can help you write or update your nutrient management plan. If you have taken the NMFE class in the past, CPZ staff can assist you with updating your nutrient management plan.
- **Manure Spreader Calibration:** If you spread manure and don't know your rate, staff from the CPZ office can calibrate your spreader so you know what you're spreading.

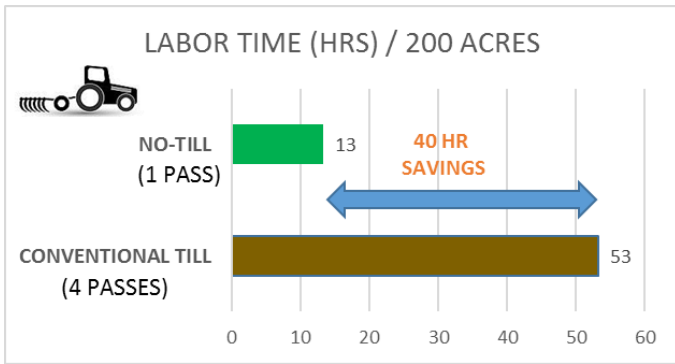
No-Frill, No-Till Financials

If you poll a group of true no-tillers as to why they decided to completely sell off the chisel and disk, you may notice a common thread, "I wanted to save money." Sure, they will comment on things like increased water infiltration, less runoff, better soil structure, increased biodiversity, increased armor (residue) on the soil, and so on. But many of those benefits are secondary to why they first decided to ditch the disk. Here are some statistics of just how much savings no-till farmers are enjoying since they stopped using iron.

Fuel Savings

The NRCS conducted a nationwide fuel study which compared different tillage systems including conventional tillage and no-till. Averaging these findings for a 200-acre farm, here is what they found: A farmer that takes just one pass across the field with a no-till planter uses just under 2 gallons of diesel fuel per acre. A conventional farmer who runs a 4-pass system (fall chisel plow, spring disking, field cultivation, planter) uses, on average, just over 6 gallons of fuel per acre. If we use a fuel of \$2.2 per gallon for off-road diesel fuel, no-tillers save roughly \$2,500 in fuel costs alone. This doesn't take into consideration the additional savings in machinery and annual repair costs.



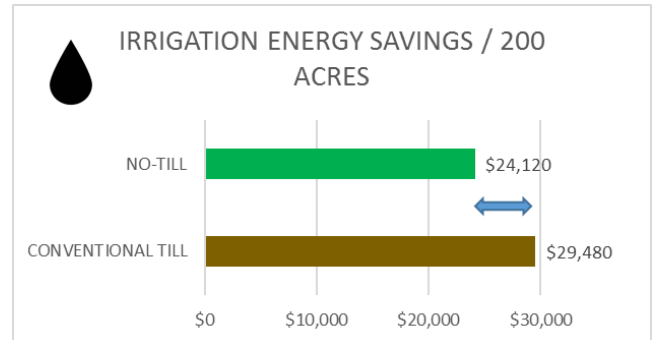


Labor Savings

For farmers who handle all the farming operations themselves, it's often forgotten that their time is worth something. Ask an operator who hires extra help and they will agree that "time is money." Of course, equipment size and speed will vary between producers but, on average, say fields are worked at 15 acres per hour—over a 200-acre field the difference between the no-tiller making one pass and four passes made by a conventional tiller is 40 hours. What would you do with a week or more of freed-up time?

Irrigation Savings

Increased water infiltration and water holding capacity is another fantastic benefit of a no-till soil. To a farmer who relies on irrigation to produce a successful crop, this can add up to some serious savings. A study performed by the University of Nebraska found that after a number of field trials, no-till soils under pivot irrigation can save 3 to 5 inches of water over conventional tillage. In this study, annual operation costs (repairs, operation, labor, energy) for each inch of water pumped was roughly \$6.70 per acre. If we take the average of 4 inches of water saved (18" of water/ac vs 22" of water/acre), because of higher water holding capacity in no-till soils and lower evaporation rates, that tallies out to just over \$5,000.00 of energy savings over a 200-acre field.



Meet the New Member of the Team

Cassandra Fowler

Before coming to work in Sauk County as a Land Use/Sanitation Technician, I worked in Trempealeau County as a Zoning and Environmental Specialist. I have a B.S. in Biology and Environmental Studies from the University of Wisconsin-Oshkosh and a background in farming and conservation. I love all things outdoors! In my free time you can find me on the Ice Age Trail, listening to some live music, baking, or foraging for mushrooms. It is my pleasure to be working in such a unique and diverse landscape with passionate coworkers who care for the land and those who live on it. Please contact me with any questions or concerns in regards to zoning, non-metallic mining, or land use permits. Phone: (608) 355-4832 Email: Cassandra.fowler@saukcountywi.gov



Conserve Sauk Film Festival

A film festival aiming to educate and inspire the public about conservation related issues affecting Sauk County will be taking place on November 9, 2019 at the UW-Platteville Baraboo Sauk County Campus. Organizers of the festival are looking for contest entries that address one of the following topic areas: Agriculture, Biography, Wildlife, Geology, Forestry, Land Use, Water, Industry, Recreation, Human Experience, and History. Contest entries should ask a question about one of the topic areas pertaining to Sauk County, and present, directly or indirectly, an answer, lesson, or solution related to the theme. For more information or to enter a film into the contest visit the website <https://www.conservesaukfilmfest.org/>

DNR Foresters Offer Services at No Cost to Sauk County Woodland Owners



Wisconsin's 17.1 million acres of forestlands and millions of urban trees significantly enhance the quality of life in our state. Since its inception in 1904, the Wisconsin Department of Natural Resources (DNR) forestry program has dedicated itself to the sustainable management and protection of this precious resource so that it continues to provide a host of ecological, economic, and social benefits for years to come. A major role of DNR foresters is to motivate and guide landowners to practice sustainable forestry on their property. There is a renewed effort to reach woodland landowners that have not previously interacted with a professional forester.

DNR Foresters can work with the landowner to:

- Provide property walk-throughs at no cost for landowners who own 10 or more wooded acres.
- Provide a field visit summary, resources, and information on forest management practices (e.g. timber sale/harvest guidance).
- Provide technical, administrative, and financial assistance information for cost sharing programs like forest management plan development, tree planting, tree pruning, and invasive species control work.
- Advise about tree and shrub planting projects including a tree planting plan that can be developed for the landowner at no cost, rental of tree planting machines and sprayers, and availability of pruning tools, and tree planting bars, bags and backpack sprayers.
- Coordinate tree and shrub shipments from the state nursery.
- Obtain written forest stewardship or management plans to meet the owners' objectives.
- Administer forest tax law programs (e.g. Managed Forest Law, Forest Crop Law).
- Explain forest protection measures from the impact of wildfire, insects and diseases.

Please contact your local forester for a free walk-through on your 10+ wooded property or to discuss any of these topics, please contact DNR Forester-Sauk County:

Paul L. Kloppenburg
124 2nd Street, Room 31
Baraboo, WI 53913
Cell Phone: (608) 604-4846
Email: paul.kloppenburg@wisconsin.gov

If you have questions on the Managed Forest Law (MFL) program, please contact DNR Forester-Sauk County:

Allen King
124 2nd Street, Room 31
Baraboo, WI 53913
Cell Phone: (608) 723-9007
Email: allen.king@wisconsin.gov

Read Your Newsletter Online!

Would you prefer to read the Conservation Chronicle online? Please e-mail us at conservation@saukcountywi.gov if you would like to receive an email notifying you when the newsletter is available for viewing at www.co.sauk.wi.us. This will help us reduce postage costs as well as the amount of paper generated! If you know of someone who would enjoy receiving this newsletter, please let us know!

We're on Facebook



Follow us on Facebook and stay up-to-date on events, deadlines, articles, videos, and more!

Search @sauk.cpz then "like"

Sauk County Clean Sweep

Saturday, June 1, 2019 from 8:30 - Noon

Old Sauk County Landfill:

E8795 Evergreen Lane, Baraboo

Dispose of household hazardous wastes!

Items accepted for **no charge** include: pesticides, cleaners, paint, batteries, light bulbs, motor oil, and a wide variety of electronics.

For more information call 608-355-3245 or email conservation@saukcountywi.gov

Fees for Tires

Car and light truck tires	\$3
Car and light truck tires w/rims	\$5
Ag and semi tires	\$13
Ag and semi tires w/rims	\$25
<13" tires	\$1
<13" tires w/rims	\$3

CHECKS for tires will be accepted payable to **Sauk County Treasurer.**

What is **NOT** accepted:

- Pharmaceuticals, IVs, needles
- Explosives, detonators, blasting caps
- Radioactive materials including smoke alarms
- Infectious and biological waste
- Compressed gas cylinders
- Recyclables, yard and household waste
- Asbestos
- Demolition materials
- Mattresses

Small Businesses and agricultural producers **MUST pre-register at least 1 week prior** to the event by contacting Sauk County directly at (608) 355-4842. No late registration will be accepted.

Resource Solutions will accept the following items at Clean Sweep.

NO CHARGE: CPUs, Computer Printers, Speakers, Scanners, Fax Machines, Vacuum Cleaners, Phones, Laptops, Record Players, Tape Players, CD Players, iPods, VCRs, DVD Players, Beta Tape Players, Electrical Saws, Drills, Calculators, Paper Shredders, Coffee Machines, Heaters, Game Systems, Sewing Machines, Electronic Toys, Most Household Electronics

\$10 - Hard Drive Removal and Destruction

\$15 - Microwaves & Large Copy Machines

\$20 - Small AC Units, mini fridges, dehumidifiers

\$25 - Stoves, washers, dryers, dishwashers, treadmills, lawn mowers (oil/gas drained, tires removed), hot water heaters

\$35 - Refrigerators & Large Freezers

\$20 - All monitors, CRT & flat screens

\$20 - CRT/Flat Screen TVs 29" and under

\$40 - CRT/Flat Screen TVs - 30" - 49"

\$60 - CRT/Flat Screen TVs - 50" and up, projection, wooden console.

Payment can be made in CASH, CREDIT, or by CHECK payable to **Resource Solutions** at event.

Contact Resource Solutions at (608) 244- 5451 regarding items not included on this list.



Sauk County CPZ
505 Broadway - West Square Building
Baraboo, WI 53913
www.co.sauk.wi.us
conservation@saukcountywi.gov

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RETURN SERVICE REQUESTED

CPZ..... (608) 355-3245
NRCS..... (608) 355-4420, ext. 3
FSA..... (608) 355-4420, ext. 2
DNR Foresters (608) 235-5685
APHIS (WDS) (608) 837-2727
1-866-487-3297

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Conservation Reserve Enhancement Program

Conservation Reserve Enhancement Program (CREP) pays landowners to install filter strips along waterways or to return continually flooded fields to wetlands while leaving the remainder of the adjacent land in agricultural production.

Eligible land must be located in Sauk County, have a history of crop or pasture land, and be located within 150 feet of a ditch, stream, lake, or wetland.

There are many different conservation practice options through CREP. The practice installed on a property depends on both site factors and desires of the landowner. Conservation practices include filter strips, riparian buffers, grassed waterways, wetland restorations, marginal pastureland habitat buffers, permanent introduced grasses, permanent native grasses, grass prairie ecosystem restorations, and established legumes and grass.

For more information, please contact Serge Koenig at (608) 355-4837 or serge.koenig@saukcountywi.gov.

Where is This?



Last issue's picture is of the dam on Seeley Lake in North Freedom.

For the next issue of the Conservation Chronicle we are asking you to submit your pictures from Sauk County for a chance to be featured in the Chronicle and win a Farm & Fleet gift card.

The Conservation Chronicle photo contest is open to anyone. You do not need to live in Sauk County, but the photo submitted **MUST** be taken in Sauk County after January 1, 2019.

Photos must be submitted electronically. For more information, rules or to submit a photo, visit our website: <https://www.co.sauk.wi.us/landconservation/conservation-chronicle-newsletter>