Newly Awarded Grant Spurs a Collaborative *Soil*ution to a Wicked Problem

By Dr. Jodi Enos-Berlage, Farmer and Faculty Member, Luther College Biology Department, writing on behalf of the *Regenerating Soil and Community* Project Team

Midwest soils are being lost at 10-1,000 times the rate they are formed, and nearly ⅓ of the topsoil across the U.S. corn belt is already gone. These losses impact everyone. Degraded soils are compromised in their ability to grow healthy plants, purify, absorb, and store water, and capture and recycle nutrients, resulting in increased input costs, poorer water quality, decreased resiliency to both flooding and drought, and lower land values. Those most affected are the soil microbes themselves…the amazing but largely unseen community that makes life possible for the rest of us. Collectively, this community of bacteria, fungi, protozoa, and nematodes is 'sick' and in need of urgent health care. If they could talk in our language, what would they be saying? *Help us.*

Scaling up soil microbe health care through the five principles of soil health (Fig. 1) **at a rate that matches their urgent need**–while also recognizing that change involves risks, operations must remain viable, and one size does not fit all–is a great example of a **'wicked' problem**. Wicked problems are complex, ongoing, involve many interdependent factors, and lack a singular cause or an immediate solution.

Figure 1: Five Principles of Soil Health (USDA/NRCS)

How can the wicked problem of regenerating the soil microbe community be solved? On a timeline that matches the need? In ways that are economically feasible for diverse operations? In recognition that the karst topography of Northeast Iowa is more vulnerable to soil loss and water pollution? **Bold and innovative collaboration is a proven strategy.** To this end, we are excited to share that a new partnership has formed between Winneshiek County Soil and Water Conservation District, NE Iowa RC&D, NE Iowa Watershed Coordinators, and Luther College. We are a curious, collaborative, and highly motivated team, inspired by witnessing and participating in the creative soil health innovations that are already happening in Northeast Iowa.

With the spark already lit, our challenge is to capitalize on this momentum to accelerate the adoption rate of regenerative practices, recognizing that the need for soil microbe health care is urgent. With these motivations, our team (Fig 2) developed and was awarded a four-year grant from the Iowa DNR/EPA, titled: **Regenerating Soil and Community (RSC).** In alignment with EPA objectives and the powerful benefits that come from including diverse perspectives and problem-solvers, these funds, totaling $471,450, will use innovative approaches to build knowledge, confidence, community, and conservation plans for landowners and farmers that have been historically underserved by Federal programs and policies, including women farmers/landowners, beginning farmers, socially disadvantaged, veterans, or those with limited resources.

Figure 2: RSC Team Members from left to right: Gwen Strand (Luther College), Laura Peterson (Luther College), Ross Evelsizer (NE Iowa RC&D), Rachel Brummel (Luther College), John Lubke (SWCD Chairman), Jodi Enos-Berlage (Luther College), Sophia Campbell (SWCD Watershed Coordinator). **Not pictured**: Megan Giorgenti (IDNR Watershed Coordinator)

The RSC grant targets a geographical area that includes all of Winneshiek County, portions of five other counties, and five active watershed projects (Fig 3). Examples of grant activities include:

- Listening Sessions to identify needs
- Individual Soil Health Assessments for Landowners/Farmers
- Invitations to science laboratories to experience/observe soil assessments
- Educational/Outreach Programming
- Opportunity to consult/participate/attend 'Soul of Soil', a collaborative performance merging science and the arts (coming May 2024)
- Workshops focused on building confidence and community
- Intentional connection to other soil conservation organizations
- Technical and financial support for developing and implementing conservation plans

Healthy Soil Microbes → Clean Water and Abundant Food → Healthy Humans and Planet

We welcome you to join the movement to regenerate soil and human communities, and firmly believe that NE Iowa is uniquely positioned to lead it. More detailed information about RSC grant activities and opportunities will be shared in 2024. If you would like to get on a contact list for receiving RSC project information and alerts, please send your name and email address to: regensoilcommunity@gmail.com.

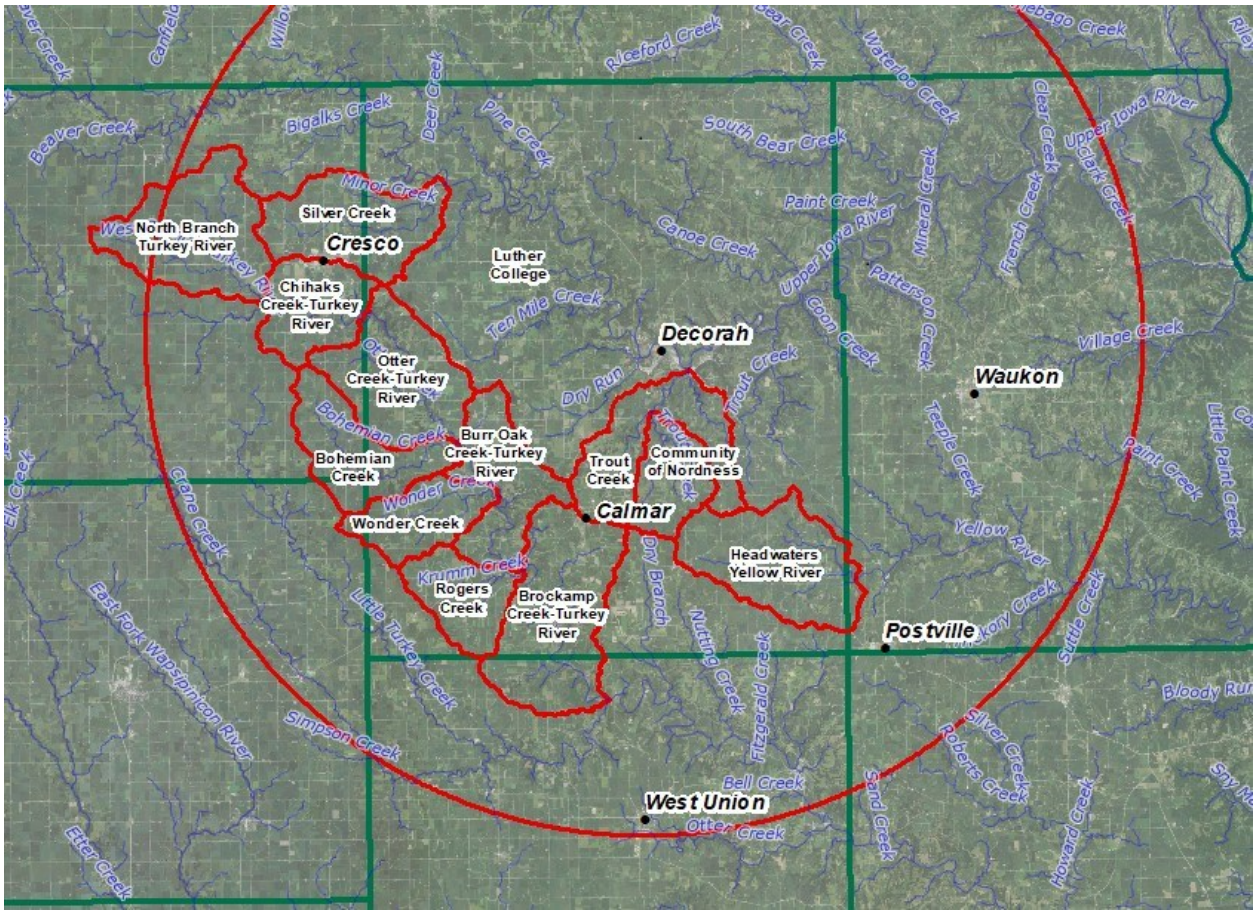

Figure 3. Regenerating Soil and Community Project Area Radius
Five Active Watershed Projects highlighted in red
Headwaters of Turkey River = North Branch and Chihaks Creek
Silver Creek = labeled
Central Turkey River = Otter, Bohemian, Burr Oak, Wonder, Rogers, and Brockamp
Trout Run = Trout Creek and Nordness
Yellow River Headwaters = labeled