

Send your questions to Walden the Worm

The "Dear Abby" of conservation farming!

Q. I'm hearing a lot about soil biology, how is it involved in crop production?

A. Yes I like to eat dirt with good soil biology. The soil is looser, much easier to move through. Roots are able to expand wide and deep reaching more water and nutrients. Good soil biology gives the soil aggregates the ability to resist turning to mud pudding when wet. In other words, water can move into the soil and stay clear. My burrow and soil pores are not filled and plugged with muddy water after a heavy rain. Result is more water for crop growth. Fields with good soil biology have more soil organic matter which helps hold and release water and nutrients to crop as well as abundant food for us worms, other soil critters and microbes. This gives a field filled with pore space, root channels and worm burrows, this will not be a compacted soil.

From my underground library. Soil has three parts: physical, chemical and biological. If crop production was all about nitrogen, phosphorus and potash then all area of a given field should yield the same, right? Biology is the study of growth and development of living organisms. A teaspoon of soil has more living organisms than there are people on earth. Yes, soil is very much alive. How do I improve soil biology? Apply fertilizer according to NRCS recommendation which has the right time, right rate, right source and right place. Also, a big help is to keep soil covered with a living root for as long as possible. Limit, or stop, soil disturbance and provide crop diversity. A simple test for good soil biology is to bury unfolded cotton underwear 2-3 inches deep. After five weeks your cotton underwear should be gone except for the elastic waistband. This test reflects one function of soil biology, to recycle plant roots, residue and other organic material to available plant nutrients. The result is a good crop year for you.

– Walden

UPCOMING EVENTS

- June 10 **Pasture Walk:** Aaron Imhoff – 1-3 pm @
68191 County Road 19, New Paris, IN – **Topic:** Organic Dairy
- June 17 **Educator's Workshop:** WET & WILD Workshop –
All educators are welcome! 8 am – 4 pm Elkhart County
Museum, Bristol. Cost: \$25. Reserve your spot now!
[https://elkhartcountyparks.recdesk.com/Community/Program
Questions? kdaniels@elkhartcounty.com](https://elkhartcountyparks.recdesk.com/Community/ProgramQuestions?kdaniels@elkhartcounty.com) (574) 875-7422
- June 21 **SWCD Board Meeting:** 5:30 PM,
SWCD Office, 59358 County Road 7, Elkhart, IN
- July 8 **Pasture Walk:** Andy Mast – 1-3 pm @
10572 County Road 18, Middlebury, IN – **Topic:** Dairy
- July 19 **SWCD Board Meeting:** 5:30 PM,
SWCD Office, 59358 County Road 7, Elkhart, IN
- July 23-31 **Elkhart County 4-H Fair:** More info to come...
- August 12 **Pasture Walk:** Steve Kauffman – 1-3 pm @
13586 County Road 28, Middlebury, IN – **Topic:** Jersey Dairy
- August 16 **SWCD Board Meeting:** 5:30 PM,
SWCD Office, 59358 County Road 7, Elkhart, IN
- Sept. 3 **Hoosier Riverwatch Basic Training:**
Volunteer Stream Monitoring 9 am – 4 pm Bonneyville Mill,
Questions? (574) 875-7422 kdaniels@elkhartcounty.com.
TO REGISTER PLEASE FOLLOW THIS LINK:
<https://forms.gle/XFX3AErh6xvNJUZs8>
- Sept. 20 **SWCD Board Meeting:** 5:30 PM,
SWCD Office, 59358 County Road 7, Elkhart, IN

SWCD - NRCS CONSERVATION PARTNERSHIP DIRECTORY

59358 County Road 7, Elkhart, IN 46517

Ph. (574) 523-2030

www.elkcoswcd.org

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Grass Roots for Conservation



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Elkhart County Soil & Water Conservation District

59358 County Road 7, Elkhart, IN 46517 ~ Phone: (574) 523-2030 – jhess@elkhartcounty.com

Return on Investments

Eighty years ago, an ominous wall of blowing sand and dust swept across the Great Plains caused by years of overplanting, poorly managed crops, and severe drought conditions. During these massive storms, people were forced to crawl on hands and knees in search of shelter, literally unable to see their hands in front of their faces. Cars stalled and stopped in the choking dust. Many thought the end of the world had come. In response to the Dust Bowl, Congress passed Public Law 74-46 on April 27, 1935, and recognized that "the wastage of soil and moisture resources on farm, grazing, and forest lands... is a menace to the national welfare."

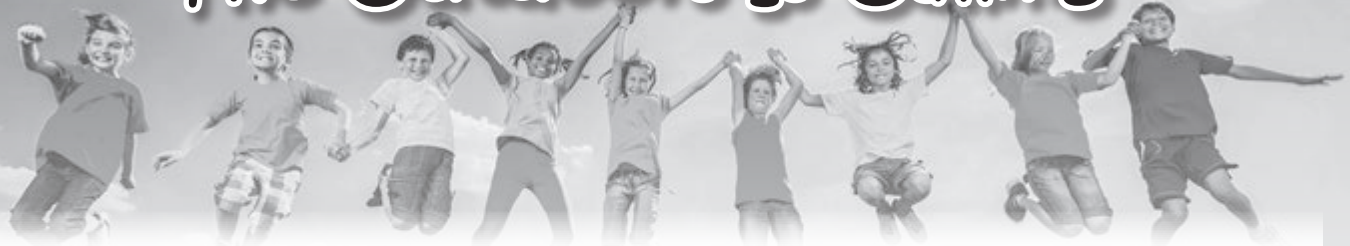
Today we are still facing huge challenges with an ever-changing environment. Levels of carbon dioxide in the atmosphere are rising at a record-shattering pace. Severe droughts and flooding are becoming the new norm. Our agricultural land base is shrinking at record levels. It's estimated that in the next 40 years, producers will need to produce as much food as they have in the last 500 years to feed the growing population. Around the world, farmers and whole communities will need to adapt to impacts from climate change, extreme weather events, and increasing population.

You may be wondering how a little dirt can change the world. The fact is, healthy soils are a critical piece of mitigating impacts from weather extremes. They have great water and nutrient holding capacity. In drought this can help ensure food, fuel, and fiber production continues. In heavy rainfall, healthy soils can help prevent flooding in communities downstream and ensure soil and nutrients stay on the land, staying out of our rivers and streams. Most importantly, we are reliant on the health and vitality of our soils to grow nutritious food to feed our ever-growing population. By working with farmers and helping everyone understand the importance of soil health we ensure operations continue and even thrive within this changing world.

It takes all of **US** working together in this ever-changing world to ensure the next generations have something solid to build off of. The SWCD is here to help mitigate those risks and help line up the partners to use the resources we have and take conservation to the next level. I can't think of a better way to honor this living and nonrenewable resource than increasing the understanding of the importance soil plays in food security and essential ecosystem functions.

I want to challenge everyone to think about what conservation means to you. I want you to think about what you believe conservation should look like. You can set your own return on investment because that is what conservation is. Your hard work, your trial and errors, your blood, sweat, tears, and your stewardship has a value. Since the beginning of time we have put a value to this soil, it is a precious commodity and it is not getting any cheaper. That is why we need to protect and secure our return on investment, our soil. Over the next couple months, I am going to ask for your views on values of stewardship. I believe there are values that need to be looked at from every angle, maybe even upside down. Whatever way you see it, we need to put a dollar amount to it and help show the return on investment.

The Outdoors Is Calling



Hot. Cold. Sunny. Rainy. This Indiana weather can't make up its mind! I feel as though we are in our 5th winter even though it is the middle of May. Despite the weather, there is always a chance to get outside and learn. Outdoor education has many benefits for students which, in turn, benefits the educator and their success. Numerous studies have shown children who learn outdoors have improved performances in school such as better test scores, improved attendance, enhanced attitude towards school, and better behavior while in school. Outdoor education also has a positive effect on student health by keeping them physically active which positively affects mental and social health. Having happy and healthy students decreases the stress levels of teachers as well. Studies have shown that students who engage in outdoor education develop a sense of self, independence, confidence, creativity, decision making/problem solving skills, empathy towards others, motor skills, self-discipline, and initiative. All of those skills are important for creating self-sufficient adults who are active members of the community. Not to mention that outdoor learning is fun and different than classroom learning. When students have fun and connect with the world around them, they learn and remember so much more! You don't have to make a fancy lesson or travel to another location, just take your students outside for 15 minutes and let them explore and observe. When you come back inside your students can journal or take a few minutes explaining their observations and how they connect to the things you are currently teaching in the classroom. Outdoor education benefits students, teachers, and even parents!

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Corporate Office
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BLOGGING BMP'S

A monthly Blog discussing the Best Management Practices (BMP's) that must be used to aid in erosion and sediment control.

Welcome back to another edition of Blogging BMP's! Spring is in full swing here in Elkhart County and boy is there a ton of activity. I have always enjoyed the spring for several different reasons, but my favorite thing about this season are the smells that fill the air. I love driving down the county roads with my windows open, the wind blowing in, and the smell of soil being opened up for the first time in a year floats in. Or the few minutes before the rain starts to fall and the air fills with that earthy petrichor scent that we all know but have no idea how to describe it. Yeah, that's the Good stuff! Oh, and the blooming flowers, don't even get me started. Long story short, I am relieved that winter has fully subsided and we can move on to greener days, for the most part.

Not surprisingly, I have also caught that same earthy smell and realized it was not associated with a farmer planting his fields, rather, someone was removing trees, or in some cases, entire wooded areas to take advantage of the ground that they own. This is perfectly acceptable, I don't blame anyone who wants to take full advantage of the property they own. The thing that needs to be considered before we start this process is how do you do this and also make sure you are not risking exposing our waterways to highly erodible bare ground that was held in place by trees and vegetation in the past. The state of Indiana, and all states for that matter, have some type of regulations on how we may treat woodlands, wetlands, and our waterways whether we own them or not. The following excerpt is from the Indiana Department of Environmental Management (IDEM) website and it covers these items and how they need to be permitted (or if they need to be permitted) through the Rule 5 stormwater permit.

Agricultural Activities / Operations

Requirements of the Rule do not apply to persons involved in agricultural land-disturbing activities. However, the definition of the agricultural land-disturbing activity does not include the construction of:

- Barns
- Outbuildings
- Roads Associated with Infrastructure
 - Applies primarily to roads that are being constructed to provide access to a facility, barn, outbuilding, etc.
 - Farm lanes are not subject to the rule or used in the land disturbance calculation if it is being used to access a crop field or pasture.
- Waste Lagoons and Facilities
- Lakes and Ponds
- Wetlands (constructed)
- Other Infrastructure.

Land disturbance associated with the construction of these facilities are required to comply with 327 IAC 15-5. Agricultural activities that are exempt include tillage, planting, cultivation, harvesting, and operations for the production of agricultural, nursery, or vegetative crops. The exemption also applies to pasture renovation and establishment, construction of agricultural conservation practices, and the installation of drainage tile. Agricultural conservation practices include waterways, sediment basins, terraces, water and sediment control basins (WASCOB), and grade stabilization structures.

Forest Harvesting Operations

The Rule identifies forest harvesting operations as being exempt from the Rule. Harvesting operations include the actual area where the forest product is being cut, including skid roads. However, specific operations are not considered exempt and must be considered when estimating land disturbance. These operations include staging areas, access roads, and haul roads.

Any forest harvesting activity that is being conducted in preparation for land development, construction of roads, or other facilities is not considered exempt. These projects are subject to the Rule provided the land disturbance is projected to be one acre or more.

The SWCD recognizes that there is some grey area in the applicability of the 327 IAC 15-5 "rule" and understand that information can be difficult to find when you consider not all landowners have access to the internet or have ever even heard of this permit. All of us in our office are committed to assisting landowners and land users in navigating this process. Our common sense approach is if you are considering disturbing over an acre of land, please reach out to us and we can help you make the determination before you get started. You can call us at 574-523-2030, email us at tclark@elkhartcounty.com or just stop by the office 59358 County Road 7 Elkhart, IN 46517. We hope to hear from you soon. Until then, if you aren't sure how to permit your tree removal, I would ask the SWCD.