



# Field Notes

## Kerr Center for Sustainable Agriculture E-Newsletter

*E-Field Notes*  
October 2023

**Happy October!** David Redhage gets this issue rolling with a note on cover crops. What's the October connection? Well, we once ran a demonstration [planting pumpkins into killed cover crop mulch](#).

In other spooky news, there's a "**green glacier**" **devouring native grasslands** all up and down the Great Plains. This monster probably has a tentacle or three on your own acreage! Its name? Eastern redcedar!

We've got a story to share about the **benefits - ecological and economic - of cover crops**. What's scary about that is simply that more farmers aren't planting them!

Another non-scary story - but still colored orange and black! - is that the migratory **monarch butterfly may not be as close to extinction** as recently thought.

One of the most frightening things we can imagine is trying to operate without your ongoing support. It's no trick: it's a real treat for us when we see that our work matters enough to people that they'll [donate](#) to keep us at it! [Thank you!](#)

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# President's Note: Cover Crops

The Kerr Center has used and promoted [cover crops](#) for years. Cover crops protect the soil from erosion, add organic matter, enhance soil microbial activity, attract pollinators and beneficial insects, and reduce weeds.

As you can see, there are many benefits to cover crops. You can select cover crops for winter or summer. A mix of cover crops can be beneficial.



Make sure you have the correct equipment to cut/till in a cover crop. Some can grow a tremendous amount of biomass and can be difficult to incorporate into the soil. Several internet-based resources have been developed that help with cover crop selection. The Kerr Center also has some [documents on cover crops](#), including:

- [Market Farming with Rotations and Cover Crops: An Organic Bio-Extensive System](#)
- [Cover Crops for Soil Improvement in Crops](#)
- [Low-Till Vegetable Production: Cover Crops for Oklahoma](#)
- [Cover Crops as Beneficial Insect Habitats](#)

Additional online resources include:

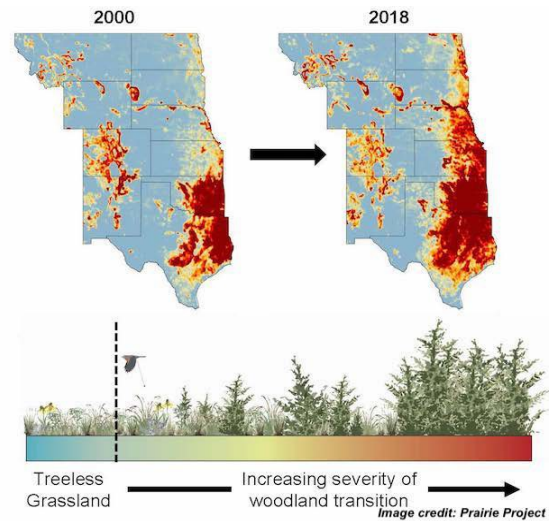
- [SARE's \*Managing Cover Crops Profitably\*](#)
- [Midwest Cover Crop Council's Cover Crop Decision Tools](#)
- [The Southern Cover Crops Council website](#)
- [The USDA Soil Dynamics Research facility in Auburn, AL](#)

# Eastern Redcedar Eating up Rangelands, Crowding out Cattle and Curlews

It all started innocently enough - nobly, even: conservation programs encouraged and rewarded ranchers for planting windbreaks to hold soil and shelter livestock.

One of the most popular trees for the purpose, the native eastern redcedar (*Juniperus virginiana*), has thick foliage and dense branches that make it particularly well suited for the job.

However, eastern redcedar is also a prolific producer of berries, which animals happily feast upon and deposit, spreading the seeds up to a couple of hundred yards from the parent tree. Over a few decades, that adds up to an impressive increase in woody vegetation cover - a "[green glacier](#)," in the words of OSU range ecologist David Engle.



It's a classic case of too much of a good thing. **Vast swaths of the Great Plains rangelands have gone, in the span of a few generations, from having too little shade for livestock to too little forage in the shade of all those trees.** According to The Prairie Project, a collaboration between OSU, Texas A&M, and the University of Nebraska, **woody encroachment can cut livestock production by 75%.**

Cattle aren't the only casualties. A whole array of grassland songbirds are at increasing risk because their habitat is disappearing under the woody waves. **Even just 10% cedar cover is enough to drive away most grassland bird species.** Plant biodiversity declines as well, since few plants can grow in the cedars' deep shade.

There are **ecosystem-scale consequences**, as well. **Streams dry up** under the pressure of thirsty cedar roots. The **chances of wildfires go up**, and the resulting **fires burn more intensely**. Since woody vegetation stores more of its carbon above ground than grasses do, those fires also send **more greenhouse gases into the atmosphere.**

**There are working strategies for reclaiming grassland** acres from eastern redcedar. Most successful approaches boil down to an **initial round of mechanical control to remove the woody plants, followed by [regular burns](#)** to keep them from coming back. Browsing animals, like goats, can also play a role.

Since most of the land in the Great Plains is privately owned, the **regional-scale success of such woody plant management strategies depends on enough individual landowners implementing them.** The Prairie Project aims to reach those landowners with the knowledge they need to melt the green glacier and restore their threatened grasslands. **For more information, visit the [Prairie Project website](#).**

## Cover Crop Benefits - Both Ecological and Economic

How would you like to boost your net income by **\$4 an acre**, every year? That's what Oklahoma farmer Scotty Herriman managed, by adopting [cover crops](#), along with strip-till corn, no-till soybeans, and other nutrient management changes. In the process, he's also racked up an impressive checklist of ecological benefits.



That's according to a [budget analysis](#) by the Oklahoma Conservation Commission and American Farmland Trust. Herriman's **soybean yields increased by 5 bushels an acre, and corn by 40**. In addition to the extra crop earnings, though, part of the net income increase came from money saved by the conservation practices.

He has to spend \$7 more per acre on herbicide, but the reduced tillage means he also lays out \$32 less per acre on machinery costs. Meanwhile, he's **saving a literal ton of soil a year on every acre**. That's **reduced his phosphorus losses by 22%, and nitrogen by 73%** - which adds up to savings on fertilizer as a result of all those nutrients not washing off of his fields.

He's also seen the health of his soil improve - less compaction, better tilth, more earthworms, higher soil organic matter levels.

Herriman didn't even have to pay for all this himself. He received financial assistance from an alphabet-soup mix of USDA programs, including the Environmental Quality Incentives Program (EQIP), the Conservation Innovation Grants (CIG) Program, and the USDA Risk Management Agency Cover Crop Program.

(The payments from all these programs were left out of the economic analysis, making the point that cover crops, and other conservation programs, can pay for themselves even without a helping hand from Uncle Sam.)

American Farmland Trust has produced several resources with more information on Herriman's conservation practices and their environmental and economic benefits, including a [case study](#), [fact sheet](#), and [animated infographic](#).

# Monarchs Not Endangered After All

Forget all those alarm calls. It turns out that **the monarch butterfly isn't endangered after all**. Now we can all just stop worrying, right?

Well... maybe.

**Just over a year ago, the International Union for Conservation of Nature (IUCN) designated the monarch as "endangered."** But at the beginning of this month, the organization [reversed that decision](#). Instead, it **placed the monarch one step closer to the safe zone, in the "vulnerable" category.**



The confusion over the species' status stems from disagreements among scientists about which mathematical population model is best for projecting the population's numbers. The assessment that led to the endangered designation was based on a linear population model.

**But sometime around 2014, what had been a rapid decline shifted to something different: maybe a slower decline, maybe a plateau - maybe even a slight increase.** That's led some researchers to suggest that another, more complicated model may be a better fit. Some of those researchers made that argument to the IUCN, suggesting that the endangered designation had been too hasty. Ultimately, the IUCN agreed.

**There's actually quite a wide range of opinion among scientists as to the level of danger the migratory monarch's current population signifies.** Some speculate that the higher populations of decades ago may have been an historical anomaly, with forest clearing for agriculture having opened up much more habitat for the species than had previously been available.

The more recent decline, these researchers suggest, is just the butterflies' response to the reversion of many acres to woodland (see another article in this issue for more on that). Others, though, point out that **even if that's true, the current monarch population may still be so small that a single adverse event - drought, cold snap, and so on - at the wrong time could still be enough to send the species into extinction.**

It should come as good news, contrary to this month's theme of scary trends, that the monarchs are farther from extinction than previously thought. Perhaps what's truly frightening about the monarch's case is how little scientific consensus there is about how close the species really is to endangerment or extinction. In the meantime, **let's play it safe, and [keep planting milkweed!](#)**

# Fall Events: Farm to School, Bats, Regenerative Ranching, Blue Thumb Training, Conferences....

You can still catch the tail end of both **Farm to School Month** and **Bat Week**! The last day of October is also the **deadline for signups to the Discrimination Financial Assistance Program**.

Coming up in Ardmore, you can learn about **regenerative ranching** (Oct. 31 - Nov. 1), and **get trained as a Blue Thumb volunteer** (Nov. 4). In Ada, the **Oka' Con Water Sustainability Conference** takes place Nov. 8-9. Farther afield, other upcoming conferences include the **Regenerate Conference** (Nov. 1-3; Santa Fe, NM) and the **Emerging Farmers Conference** (November 3-4; Mounds View, MN).

The screenshot shows an online calendar interface with the following events:

- OCT 1 Sun:** National Farm to School Month (Oct 1 – Oct 31 all-day)
- OCT 24 Tue:** Bat Week (Oct 24 – Oct 31 all-day)
- OCT 31 Tue:** Discrimination Financial Assistance Program (application deadline) (Oct 31 all-day)
- OCT 31 - NOV 1:** Essentials of Regenerative Ranching (workshop) @ Ardmore (Noble Research Institute) (Oct 31 – Nov 1 all-day) [Tickets]
- NOV 1 Wed:** NCAT Latino Farmer Conference @ Stockton, CA (Nov 1 – Nov 2 all-day) [Tickets]
- NOV 1 - 3:** Regenerate Conference @ Santa Fe, NM (Nov 1 – Nov 3 all-day) [Tickets]
- NOV 3 Fri:** Emerging Farmers Conference @ Mounds View, MN (Mounds View Event Center) (Nov 3 – Nov 4 all-day) [Tickets]
- NOV 4 Sat:** Blue Thumb Volunteer Training – Ardmore @ Ardmore (Murray State College) (Nov 4 @ 8:30 am – Nov 5 @ 4:30 pm) [Tickets]
- NOV 8 Wed:** Oka' Con Water Sustainability Conference @ Ada (Nov 8 – Nov 9 all-day)
- NOV 8:** Impact of Soil Management on Soil Health and Vegetables (webinar) @ online (Nov 8 @ 1:00 pm – 2:00 pm) [Tickets]

Online, you can catch a webinar on **soil management, soil health, and vegetables** (Nov. 8).

There are many more sustainable agriculture educational activities going on, and we're adding more to the calendar all the time. Get the latest on our online [events calendar](#).

Don't forget that you can also use our online calendar to **keep yourself and your friends up to date** on these and other upcoming events, including our tours:

- **Subscribe to our feed** and receive **updates to your personal calendar** as they are made.
- **Share events on the calendar** via a number of **different social media sites**, including Facebook, Twitter, and Pinterest.

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