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# NEWSLETTER

## Why is soil so important?

*By Soil Science Society of America*

Soil provides ecosystem services critical for life: soil acts as a water filter and a growing medium; provides habitat for billions of organisms, contributing to biodiversity; and supplies most of the antibiotics used to fight diseases. Humans use soil as a holding facility for solid waste, filter for wastewater, and foundation for our cities and towns. Finally, soil is the basis of our nation’s agroecosystems which provide us with feed, fiber, food and fuel.

### Ecosystem Services

Advances in watershed, natural resource, and environmental sciences have shown that soil is the foundation of basic ecosystem function. Soil filters our water, provides essential nutrients to our forests and crops, and helps regulate the Earth's temperature as well as many of the important greenhouse gases. As our awareness of the value of natural and managed ecosystems services grows, new biodiversity, carbon, and water markets are emerging, such as the Chicago Climate Exchange, and the nutrient trading programs under the new Executive Order on the Protection and Restoration of the Chesapeake Bay. These markets place an economic value on management practices which increase those ecosystem services, producing goods that enhance human and environmental health.



## Climate Change

Almost 35% of all greenhouse gases (GHG) released into the atmosphere due to anthropogenic activities since 1850 are linked to land use changes. Crop, grazing, and forest lands, as well as wetlands, all have the potential to contribute to or, through sound management strategies, mitigate GHG emissions through soil carbon sequestration, while also enhancing ecosystem services. Soil stores carbon dioxide (CO<sub>2</sub>) and other GHGs in soil organic matter. Soil organic matter offers several added benefits: it filters and cleans water, enhances water retention and storage, mitigates the impacts of extreme weather events, improves soil structure, reduces soil erosion, provides microbial habitats, and serves as a source of long-term, slow-release nutrients.

## Environment and Human Health

Industrial, household, and non-point source pollution jeopardizes the health of the environment and humans. Over the past several decades, soil scientists have identified new practices which limit the mobility of contaminants and rehabilitate polluted land. As a result, land managers now have access to new, innovative soil management strategies that can mitigate soil, water, and air pollution, while also enhancing ecosystem performance.

## Soil Trivia

1. Did you know that there are more living individual organisms in a tablespoon of soil than there are people on the earth?
2. Did you know that almost all of the antibiotics we take to help us fight infections were obtained from soil microorganisms?
3. Did you know that agriculture is the only essential industry on earth?
4. Did you know that soil is a non-renewable natural resource? **To read the full article, follow this [link](#).**

## College Scholarship Update



Maddie Reel, 2022 Scholarship Winner is pursuing a Bachelor of Science degree in Natural Resources at University of Arizona.

The Douglas County Conservation District has increased the amount of the College Scholarship for \$4,000 to \$6,000 over two years. This increase is intended to help students meet their financial needs so they can focus on their academic goals.

Join us in congratulating Ms. Reel on starting her higher education journey.

## Board of Supervisors Spotlight

Karen Bishop joined the Douglas County Conservation District Board of Supervisors in 2021 and offers native plant expertise and student wrangling at our many events with the District throughout the year. We interviewed Karen to learn more about what drives her to volunteer with the Conservation District.

### **What drew you to join the Douglas County Conservation District Board? Why do you volunteer?**

I joined the board because I was excited to see an opportunity helping in Douglas County Conservation. With more and more growth in our county, I am excited to see how many people are interested preserving the land in Douglas County.

I believe that volunteering is an important thing I can do to help improve my community. It allows me to meet new people, develop new skills, share information, and connect with like-minded people. For me, it is a very rewarding experience. I am happy to volunteer my time with this group of talented and dedicated people on the board.

### **What does being a Master Gardener, Native Plant Master mean to you personally?**

To me, being a Master Gardener and a Native Plant Master is an opportunity for sharing. I am always learning something new about plants and being part of the Colorado State University Extension program offers many ways to share that information. Plants are a great conversation starter everybody knows something or has a question about them - especially here in Colorado!

It's important to utilize the best practices for growing to enhance the chances for success and that's why we garden, right?! Native plants are my passion, I love to design functional and beautiful landscapes using them as much as possible, with my business Green Frolic Designs. Native plants belong here, they offer so many seasonal colors, textures, and benefits. When you speak about land conservation, native plants really must be part of the dialog.



Karen Bishop at left, with the Master Gardeners at a field trip at CALF's Lowell Ranch

### **What conservation measures do you take at home?**

We are on a well and septic system, so water is one of our biggest conservation practices. We are careful of what we put down the drain, soaps etc, we harvest rain water for landscape use, we grow a lot of our own fruit and vegetables, some year-round in our greenhouse. We have worms! I should say we practice Vermiculture but its funnier to say I have worms. Seriously, we compost everything we can. My husband, Bruce, is currently building a walled, raised bed

garden to enhance our greenhouse which will include space for chickens next summer!

**What's a fun fact about you Karen?**

I have had a few cocktails with Joe DiMaggio.



**Anything else you would like to share?**

Connect with people. It makes life more fun!

## Cost - Share Grant\$

We offer cost-share grants for noxious weed mitigation and fire mitigation for home owners in Douglas County. The maximum grant amount is \$500 for individuals. Grants are also available for Home Owners Associations. Grants are available in early January. Find grant applications on our website.

Noxious weed mitigation is defined as controlling List A and B Noxious Weed Species, as defined by the Colorado Department of Agriculture. Mitigation includes chemical applications by contractors, biocontrols for weeds such as goats or biological agents (insects for example) from the Palisade Insectary.



Leafy Spurge Biocontrol

Fire mitigation includes creating defensible space around a home through ladder-fuels removal and heavy-fuels reduction, creating tree-crown spacing via whole tree removal and brush removal. Contractor costs and equipment rental is covered under this grant.

Our grant cycle opens in January and closes in October, check out our website for applications.

Mini Conservation Grants are also available to Douglas County educators through the Douglas County School District Office of Sustainability . Contact Beth Church for details, [bachurch@dcsdk12.org](mailto:bachurch@dcsdk12.org).



## Events!

Additional opportunities can be found on our [Events Page](#) on [DouglasConserves.org](http://DouglasConserves.org).

To register email [Heather@DouglasConserves.org](mailto:Heather@DouglasConserves.org) or call (303) 218 - 2622.

### **Tree & Windbreak Workshop**

Led by the [Colorado State Forest Service](#) and the [U.S.D.A. Natural Resources Conservation Service](#) (NRCS), this workshop focuses on a selection of seedling trees, their care and common issues. Additionally, NRCS will lead us through windbreak design for habitat and property protection. Bring your questions for the Foresters and the NRCS Staff.

**Thursday, February 16, 5:30 - 6:30pm**

**Franktown Firehouse 181 located at 1959 N HWY 83, Franktown, CO 80116**

### **Native Plants for Bird Habitat**

Local non-profit partner, [Denver Audubon](#) will present on the complexity of wild bird diets, highlighting some of our dynamic Colorado native plants for your landscape that also support beneficial pollinators and other wonderful wildlife. Join us for a lively and engaging workshop – plant it and they will come! Presenter Kate Hogan is a certified CSU Native Plant Master and manages the [Audubon Nature Center demonstration gardens at Chatfield State Park](#).

**Wednesday, March 22, 5:30 - 7:30pm**

**CSU Extension Office Basement, 410 Fairgrounds Rd #2699, Castle Rock, CO 80104**

### **Front Range Native Plants**

[Douglas County Master Gardeners](#) will discuss with us the benefits of native plants that thrive in our climate and in our soil conditions. Plant selection, planting method, and care will be covered. Plan for a short walk around the CSU Extension gardens before the workshop.

**Thursday, April 6, 5:30 - 7:00pm**

**CSU Extension Office Basement, 410 Fairgrounds Rd #2699, Castle Rock, CO 80104**

### **Soil Workshop**

The [Colorado State University Extension Office](#) will lead us through their soil test process (bring a cup of your own soil if you like), learn about our local soil conditions and how to use it to your advantage at this engaging workshop.

**Thursday, June 1, 5:30 - 7:00pm**

**CSU Extension Office Basement, 410 Fairgrounds Rd #2699, Castle Rock, CO 80104.**



## Annual Plant Sale Fundraiser!

Each year we hold our Annual Plant Sale fundraiser to earn money for local conservation programs like college scholarships, grants, and workshops. Your support is appreciated!

Our plant offerings are from local nurseries for the hardiest stock. We offer both native and adaptive plants at reasonable prices. Customers will find one gallon perennials, shrubs, and up to 5 gallon size trees and shrubs. Check out our edible landscape offerings from Colorado FruitScapes located in Castle Rock, Colorado.

Plants are sold on a pre-sale basis from October to spring, with plants picked up by customers in the spring. We have a one-day pick up event for customers to pick up their plants on Friday, May 12, 2023. Note that because we sell both trees and perennials, the perennials will need to be kept indoors until the appropriate planting time. All plants are sold online through [our online shop](#).

Not sure what plants to get for your home? Try the Bloomer Packages! We offer four varieties of packages Spring Bloomer, Mid-Season, Late-Season, and an all Native Bloomer Package. Find these on our Shop under Annuals, Perennials, and Ornamental Grasses.



Bloomer Packages come with 15, 4" pots selected for their bloom time.

Looking to build habitat and feed your family? Consider a Goji Berry plant for its high nutritional value and sweetness when dried. Goji Berries are hardy plants that are drought tolerant and grow in zones 3-10. This interesting plant comes from Asia and is also grown right here in Castle Rock, Colorado by Colorado FruitScapes.

[Read more about the health benefits here.](#) [Find out more about how to grow Goji Berries.](#)



Dried Goji Berries are a sweet treat that you can grow at home.