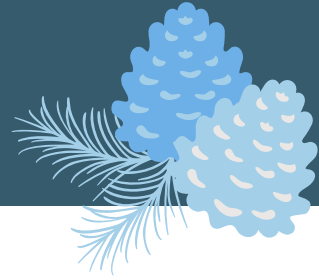


# NEWSLETTER



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## Our Disappearing Rangelands

By Katelyn Huskins, representing the Colorado Youth Section of the Society of Range Management,  
Karla Melgar, SAM Coordinator.

Urban expansion and conflicts with natural resources, especially range and pasture are becoming increasingly important issues in the Front Range. FFA member and chapter president, Katelyn Huskins was selected to represent the state of Colorado at the Society of Range Management (SRM) Youth Forum this year, where she will be talking about the conflicts between urban expansion and native habitats in The Front Range. Katelyn has spent some time researching these topics and has shared some of her findings with us.

One of the most concerning issues on this topic is the alarming rate at which rangelands are disappearing and the stress that represents to farmers and ranchers as they lose access to affordable grazing land. The high cost of living is another factor adding to the stress of increasing urbanization, as affordable housing moves towards the outskirts of the most populated cities like Denver.

### Understanding the importance of rangeland

Healthy rangelands provide a plethora of ecological goods and services such as forage, fiber, clean water, biofuels, recreation, climate change mitigation, rich biodiversity, open space and cultural heritage. As far economic benefits of rangelands, forage grown on rangeland is often used for cattle grazing or occasionally hay production, and in addition to livestock production fishing and hunting are two other major industries that are heavily dependent on rangeland and provide a major source of income for many ranchers.

## How does urban sprawl affect rangeland?

Fragmentation of rangeland that occurs as new developments are being built affects wildlife nesting, predation, wildlife movement and the structure of habitats and ecosystems. Highways, energy development, tourism and urban development disturb wildlife migration routes, while more human-tolerant species gradually outcompete the more vulnerable species. Furthermore, these changes in landscape decreases biodiversity by limiting the gene flow between populations of wildlife species, isolation and an increase of non-native and invasive species.

Rangeland hydrology is another aspect that is negatively impacted by urbanization. The risk of flood and erosion of local water ways increases with more bare ground areas.

## EFFORTS TO MITIGATE THE EFFECTS OF URBAL SPRAWL ON RANGELAND FRAGMENTATION

Controlling the spread of urban sprawl and minimizing the effects of fragmentation is a tall task that has no one single solution. Subdivision regulations, zoning provisions, building permits and urban growth boundaries have become increasingly important in new developments to prevent the negative effects that urbanization may bring to rangeland landscapes. Some regions implement special tax regulations, clustering houses, and providing developers with density bonuses. Private landowners often seek to implement conservation easements to protect open land, while some institutions invest in educational outreach programs to raise awareness.

Open Space programs are often used to preserve rangelands by purchasing parcels of land or their development rights, using taxpayer dollars to create conservation easements. That is the example of Boulder county, which has a variety of agricultural leased parcels that fulfill a variety of purposes including recreation, agriculture and wildlife habitats. Boulder County Parks & Open Space program holds 7,500 acres of rangeland and an additional 2,000 acres of former dry cropland that has been restored to rangeland vegetation.

Currently, the Farm Bill and the Grassland Conservation Reserve Program are incentives to help landowners adopt and implement rangeland conservation practices by providing financial incentive to preserve natural habitats.

For Katelyn, urban sprawl and habitat fragmentation is a crucial topic to make awareness of: "I chose to research and talk about urban sprawl and land fragmentation because I feel that is something everyone sees, whether they understand its impact or not. I want to raise public awareness of urban sprawl on rangelands, and I also want to raise awareness of how people can become involved in local, state and national conservation efforts and encourage them to be mindful of how their actions influence the land around them".

We wish Katelyn a successful presentation at the 2024 SRM conference. If you would like to know more about the Society of Range Management, click [here](#) to visit their website.

The grasshopper sparrow in this picture is one of the bird species that is most affected by fragmentation and over grazing.



# COLORADO SAGEBRUSHES

Karla Melgar-Velis, SAM Front Range Regional Coordinator.

You have probably seen sagebrushes in mountains, pastures, landscapes and gardens. Sages, wormwoods and/or mugwort are part of the *Artemisia* genus, which belongs to the Asteraceae family. Sagebrushes are perennial plants, with several native species, that survive harsh arid environments thanks to their capacity to obtain water from a long taproot, but they also have a sprawling set of root branches that grow around the plant, closer to the soil surface.

Additionally, sagebrushes are fairly common on pastures and range sites, which has led them to be historically incorrectly managed. Sagebrush is often discouraged on pastures to favor grasses, and it can become invasive in overgrazed pastures. Some of the most common species in the Front Range include big sagebrush, mountain sage (also known as white sage, white sagebrush, western mugwort, mountain wormwood and other common names), and fringed sage, but there are many other species although there are other sages that occur only in certain regions of Colorado.

*Artemisia* plants are important winter forage for deer, elk, bighorn sheep and jackrabbits due to their high protein content. It can also provide winter forage for cattle, sheep and goats, but toxic to horses if consumed in large amounts.

Sagebrushes also provide shelter for small creatures to hide from predators, and provides habitat for more than 100 species of birds, including the sage grouse, which population has been severely affected by habitat fragmentation, wildfires and invasive species encroachment.

Additionally, sagebrush ecosystems support over 130 species of other native plants, including Indian paintbrush, which has a very particular symbiotic relationship with sagebrush, and whatgrass, bluegrass and needlegrass.

## KNOW YOUR

### SAGEBRUSHES

#### Big sagebrush (*Artemisia tridentata* Nutt.)



Picture of Big Sagebrush leaves and flowers. Taken From Weeds of the West, 11th Edition, 2012)

This evergreen shrub ranges in size from 2ft tall to as large as 13 ft. The branches spread from numerous main stems in some subspecies, or from one main trunk on some of the larger size subspecies. Leaves have a blue gray or blue-green appearance due to the presence of dense hairs on the leaf surface. The leaves have a bell or wedge shape that narrows down at the base and three lobes at the apex on the majority of the foliage.

*Artemisia tridentata* communities have been traditionally poorly managed on rangeland sites and pastures to increase forage productivity. Although thinning out sagebrush stands can be beneficial for pastures, some studies have found that completely eliminating sagebrush from pastures may actually have a negative effect on forage production.

#### Fringed sagebrush (*Artemisia frigida* Willd.)



Early spring growth of fringed sagebrush. Taken From Weeds of the West, 11th Edition, 2012)



Picture of fringed sagebrush yellow flower heads and hairy bracts. Taken From Weeds of the West, 11th Edition, 2012)

Also known as prairie sagewort, fringed sagebrush, sagewort or northern wormwood.

This plant is a mound-forming, spreading sub-shrub with flowering stalks that reach up to 16 inches tall. The plant is covered in silvery hairs, giving it a silky, grey-green appearance. The leaves are 3-5 times divided, clustered towards the base. This plant blooms from July to August and its flowers are a quarter inch in diameter and made up of numerous tiny disk flowers.

*Artemisia frigida* is a Pioneer shrub, resistant to browsing and animal impact, and can provide stabilization on disturbed sites, and is often used on xeric landscapes. Because of its high tolerance to disturbance and drought, it can displace desirable vegetation in poorly managed rangelands and pastures.

### Mountain sage (*Artemisia ludoviciana*)



Picture of mountain sage leaves and flowers. Courtesy of Alan Franck

Also known as silver wormwood, white sagebrush, wild sage, prairie sage, wormwood, white mugwort, western mugwort, etc. This plant is a white-woolly perennial herb with erect stems, and often clustered or creeping rhizomes. The leaves are alternate, and can be entire or irregularly toothed or lobed. Flower heads are small, greenish clusters that grow among the leaves near the ends of the stems. It typically flowers from August through September.

The foliage and flowers of this plant constitute a good portion of the diet of the sage grouse, and the twigs are a primary source of food for mule deer.

*Artemisia ludoviciana* grows in many environments, including riparian areas, sagebrush steppe, short grass and tall grass prairies and in semi-disturbed sites. It tends to grow on dry sandy to rocky soils.

### SAGEBRUSH, FIRE AND DISTURBANCE

Unlike many other native plants of Colorado, sagebrush is not as tolerant to fire, which makes sagebrush ecological systems more vulnerable to natural fire. Tall species of sagebrushes are the most vulnerable. Repeated fires every few years or summer burning depletes native perennial grasses in the understory, allowing invasive species to encroach, including cheatgrass, which can become a fire hazard that adds to the problem. Although there are efforts from the federal government, private landowners and non-profit organizations to restore sagebrush habitats, the process of recovery of these systems is slow. Correct pasture management and noxious weed control can play a key role in managing healthy populations of sagebrushes.

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. Stevens, M., & Roberts, W. (n.d.). White Sage (*Artemisia ludoviciana* Nutt.) Plant Guide. Davis, CA: USDA-Natural Resources Conservation Service.

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# FROM OUR LANDS TO YOUR HANDS

Article by MaryEllen Cannon, NRCS Area 2 Soil Scientist.

Edited by Karla Melgar-Velis

From our lands to your hands is a unique, hands-on interactive event focused on educating future generations on the importance of agriculture in our society. Last year, this event hosted 1,200 students from 17 different schools in the St. Vrain Valley School District.

This event will be taking place this year at Boulder County Fairgrounds. If you are not familiar with this event, the next few paragraphs will give you a great insight into the awesome work that Boulder and Longmont Valley Conservation District, along with the help of many volunteers, teachers and non-profit organization put into teaching students where their food comes from.

Vanessa McCracken, Boulder Valley-Longmont Conservation District Manager, said she felt like one small woman as the big farm equipment paraded in for From Our Lands to Your Hands. McCracken with volunteer help from farmers, agency and non-profit staff transformed Boulder County Fairgrounds Exhibit Building into an agriculture education space for over 1,200 4th and 5th graders over February 22 and 23, 2023. Students looked thrilled climbing up on farm equipment.

St. Vrain Valley School District 4 and 5th grade students were immersed in the importance of agriculture in our daily lives. From our land comes the food we eat, clothes we wear, products we use, wildlife that flourishes on the open spaces of agriculture lands. Or land frames our culture and history and so much of how we live. The Boulder Valley and Longmont Conservation Districts appreciate support from the Natural Resources Conservation Services Longmont Office, and Boulder County Parks and Open Space in planning this event. Hours of work by local farmers and ranchers, agriculture agencies, Future Farmers of America and many volunteers make this event possible.



Students gathered around farming equipment. Photo courtesy of Peyton Ward.

## It takes a village....

2019 was the 10th anniversary of From Our Lands to Your Hands. Disrupted by COVID-19 it is joyous for students to be back learning together. Thrilled to be back at her favorite event, Sylvia Hickenlooper, NRCS Area 2 Resource Conservationist explains, "When Nancy McIntyre and I developed this event back in 2008 and it had its 10-year run it was truly a wonderful event that showed the power of collaboration between Districts, NRCS and other partnering agencies. It truly takes a village (to put this event together). When we couldn't resume the event in 2019 it was disappointing, to say the least however, I cannot even begin to express how much in awe I am of Vanessa and the Districts for pulling this event together. They gave it a much-needed facelift."



Students gathered around Growing Gardens volunteer. They learned about regenerative agriculture practices. Photo courtesy of Peyton Ward.

This year's presenters include Growing Gardens, CSU Extension, NRCS, Calwood, Colorado State Forest Service, Bird Conservancy of the Rockies, Butterfly Pavilion, CO Parks and Wildlife, US Fish and Wildlife, Handweavers guild of Boulder, Windsor and St. Vrain FFA, CSU Vet School, and many local farmers that will be bringing their equipment to showcase.



NRCS' MaryEllen Cannon inside soil tent. This activity consisted in imitating air, water, minerals, organic matter and critters in the soil. Photo courtesy of Kari Sever.

## UPCOMING EVENTS



### RESOURCE CONSERVATION WORKSHOP SERIES: MANAGING CROPS FOR HEALTHIER SOILS

Join us in Greely to learn how to incorporate cover crops and residue management into your land. Whether you want to grow forage or vegetables, this workshop will give you an insight into the strategies to improve soil health using crops.

NRCS state agronomist Christine Newton and Extension Ag Specialist Kat Caswell will be talking about cover crops, residue management and answering all your questions. We will also have NRCS Area Conservationist Will Ousley to answer all your questions about enrolling on NRCS programs to get financial and technical assistance.

**Date: February 27th, 2024, 1 - 3:30 PM**  
**Place: Island Grove Bunkhouse, 607 N. 15th Ave, Greely, CO**  
**[Sign-up here](#)**



## FARMER FORUM ON CLIMATE AND AGRICULTURE

If you are a Larimer or Weld county resident, join CSU Extension in Partnership with Oregon State University for a conversation guiding the future usability of climate data for farming.

-Guide actionable science, hear from other producers, enjoy a free lunch together, receive a \$75 Gift card to Murdoch's

Contact to sign up:  
kelsey.emard@oregonstate.edu, or  
hydeel@oregonstate.edu,  
jess.callen@colostate.edu or  
kat.caswell@colostate.edu

*Where?*

**Larimer county residents**  
**February 15th, 2024, 12 pm to 1:30 PM**  
**Larimer County Extension office**  
**1512 Blue Spruce Dr. , Fort Collins**

**OR**

**Weld county residents**  
**February 16th, 12 pm to 1:30 pm**  
**Weld County**  
**Kersey Community Center**  
**446 1st St., Kersey, CO.**

## POUDRE RIVER FORUM – THE COST OF WATER

The Poudre River Forum is a platform for industry professionals and community members who farm, deliver clean potable water, drink beer, recreate, and advocate for river health to learn from one another and explore how to move from conflict to collaboration. The annual event attracts hundreds of river enthusiasts from Northern Colorado communities and beyond.

**Date: March 1st, starting at 8 am.**

**Place: AIMs Welcome Center, 4901 W 20 St, Greeley, CO**

**Registration fee: \$30 for students, \$60 general public.**

[Sign-up here](#)



JEFFERSON COUNTY  
NATIVE PLANT MASTER  
COLORADO STATE UNIVERSITY  
EXTENSION

## 2024 NATIVE PLANT MASTER COURSES NOW OPEN

Would you like to learn more about the beautiful plants that grow in nature? Take a Native Plant Master class and get to know the plants of the Metro to Mountain area – Denver, Jefferson, Gilpin and Clear Creek Counties.

Jefferson County will be offering a handful of 3-day classes, which can either be taken for personal interest, or count as a class towards your Native Plant Master certificate.

Jefferson county will also be hosting a handful of 1-day classes, which are topic specific and do not count towards a certificate.

To see full schedules and location [click here](#)

or visit [jeffco.extension.colostate.edu/metro-to-mountain-npm/](http://jeffco.extension.colostate.edu/metro-to-mountain-npm/)

## PUEBLO BEE SCHOOL



**Bee Curious!**  
A Course  
for Beekeepers  
2 Day Event

This introductory course prepares new beekeepers, as well as experienced beekeepers, to start up and manage bee colonies in a manner that ensures health and sustainability.

Location: El Pueblo History Museum  
Date: February 24-25th.  
Registration fee: \$80-\$85

\*Class will be available in person and Zoom. Cost of in-person class includes lunch and snacks on Saturday, snacks on Sunday.

[Register here](#)

## TREES IN THE WEST CONFERENCE

*a panoramic gathering for urban and community forestry*

Join us for a one-day conference exploring complex and shared sustainability challenges for urban forests in the Western US from diverse perspectives. Connect with your colleagues, learn from experts, and share your insights.

**Date: May 13, 2024**

**8:30 am to 5 pm**

**Location: CSU Spur campus, Denver.**

More information by [clicking here](#)