

# Rangeland Ecosystems



Photo Credit: Zoe Lipscomb

## What is a Rangeland Ecosystem?

An **ecosystem** includes all of the living and non-living parts of a system. Rangeland ecosystems are systems that support native and domestic herbivores, and provide a habitat for many plants and animals.

The plant community is mostly grasses, shrubs, and forbs (small flowering plants), with few to no trees. They support a lot of **biodiversity** (both plant and animal species), which is important in maintaining healthy ecosystems.

These ecosystems make up nearly **30%** of all land in the U.S., two thirds of which are privately owned. This shows the importance of private management of these systems.

## Why do we care?

Rangeland ecosystems are essential providers of forage for livestock. The livestock industry is responsible for nearly **70%** of Colorado's entire agricultural economy.

They also store carbon, which is important for reducing carbon dioxide levels in the atmosphere. However, the amount of carbon storage is largely dependant on the management of the system.



Photo Credit: Scott Bradfield

## The Role of Management

Rangeland productivity and health is largely dependant on **management practices**, and managing these systems is a balancing act between many important uses. For example: livestock, recreation, and wildlife habitat are common uses, and all require different management strategies.

It is also important to manage these systems based on the current environmental conditions. For example, extreme droughts and overgrazing have caused many negative effects in rangeland ecosystems, which affect the system for a long time, even after the management practices are improved (known as a "**legacy effect**").

## Human Impacts



Photo Credit: Zoe Lipscomb

Historically, many rangelands have been poorly managed, leading to **vulnerable ecosystems**.

**Invasive grasses** have been introduced by agriculture, which can change both the plant community and **entire** nutrient cycle, both leading to huge changes in the system's function.

A lot of rangeland area has been converted to crop fields, and lost to **urban expansion**.