

What is Prescribed Herbivory?

Prescribed herbivory, also known as “targeted grazing” means grazing livestock to accomplish landscape or vegetation management goals.



Targeted grazing is useful as a tool to maintain fuel loads and prevent fuel build up to reduce wildfire risk. It is most often cost effective on landscapes that are too large, steep, rocky or remote for mechanical or chemical management or where wildland areas border urban areas.

What animals are used?

Various livestock types including **cattle**, **sheep**, and **goats**, in combination or as a single species can be grazed.

Different livestock types have different preferences and which type of animal you use will depend on the vegetation present, the terrain, and their experience with various plants. Sheep and goats have very similar impacts on shrublands, though goats will spend more of their time browsing higher than sheep, who also enjoy picking out the grasses and forbs between shrubs.



How can prescribed grazing be beneficial?

Improves soil. Grazing removes dry plant material and returns nutrients in bio-available manure, stimulating the growth of new green plants. Herbicides and mowing simply leave the dry vegetation in place.

Reduces fire fuel and creates defensible space. Grazing reduces flame length and fire intensity and can shift grasses from being highly flammable fire spreaders into a natural fire barrier. Lower flame length allows firefighters to manage fires without the use of heavy equipment.

Manages invasive species and noxious weeds. Timed correctly, grazing can reduce the spread of annual invasives such as mustard, arundo, thistle, and annual grasses, allowing perennial forbs and grasses to persist and spread.

Increases biodiversity. By removing invasives and allowing native forbs and grasses to survive, habitat can be restored for native butterflies, birds, mammals, and other insects.

Expands range of access. Grazing is scalable and can access very steep or hard to get to areas that are challenging for humans to work in.

Reduces carbon. Grazing is one the most climate-appropriate practices available. Even doing nothing emits carbon, as dead plants oxidize and provide tinder for fire.



Best practices to increase benefits

- Develop grazing plans specific to each place with consideration of the species of plants present and landowner goals, including:
 - Best suited species of livestock - cattle, sheep, goats or a combination
 - Animals' previous grazing experience and plant preferences
 - Time of year as it relates to plant physiology
 - Animal concentration or stocking density during grazing
 - Grazing duration
- Remove enough residual dry matter (RDM) to decrease the risk of fire while leaving some cover on the soil surface. The herd effect, or the trampling and dunging on plants and soil, will create soil cover and stimulate biological activity, thereby increasing carbon sequestration. Soil biology struggles when the soil surface is left bare and exposed to sun (extreme heat) or rain (increases erosion and/or soil compaction).
- Plan short-term treatment to reduce flammable vegetation and/or long term treatment to change vegetation composition.
- Adjust practices according to the plant species of concern, maturity and density of fuel, and the terrain. For example:
 - Annual species: remove the plants each year prior to fire season. Grazing before seed set can change seedbed dynamics and long term implementation can change species composition.
 - Undesirable perennial species: repeated grazing that depletes root carbohydrates and causes mortality of target species is required to change composition. Root carbohydrates are at their lowest level just after the plants initiate active shoot elongation. If severely grazed early in the growing season, carbohydrate reserves are depleted and plant vigor is reduced.
 - Brush species: changing fuel profile in the first year and thereafter grazing large areas appears to be most sustainable. Livestock cannot effectively control mature brush plants that grow higher than the animals can graze or have large diameter limbs.
- While grazing sheep and goats can be extremely effective at controlling invasive plant populations, they can sometimes inadvertently introduce invasive plants by carrying viable seeds in their coats or digestive tracts. Care should be taken by grazing operators and land managers to control for and minimize this risk.

Timing and monitoring are important - find responsible providers

Formulating an effective grazing prescription requires a solid understanding of plant ecology, animal behavior and plant-animal interactions. Look for a provider that exhibits this knowledge and understanding.

Timing of grazing is important and will vary depending upon your management goals. For example, prescribed grazing for weed control requires grazing when the weed is most palatable to livestock and most susceptible to grazing and/or when desired plants have a relatively high tolerance to grazing.

Work with your grazing provider to develop a plan for you to monitor changes on your property as a result of the grazing practices. Documenting a baseline of the plant composition of your land before grazing and monitoring the changes after grazing are important for understanding how your grazing plan has impacted your land and to determine if practices need to be adjusted for future treatments.

These providers can develop and implement prescribed grazing plans to meet your specific goals:

- **Cuyama Lamb** cuyamalamb.com
- **Ventura Brush Goats** venturabrushgoats.com
- **Shepherdess Land and Livestock** shepherdesslandl.co

