

### 3. Livestock Grazing Systems

**Time:** 40-45 minutes

**Supplies:**

- Plastic toy cows and sheep OR different color beans to represent livestock
- String or yarn, six pieces ~ 10” long (to be used as fencing)
- Tin foil that can be formed into water developments

**Introduction:**

Rangelands produce various types and amounts of vegetation every year. The amount of annual vegetation growth varies depending on plant type, topography, precipitation, localized climate, and soils. There are few tools that rangeland managers can use which can improve rangeland conditions such as grazing systems.

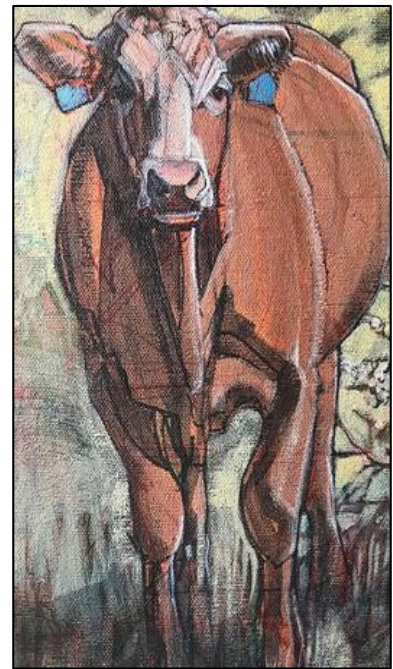
Managed grazing systems incorporate grazing to remove unwanted plants (invasive or noxious weeds), excess plant growth, and dead plant material while allowing time for the plants to rest and grow.

Other tools to remove unwanted plants such as noxious weeds are chemicals or mechanical tools. Grazing management systems incorporate soils, watersheds, water availability, plants, wildlife, and livestock into a plan. Using fences, gates, stock water (both natural and man-made), salt licks and herding, a pre-specified number of livestock animals are put into a pasture at a pre-determined time of year for a limited amount of time. Identifying the type of livestock should correlate to the type of vegetation available.

The location and timing of the livestock grazing must be coordinated with the vegetation availability in the pasture. Livestock can only be moved so far so fast. Moving through pastures sometimes replicates the green-up of plants. Spring grazing patterns typically mean moving up in elevation as the snow melts and plants green-up. Fall grazing are typically reversed back to the home ranch (as it turns colder, grazers move back to lower elevations). Winter can include rangeland grazing or supplemental feeding with hay reserves.

Common livestock grazing management strategies are as follows:

- **Continuous** is a grazing system that keeps livestock in one pasture for a whole year or grazing season. This system requires keeping fences, gates, and water systems working all year. The plants are not given “rest” to re-grow without livestock impacts. The livestock are not moved so it requires less cattle stress and labor costs. It’s important to make sure there is enough feed for the livestock all season. Calculating AUM’s for a full season should not include regrowth.
- **Herding** means moving livestock (mostly sheep but can include cattle) through grazing areas (which may have fences). This is a labor-intensive option because it requires a full-time person(s), horse (or off-road vehicle), and a dog to keep the livestock in the correct area. Daily access to water is also part of the challenge. Since there is more oversight of the grazing, calculating AUM’s is not as detailed.



- **Three pasture rest-rotation** means that rangeland is divided into three pastures by fences. The livestock (typically cattle) are moved through the pastures in a pattern that allows for rest of pastures at different times every year. An example is starting in pasture 1 in spring through early summer then moving to pasture 2 after “seed ripe” (which is when the perennial plants have set their annual seed-which depends on climate and elevation) and returning to a late summer-fall grazing pasture after the plants are dormant. The rotation includes areas of complete rest for one year (pasture 3). This rotation changes each year. Each pasture will need access to fresh water during the season of use. Fences and gates are required to keep the animals in the correct pastures.
- **Deferred-rotation** means the livestock alternate between two pasture (spring-summer use and fall use). This allows alternating seasons of rest. Stocking rates (AUM’s) are set at a moderate rate. This system is designed to increase grazing pressure in a specific pasture to improve livestock distribution. Alternating seasons of use allow for plants to increase root systems after grazing. Access to fresh water and good fences is also a concern in this system. Post seed-ripe grazing encourages native seeds to be “planted” (pushed into the soil) by the livestock hooves.

**Do:**

- Describe each grazing management system
- Design a grazing system with the string (fences), water systems, and livestock on the worksheet or large paper for demonstration.
- Identify tools (e.g., water trough, fence, horse, etc.) to manage livestock on rangeland and describe their purpose

**Reflect/Apply:**

- Present your plan with description of impact on the rangeland
- Compare and contrast the different systems