

5. Management Options—Water Developments and Grazing Distribution

Time: 10 minutes

Supplies: Graph, PowerPoint

Background:

Because rangeland is located mostly in arid climates with relatively low precipitation, water is precious. Ranchers and land management agencies such as the Natural Resources Conservation Service (NRCS), develop water sources for both wildlife and livestock on private and public lands. These developments can be used to entice animals to use different areas of forage that they may typically avoid.

Note: One of the most important factors when managing livestock is to distribute animals across the landscape. To improve livestock distribution, there are recommended distances between watering points that vary based on terrain, species of animals, and breed of livestock.

General Recommendations for Distance from Water for Improved Livestock Distribution	
Rough country	~0.5 mile max
Rolling country	1.0 mile max
Flat sandy country	~1.5 mile max
Flat country	~2.0 mile max

Here are a few examples of water developments that benefit both wildlife and livestock. In many places, surface water alone does not provide a dependable source of water, this can be due to water runoff and/or soil types. In these areas, rancher may choose to drill wells and/or pump water into stock tanks, or other large water storages for livestock.



Watering troughs benefit both livestock and wildlife, especially during the summer. Although they benefit most wildlife species, some can be deadly for animals that can get in, but can't get out. Hence, bird ladders or wildlife escape ramps, are placed in troughs for wildlife such as sage-grouse to use to climb out ultimately reducing accidental drowning.



Spring-feed trough between two pastures



Stock ponds can be used to water livestock (this will require management), and also to collect runoff that can be piped or pumped to different locations. The methods used to move water around the rangeland will depend on the topography. If you can use gravity to move water from the pond to tanks, you can save money.



Streams are sources of water for animals. Land managers create hardened crossings to encourage concentrated use in small areas to minimize impact on vegetation.

Words to Explore:

Topography: describes the physical features of an area of land. These features include natural or manmade features such as mountains, hills, valleys, rivers, roads, and cities. Topography often records the elevations of an area using a **topographic map**.

Topographic maps: represent a 3-D surface on a flat piece of paper by showing elevation changes on the land using **contour lines**.

Contour lines: a contour line drawn on a map represents a given elevation. Every point on the map touching the line should be the same elevation. On some maps, numbers on the lines will let you know what the elevation is for that line. *The closer the contour lines are to each other, the steeper the slope of the land.*

Effective Precipitation*: That portion of total precipitation that becomes available for plant growth. It does not include precipitation lost to deep percolation below the root zone or to surface runoff or to evaporation or which falls during the dormant season unless stored in the soil for later use during the growing season.

*Definitions from the Society for Range Management Glossary of Terms

Additional Resources

Visit the <https://idrange.org/education-2/i-roam-curriculum/> for each topic to see videos and other additional educational links and materials.