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# Rangeland Health & Planned Grazing Field Guide

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TECHNIQUE

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The following is excerpted from the original guide, a joint publication of Earth Works Institute, The Quivira Coalition, Nathan Sayre, and Kirk Gadzia, 2003, available at [www.quiviracoalition.org](http://www.quiviracoalition.org). While the subject is a slight departure from Leading Edge's 'standard' content, the concepts are of critical importance, not widely understood or implemented, and more relevant to grain cropping than we realize.

## Introduction to Grazing

This field guide is an introduction to grazing management designed to help landowners, stock handlers, and agency personnel make better decisions involving rangeland. Improved management decisions will increase vegetative cover, control erosion, protect water quality, and improve animal production.

Arid and semiarid rangelands (receiving less than 10 or 20 inches

of rain per year, on average, respectively) defy some of the central assumptions of conventional range management. They are highly variable over time and space, making fixed measurements of carrying capacity or "the right" stocking rate questionable. Which plants grow, and how much they grow, depends not only on how much rain falls, but when and how quickly it falls, and on the weather that follows it.

Plants must be able to withstand drought and take advantage of rain when it finally arrives. Different plants will grow depending on whether the rain arrives in summer or winter, in large quantities or small. Over thousands of years of evolution, the vegetation of these areas has adapted to reflect these circumstances. In recent decades, scientists have begun to develop models to explain and explore these complex dynamics. This field guide presents some updated tools and

concepts of range management that reflect the improved scientific understanding of range dynamics.

Central to an understanding of range dynamics is the concept of 'disturbance.' Droughts and wildfires are natural distur-

bances in arid and semiarid rangeland ecosystems. Grazing is also a type of natural disturbance to which many range plants are adapted. The effects of grazing depend—like those of other disturbances—on *timing* (when they happen), *intensity* (how severe they are), and *frequency* (how often they

**Grazing is a type of natural disturbance to which many range plants are adapted.**

recur), and grazing can be managed in these terms. Vegetation is highly sensitive to variations in available water and nutrients, both of which cycle through the ecosystem in ways that can be indirectly influenced by management. Management tailored to these processes, and attuned to variability, can conserve rangeland resources and help restore areas that have been degraded in the past—while simultaneously producing greater returns for the ranch.

## Ranching as Sustainable Agriculture

To be sustainable, ranching must convert natural forage into livestock in such a way that the perennial forage plants retain vitality year after year. This is possible because grasses (and many other rangeland plants) are resilient to grazing—they can recover from it, provided that the disturbance is not too great. However, grazing is not limited to



Photo by Courtney White.

Fenceline contrast on the Ogilvie Ranch. In years prior to the photo, grazing intensity was actually about 4 times higher on the pasture on the left, but it had a growing season to recover while the pasture on the right did not. Sufficient recovery time is essential to the robustness of desirable perennial plants.

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