



## What do Ranchers Provide?

### *Provide a Working Landscapes*

- Provide the management of a landscapes where production of market goods and ecosystem services is mutually reinforcing.
- Work as partners to create landscapes and ecosystems that benefit humanity and the planet.



## Supporting



**Supporting:** the natural processes that maintain (support) the other ecosystems such as nutrient cycles, pollination, and habitat for wildlife.

Managed rangelands can support greater plant diversity which supports better drought tolerance, greater resistance to plant pests and invasive species, and increased biodiversity.

## Provisioning



**Provisioning:** the goods or products obtained (provided) from ecosystems such as the production of food and water;

- Forage production which allows for the raising of livestock. Managed properly, the grasses grown on rangelands can provide quality feed for livestock thereby reducing the cost to raise livestock and produce food for consumers.
- Water quality and quantity, water retention and aquifer recharge. Most of California's vital water resources including water for drinking and irrigation originate on, flow through, or are stored on rangelands.

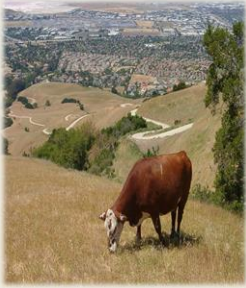
## Regulating



**Regulating:** the benefits obtained from an ecosystem's control (regulation) of natural processes such as the control of climate, filtration of water; and growth and removal of vegetation.

- Carbon sequestration which filters carbon dioxide and other pollutants out of the air, thus increasing the carbon stored in the soil profile.
- Fire fuel reduction when lands are properly grazed, reducing fire fuel ladders by vegetation removal.

## Cultural



**Cultural:** the nonmaterial benefits obtained from ecosystems such as spiritual and recreational benefits;

- Open space and view sheds are areas of land, water, or other natural environmental elements, visible to the human eye from a fixed vantage point.
- Recreation benefits include opportunities for hiking, horseback riding, swimming, skiing, hunting and more.

## Ecosystem Services

- Clean Water and Aquifer Recharge
- Habitat Biodiversity
- Clean Air
- Viewshed
- Culture
- Food and other Animal Byproducts

## Range Management Practices

- Grazing Systems
- Erosion Control
- Water Quality
- Water Storage
- Plant Desired Species
- Brush Removal

UC CE University of California Cooperative Extension Rangeland Ecosystem Services

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**Ecosystem Categories**

- Biodiversity
- Water
- Soil Carbon
- Fire Fuel Management
- Forage
- Culture

**Additional Related Topics**

- Payment for Ecosystem Services
- Government Programs
- Market and Trade Schemes
- Mitigation Banks
- General
- Valuation Tools

**Welcome**

California Rangelands provide a multitude of ecosystem services that benefit virtually every Californian. This site includes research and information about these ecosystem services. Click on a category or topic of interest to view a list of articles and webites related to your interest.

Ecosystem services are the functions performed by ecosystems that lead to desirable environmental outcomes. Many are familiar with the economic value that rangelands provide - especially grazing opportunities for livestock. However rangelands, that make up 40% of California's land mass, provide so much more. California rangelands provide benefits to the landowner and to all life forms living or passing through that land.

The benefit of well maintained ecosystem services can be as small as neighbors that benefit from an open viewshed to vast populations benefiting from clean water to worldwide benefits of clean air and carbon sequestration.

This web site provides links to research, websites and projects, addressing the four **Categories of Ecosystem Services**: Provisioning, Regulating, Supporting and Cultural (Millennium Ecosystem Assessment, 2005).

A **Decision Support Matrices** addresses specific ecosystem services, based on a compilation of research papers and other documentation categorized, to assist land owners/managers and conservation specialists in directing management decisions to enhance ecosystem services on rangelands.

Photo by Sheila Berry