

Sustainable Rangelands Assessment

*Social, Ecological, and Economic
Indicators*

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Sustainable Rangelands Roundtable

Mission Statement: The Sustainable Rangelands Roundtable promotes social, economic, and ecological sustainability of rangelands through the development and widespread use of criteria & indicators for rangeland assessments, and by providing a forum for dialogue on the sustainability of rangelands.



Sustainable Rangelands Roundtable

- Is a collaborative partnership process with a 10-year history
- Has involved over 100 participants from more than 50 organizations including rangeland scientists, land managers, ecologists, economists, sociologists, environmental advocates, federal and state agency representatives, and producer groups



The Task

- Identify a suite of social, ecological and economic indicators to accurately assess and report on rangeland sustainability at multiple scales – national, regional, state and local
- Ensure that all participant perspectives are considered throughout the process

Sustainable Rangelands Roundtable Accomplishments

- 2003 - First Approximation Report on Criteria and Indicators for Sustainable Rangelands
- 2006 – SRR Progress Report, Federal Agency Head Conference and Rangeland Ecosystem Services Workshop
- 2007 – Ranch Sustainability Assessment Effort Initiated
- 2008 – Oregon Multi-Agency Pilot Project (MAPP) and Rangeland Ecosystem Services Booklet Completed
- 2010 – Ranch Sustainability Assessment Guidebook published, conceptual model climate change applications developed, and State Assessment effort initiated

Rangelands

- Provide services such as clean and abundant water, clean air, food and fiber, wildlife habitat, access to recreation and spiritual renewal, employment and energy self-sufficiency.
- Rangeland sustainability depends on the dynamic diversity of plants and animals, including humans, to maintain resilience.
- Sustainable rangelands are a collaborative interdependent effort between ecosystems and society

Rangeland Sustainability

- Integrates social and economic aspects of human well-being with ecosystem integrity, and environmental limits and capacities.
- Reflects shifting social values and economic development geared toward resource conservation.





Sustainability Suggests

- Both current and future generations can obtain their desired mix of goods and services from rangelands.
- Ecological, social, and economic elements of rangeland management decisions will be considered with equal importance.
- The mix of goods and services desired by society from rangelands is varied and ever-changing.



Threats to Natural Resource Sustainability

Critical issues impacting natural resources including rangelands are:

- Fragmentation
- Invasive species
- Loss of open space
- Fire

SRR Criteria and Indicators



Encompass social values, economic benefits, and ecological factors

- ❖ **Criteria** - statements about conditions or processes that are goals of sustainability
- ❖ **Indicators** - measure human well-being, the economy, and rangeland resource conditions



SRR Criteria

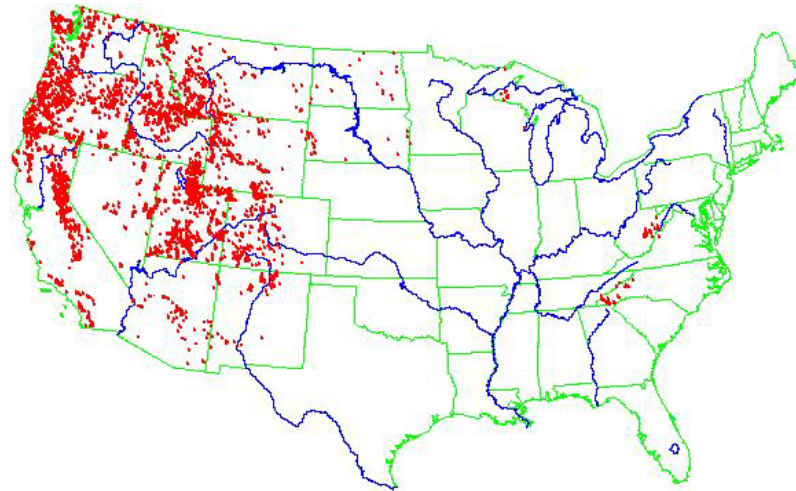
- Conservation and Maintenance of Soil and Water Resources
- Conservation and Maintenance of Plant and Animal Resources
- Maintenance of Productive Capacity
- Maintenance and Enhancement of Multiple Economic & Social Benefits to Current & Future Generations
- Legal, Institutional, and Economic Framework for Rangeland Conservation and Sustainable Management

Soil and Water - Indicator 4

- Area and % of rangeland with significant change in extent of bare ground
 - Methods and procedures are not standardized
 - Lack adequate sampling designs for regional to national aggregation
 - Bare ground can be measured using existing remote sensing data bases but inaccuracies are likely
 - Experimenting with hyperspectral data

Plants and Animals - Indicator 17

- Extent and condition of riparian systems



USDI-BLM, in cooperation with Utah State University, maintains an aquatic invertebrate database of 20,000 samples collected at more than 7,000 sites. EPA also has a national water quality database, STORET, that may be publicly accessed.

Productivity Capacity - Indicator 24

- Number of domestic livestock on rangeland

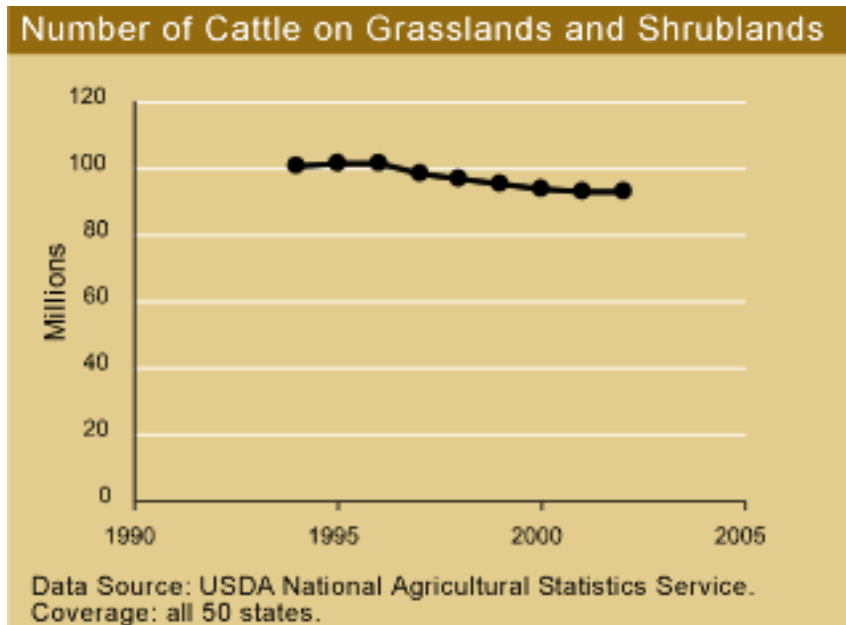
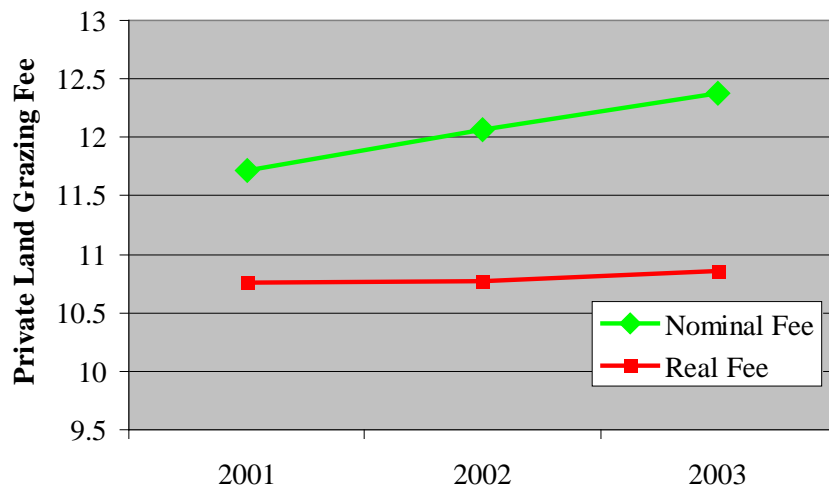


Figure on left is from *The State of the Nation's Ecosystems*, updated in 2003 by The H. John Heinz Center for Science, Economics and the Environment, <http://www.heinzctr.org/ecosystems/grass/cattle.shtml>.

Social and Economic - Indicator 27

- The value of forage harvested from rangeland by livestock



Private land grazing fees showing nominal fees and those adjusted for inflation using the index for prices paid for feed from the NASS report (1990-1992=100).

Western Governors Assessment & Policy Resolution – June 2010

- The Governors recommend pursuit of an all-lands approach
- The WGA Forest Health Advisory Committee will propose recommendations for a common set of indicators of environmentally, economically, and socially sustainable forest management
- Existing criteria and indicators for conservation and sustainable management of the nation's forests provide an existing framework to inform WGA work towards these goals.



Benefits of Assessment & Reporting

- Improved consistency and delivery of goods and services,
- Regional landscape level approaches to assure core areas for economic/community sustainability and biodiversity,
- Interagency cooperation and better efficiencies for data gathering and reporting,
- A framework and policy context to U.S. engagement in international forest policy.



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