

Valuing and Rewarding Ecosystem Services From Rangelands

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By Neil D. MacLeod and Joel R. Brown

On the Ground

- Ecosystem services are the wide array of benefits that people gain from natural ecosystems but many are not paid for nor is their future supply guaranteed.
- Many attempts are being made to define, measure, and value these natural services in order to secure their future—many of these methods are theoretical.
- Finding practical ways to reward land managers for providing elevated levels of services and protecting the capacity of range resources to provide those services is a challenge—theory well precedes practice.
- Range landscapes typically encompass heterogeneous ecological units dominated by native vegetation and have the capacity to provide different levels of ecosystem services depending on both site features and local management.
- Ecological Site Descriptions are potentially valuable for organizing information related to management options to achieve ecosystem service objectives and provide benchmarks for stewardship rewards or compliance expectations.

Keywords: ecosystem services, stewardship, rangelands, Ecological Site Descriptions.

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Ecosystem services are benefits that humankind gains from accessing natural ecosystems. For many years these services were something that both ranchers and the wider community largely took for granted but the recognition of their importance has grown rapidly as has the debate on how best to conserve and manage them.¹ This particularly applies to privately grazed range-

lands where the services extend beyond the extraction of food and fiber for sale to encompass an array of services including, for example, watershed integrity, biodiversity, and cultural and aesthetic values. Range and ecological sciences have supported a growing body of knowledge on the importance and complexities of ecosystem functions and their explicit links to human well-being, along with efforts to define and measure ecosystem services as a means of assigning values to natural capital.²

Despite progress, our knowledge of the functional links between different types and intensities of management activity and the ecosystem services that range landscapes can provide remains incomplete, more so their value in functional or monetary terms. As a result, significant scope remains for their underprovision and social (externality) losses. Therefore, the definition, measurement, and valuation of ecosystem services are challenges for range science and economics for which novel solutions are emerging. But finding practical ways to reward rangeland managers for providing elevated levels of services and protecting the capacity of range resources to provide those services is perhaps a greater challenge—theory is well in advance of practice. This is particularly cogent for wildlands or shrublands, which are extremely vulnerable to ecological impairment through poor management practices but are also uniquely placed to deliver many valuable ecological services. In this article we consider a framework for delivering a broad range of ecosystem services from privately managed rangelands and canvass some ideas on how to establish practical reward and compliance schemes to support it.

Ecosystem Services From Rangelands

Range landscapes exhibit considerable diversity and are typically comprised of different ecological units that are dominated by native vegetation. Unlike most agricultural landscapes, rangelands are usually managed without the homogenizing effects of clearing, cultivation, and intensive application of inputs (e.g., exotic plants, fertilisers, and irrigation). They can provide levels of ecosystem services that are unique and otherwise expensive to replicate under other types of land use, but differ between sites and how they are managed. Range

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