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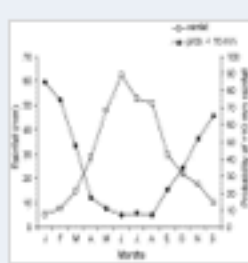
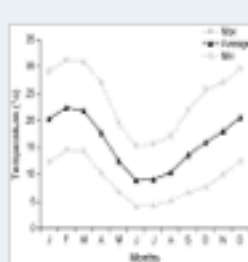
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Abstract

Keywords

1. Introduction
2. Materials and methods
 - 2.1. Study site

- 2.2. Land-use strategy identification
- 2.3. Vegetation functional composition, cover and height
- 2.4. Productivity and biomass

Abstract

In the biodiversity rich regions of western South Africa transhumance grazing strategies were practised for thousands of years. Today only vestiges of these systems remain with private ownership restricting seasonal mobility. Cultivation practices have created a mosaic landscape transforming the resource base, and we have a limited understanding of livestock management practices and the relative value of all landscape components. Ecosystem goods and services assessments provide a framework which directly links the human economy, natural assets and ecological functioning. The aim in this study was to understand how farmers perceive the availability of goods and services in a heterogeneous environment, whether different vegetation types are providing different services for livestock or the same ones at different times. We use semi-structure interviews to document the current grazing strategies, and then tested perceived benefits by comparing differences in vegetation types according to structure, productivity and biomass, leaf mineral content and phenology. We found that vegetation types differ in their structure and therefore ability to provide shelter. There were limited differences in productivity and mineral content associated with feed and nutrition, and seasonal growth patterns were found to be very similar for all vegetation types. We conclude that livestock management strategies are strongly influenced by ecosystem disservices with farmers avoiding poisonous plants and boggy areas at certain times of the year. Furthermore livestock management patterns are also influenced by alternative production activities which heterogeneous landscapes provide including flower tourism and wheat production. Our study points to the need to consider the full farm economy when determining the links between ecosystem goods and services and livestock production.

Keywords

Ecosystem goods and services; Livestock management; Productivity; Phenology; Landscape heterogeneity

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