

Assessing and Optimizing Grazinglands

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In the United States, rangelands and pasturelands have traditionally been assessed using different methods and indicators (Fig. 1). When taking into account the dichotomy in grazingland terminology, it is important to note that for some parts of the United States, and many parts of the world, the difference between rangelands and pasturelands is less clear and land considered a pasture to some might be considered an intensively managed rangeland to others.

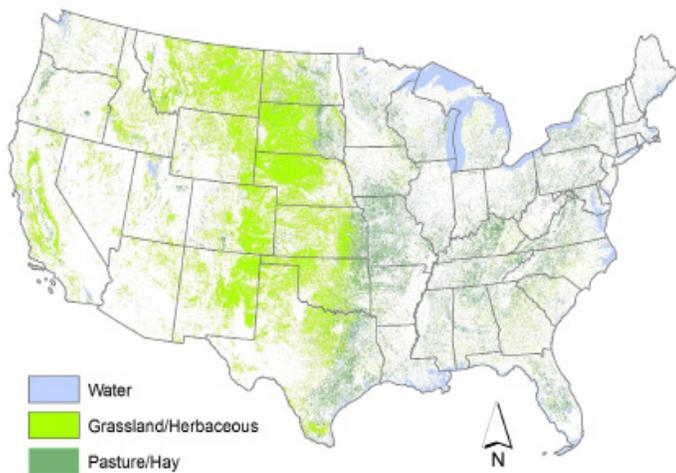


Figure 1. The largest area of grazingland in the United States occurs west of the 100th meridian, in water-limited rangelands. The eastern portion of the country, where water is not a limiting factor, contains substantial areas of improved pastures. Together, these grazinglands represent a substantial proportion of agricultural lands in the United States.

The most commonly used rangeland health assessment protocol on US rangelands is the Interpreting Indicators of Rangeland Health assessment, while pasturelands are usually assessed using the Pasture Condition Score system. At the NGRRL we have developed an improved grazingland assessment protocol that is applicable to range and pasturelands that highlights the complementarity of both assessment approaches. This improved assessment and monitoring protocol allows evaluators to assess site conditions and to make interpretations regarding management based on site-specific attributes. Standardized grazingland assessment and monitoring protocols based on ecological and land management principles will ultimately improve national level assessments and will provide a valuable and efficient tool for assessing, managing, and monitoring grazinglands.

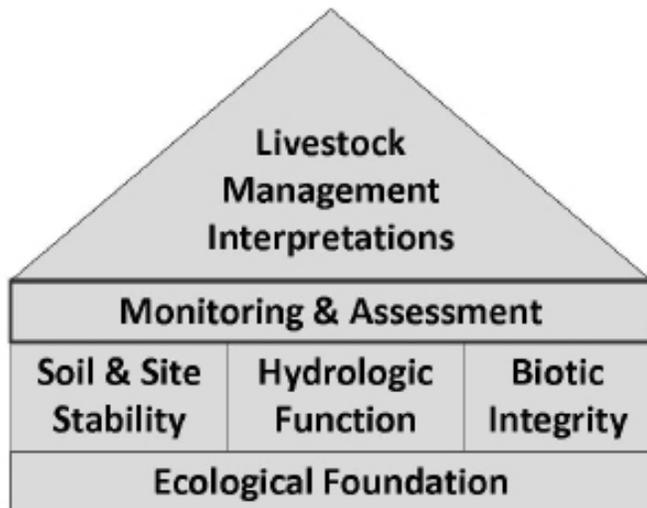


Figure 2. Foundational ecological attributes that contribute to livestock carrying capacity and livestock management interpretations.

The integrated grazingland assessment approach expands on the strengths of previous methods to provide a detailed assessment of the ecological attributes of an area and assess how an area is being managed. For this, the integrated approach is based on attributes of rangeland health as well as an attribute related to grazingland management. These foundational attributes include soil and site stability, hydrologic function, biotic integrity, and livestock carrying capacity (Fig. 2). These attributes contribute to the primary ecosystem service provided by grazinglands, that of forage/fodder production, and to additional services such as sequestration of soil carbon, nutrient cycling, and prevention of soil erosion.

Management interpretations based on this attribute are based on the ecological potential of a site. The baseline potential is based on climatic, topo-edaphic, and ecological factors, which are included in Ecological Site Descriptions. However, this potential can be exceeded for livestock management purposes through the use of conservation practices and other agronomic management techniques. Assessing the potential for livestock production of a site and the capacity to increase that production based on site-specific attributes provides a way of realistically optimizing management based on a site's ecological potential. Our approach allows evaluators to determine management actions that are likely to result in cost effective enterprise efforts that will result in improved grazingland health and increased carrying capacity.