United States Department of Agriculture

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NEW MEXICO RANGE TECHNICAL NOTE NO.101

SUBJECT: ECS – LIVESTOCK EFFECTS ON SOUTHWESTERN ECOSYSTEMS

Purpose: To distribute information to the field.

Effective Date: When received.

Filing Instructions: File in office reference library also maintained on NRCS web page.

Purpose of this Range Technical Note is to make staff and others aware of this reference work on livestock effects on southwestern ecosystems. It is anticipated that this will be referred to widely as we update Ecological Site Descriptions (ESD) and the related classifications system tables.

Title: Responses of plant communities to grazing in the southwestern United States

Author: Milchunas, Daniel G.

Date: 2006

Source: Gen. Tech. Rep. RMRS-GTR-169. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 126 p.

Station ID: GTR-RMRS-169

Description: Grazing by wild and domestic mammals can have small to large effects on plant communities, depending on characteristics of the particular community and of the type and intensity of grazing. The broad objective of this report was to extensively review literature on the effects of grazing on 25 plant communities of the southwestern U.S. in terms of plant species composition, aboveground primary productivity, and root and soil attributes. Livestock grazing management and grazing systems are assessed, as are effects of small and large native mammals and feral species, when data are available. Emphasis is placed on the evolutionary history of grazing and productivity of the particular communities as determinants of response. After reviewing available studies for each community type, we compare changes in species composition with grazing among community types. Comparisons are also made between southwestern communities with a relatively short history of grazing and communities of the adjacent Great Plains with a long evolutionary history of grazing. Evidence for grazing as a factor in shifts from grasslands to shrublands is considered. An appendix outlines a new community classification system, which is followed in describing grazing impacts in prior sections.

Key Words: plant communities, grazing, southwestern United States

At the web page below you will find a downloadable copy of this document;
http://www.fs.fed.us/rm/pubs/rmrs_gtr169.pdf

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