



## Grazing...what's that mean?

*By Dr. Nick Ashcroft, Extension Range Management Specialist*

The term “grazing” describes an activity without specific quantification, which cannot be used to determine impacts or identify ecological changes. In a binary sense, the only alternative to “grazing” would be “no grazing.” Moreover, a preference for the binary classification may expose a bias that precludes the option for conservative grazing, light grazing, dormant season grazing, rotational grazing, high intensity-short duration, and so forth. Holechek et al. (2011) define grazing as “the consumption of standing forage (grasses and forbs) by livestock and wildlife.” In layman’s terms, “grazing” is a verb meaning to eat. Of course, this gives us no information or the bigger picture...not what was consumed, in what quantity, at what frequency, by what species, at what time of the year, etc. Range science recognizes this pitfall and consequently has made a concerted effort to encourage quantification when characterizing grazing (i.e., what is the timing, intensity, distribution, duration, and species).

What about environmental attributes? Environmental attributes that influence plant growth include soil type, slope, aspect, plant cover, and previous use to name just a few. Soil type and precipitation regimen play a critical role in the plant assemblages that occur in an area. While similar plant communities may be found under different plant and precipitation regimens, plant productivity may be greatly impacted by even slight changes in environmental attributes. Topography, species composition, and climate can also affect the impacts of grazing. Weather has the potential to dramatically effect changes before, during, and after the consumption of standing biomass.

What about standing forage? How much was consumed? Standing forage is herbaceous plant parts that are accessible to be grazed and represent present year’s growth as well as previous growth. Again there are multiple factors that can affect what and how much was consumed. Intensity, timing, climate, accessibility, distance to water, water quality, slope, management, and the grazing species preferences and selectivity can affect the impacts of grazing.

Grazed plants response to removal of biomass would typically be the impact that is of concern. How much biomass was removed may be the most critical variable affecting plant response, however, plant species, timing, precipitation, temperature, and recovery time can also effect the plant response. What is the interaction of these variables and the outcomes associated with grazing? Ultimately, what are the short- and long-term ecological outcomes to the renewable forage resource?

When grazing is generalized, it perpetuates its misuse and misperceptions. A recent and glaring example of this misuse is the 2014 Species Status Assessment (SSA) for the New Mexico Meadow Jumping Mouse. In this official document the term grazing or livestock grazing is used 74 times. As a result, insofar as the SSA is concerned, there is no differentiation between one cow grazing a hundred acres once a year and 100 cows grazing one acre every day of the year...it is all just grazing. See the SSA excerpts below for examples of the general use of the term 'grazing' with no attempt to quantify timing, intensity, distribution, or duration.

In addition to past sources of habitat loss, ongoing grazing, water shortages, and high impact wildfire (the latter two exacerbated by climate change) will continue to put all of the remaining locations at considerable risk of extirpation in the near term (between now and the next 10 years) and increasing over the long-term (beyond 10 years). (U.S. Fish and Wildlife Service. 2014. pg 6)

The New Mexico meadow jumping mouse has been and continues to be negatively affected by domestic livestock grazing. Livestock grazing affects jumping mice when it eliminates or reduces herbaceous plants and litter or alters the composition and structure of herbaceous riparian habitats used by the subspecies (Fleischner 1994, entire; Belsky *et al.* 1999, entire; Frey 2005a, entire; Frey and Malaney 2009, entire). (U.S. Fish and Wildlife Service. 2014. pg. 88]

Fleishchner (1994), one of the above cited papers, states that '...grazing remains "the most insidious threat to the riparian habitat type today" (Carothers 1977)'. However, Carothers (1977) is specifically talking about "heavy grazing pressures", which itself is not quantified, but Fleishchner (1994) fails to make this distinction. Subsequently, the US Fish and Wildlife adopted this specific language and deemed 'grazing' unacceptable; a binary approach. This approach cuts out the entire discipline of range science and management thereby failing the statutory mandate to utilize the best available science.

#### Literature Cited

Carothers, S. W. 1977. Importance, Preservation, and Management Riparian Habitats: An Overview. In Importance, Preservation, and Management Riparian Habitats: A Symposium. USDA Forest Service. General Technical Report RM-43.

Fleischner, T.L. 1994. Ecological costs of livestock grazing in Western North America. Conservation Biology 8:629-644.

Holechek, J., R.D. Pieper, and C.H. Carlton, 2011. Range Management Principles and Practices. Pearson Education Inc., Prentice Hall, Upper Saddle River, NJ.

U.S. Fish and Wildlife Service. 2014, Species Status Assessment Report New Mexico meadow jumping mouse (*Zapus hudsonius luteus*).

<https://www.fws.gov/southwest/es/NewMexico/documents/New%20Mexico%20meadow%20jumping%20mouse%20final%20SSA.pdf>

## **UPCOMING EVENTS**

**Horse Expo & Sale**  
**Horse Center – Las Cruces, NM**  
**April 29, 2017 – Joby Priest, Horse Manager**

**NMSU Bull Sale**  
**Ag Auditorium – Las Cruces, NM**  
**Neil Burcham – April 29, 2017**

**Indian Livestock Days**  
**May 10 – 12, 2017**  
**Albuquerque, NM**

**US Dairy Extension & Training Consortium**  
**May 17 – June 23, 2017**  
**Clovis, NM**

**NM Youth Ranch Management Camp**  
**June 11 - 16, 2017**

**US Beef Academy**  
**May 15 – 19, 2017**  
**Corona, NM**

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