

GRAZING MESIC AND RIPARIAN AREAS IN SAGE-GROUSE HABITAT

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A great deal of cattle grazing in Idaho and the Intermountain West takes place on public lands, therefore, those rangelands provide an important resource for livestock production. Any producer that grazes cattle on public lands knows all too well that being successful requires stringent grazing management practices that target multiple objectives, including livestock grazing, rangeland health, wildlife habitat, and recreation. Additionally, sage-grouse habitat coincides with a great deal of the land used for grazing livestock in the Intermountain West, especially in sagebrush-steppe, mesic, and riparian areas. Public lands agencies (specifically BLM and USFS) have added extra criteria that permittees must meet when grazing overlaps sage-grouse habitat, which has led to the need for increased management efforts by both permittees and public lands managers to remain in compliance while grazing. In response to this issue, management strategies in sagebrush-steppe, mesic, and riparian areas are a topic of interest to the livestock industry, public lands agencies, wildlife managers, and conservationists because of the need to understand how best to accommodate both livestock and wildlife.

Often a point of frustration for producers grazing on public lands is managing mesic and riparian areas in their allotments, which is often a fine balance between maximizing pasture utilization and over-grazing riparian areas. It is sometimes unclear at what utilization levels in mesic and riparian areas that there are benefits or negative impacts of livestock grazing on vegetation and wildlife habitat. This summer at Rock Creek Ranch, near Hailey, Idaho, University of Idaho researchers Melinda Ellison (College of Agricultural and Life Sciences) and Tracey Johnson (College of Natural Resources) began a multi-year study aimed at understanding how different levels of grazing utilization can alter vegetation in wet meadow and riparian areas. Rock Creek Ranch is owned by the Nature Conservancy of Idaho and Wood River Land Trust, and managed in collaboration with the University of Idaho. Each year we will hot-wire fence six pastures (~5.5 acres each) in a wet meadow area and within each pasture, 0, 5, 10, 15, 20, or 25 bred heifers will be placed to graze in July (2-3 weeks) until the pasture with 25 heifers reaches approximately 75% utilization. Using this method, we will create a decreasing gradient from 0% to 75% utilization across the six pastures. Each year, each pasture will be grazed to the same level of utilization as the previous year. During the grazing period, cattle will be monitored for performance, and vegetation characteristics will be measured prior to grazing, immediately post-grazing, and one month later to assess regrowth. Measurements on grass species are of interest for livestock grazing and habitat cover for sage-grouse. Additionally, measurements on forb species will be evaluated. Forbs are of interest since they serve as a food source for sage-grouse, and a food source for invertebrates, which are also an important food source for sage-grouse when hens are raising chicks in the late summer and fall.

This year we successfully completed the grazing trial and vegetation data collection for all three periods (pre-grazing, post-grazing, and regrowth). Keri York, a graduate student working on this research, is in the process of summarizing this year's data and will present preliminary data at the Society for Range Management Annual Meeting in January 2018 in Sparks, Nevada. As this

trial continues, we anticipate gaining a better understanding of how different levels of grazing utilization can affect the vegetation in wet meadow and riparian areas. Moreover, it will provide us with information on how well the vegetation grows back later in the fall and in the subsequent spring, which could influence grazing activities the following year.

Because Rock Creek Ranch is privately owned, we have a unique research opportunity in that we can perform research that would likely require a NEPA process on federal lands, or that may not be permitted at all due to federal and state regulations. For example, on Rock Creek Ranch, we can graze one of the pastures at an excessive utilization level (75%), which would likely not be possible on public lands, in order to demonstrate effects that extreme levels of grazing have on vegetation and wildlife habitat and to compare those effects directly with lower grazing utilization levels. One of the objectives of this research is to provide scientific based data that allows us to better understand the efficacy of public lands agency targets for grazing mesic and riparian areas (such as specific stubble height residue requirements in riparian areas) on vegetation characteristics, rangeland health, and sage-grouse habitat.

We look forward to updating our stakeholders on results from this research as they become available, and encourage anyone who has questions or comments about this or other research involving grazing livestock to contact Melinda Ellison at 208-756-2749 or ellison@uidaho.edu. Finally, this research would not be possible without your very own Wyatt Prescott, who we are very grateful to have working with us at Rock Creek Ranch.