

Summer, 2019

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Fall 2019 In This Issue

ARTICLE:

Targeted Grazing to Reduce Fire Fuels

Adapted from the article "Meet Your Perfect Match"
by Stephanie Larson and Michelle Nozzari

In 2018 California experienced the largest, most destructive, and deadliest wildfires on record, and since 2010, the number of wildfires occurring annually has been increasing, as has the number of acres burned. [<article below>](#)

Greenhouse Gases, Wildfire and Grazing on California's Rangelands

[<graphic>](#)

UPCOMING EVENTS:

[Workshop:](#)

Sonoma RCD Range Tailgate 2: Cows, Compost + Carbon
Year 2 Demonstration Project Updates
Tuesday, August 27, 2019
Petaluma, CA

[Save the Date: October 17](#)

Fall Meeting for CCRC (Central Coast Rangeland Coalition)
and California-Pacific Section of SRM (Society for Range Management)



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Targeted Grazing to Reduce Fire Fuels

Adapted from the article: "Meet Your Perfect Match"

By Stephanie Larson and Michelle Nozzari

In 2018 California experienced the largest, most destructive, and deadliest wildfires on record, and since 2010, the number of wildfires occurring annually has been increasing, as has the number of acres burned. Although the state's large and destructive fires including the Thomas wildfire (2017) and the Camp and the Mendocino Complex fires (2018) have been wind driven, a large number of fires occur every year that are not. These fires driven by topography and fueled by accumulated dry vegetation may be slowed or even stopped by vegetation management. The state is proposing a program the California Vegetation Treatment Program (CalVTP) <https://bof.fire.ca.gov/projects-and-programs/calvtp/> that uses multiple vegetation treatment methods including mechanical, manual, prescribed burning, herbicide and prescribed herbivory. The vegetation treatment program will be part of a multi-faceted strategy to resolve the state's wildfire crisis.

Prescribed herbivory or target grazing is commonly used to manage Bay Area rangelands. While target grazing includes the grazing of a large number of goats or sheep in an area for a short period of time, it may also include extensive grazing with cattle.

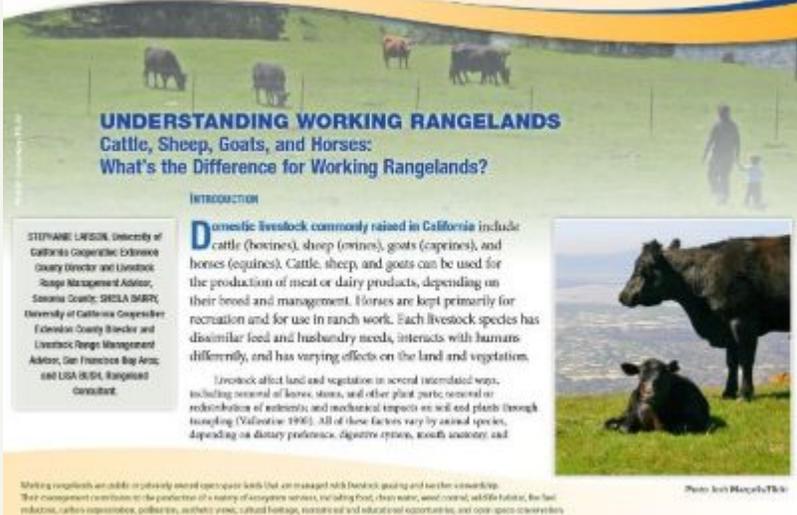
Grazing is a cost-effective method to manage grass and shrub vegetation especially when other options are impractical and financially ineffective. Specifically, targeted grazing can be more cost effective on landscapes that are too steep, rocky, or remote for mowing or chemical treatment, or in areas where burning is not an option. Targeted grazing is the application of a specific kind of livestock at a determined season, duration, and intensity to accomplish defined vegetation or landscape goals. This concept has been around for decades and has taken many names, including prescribed grazing and managed herbivory. The major difference between good grazing management and targeted grazing is that targeted grazing focuses on vegetation and landscape management and enhancement. In the case of targeted grazing for fire fuels, the land manager must have a clear vision of the desired plant community and landscape, and the livestock manager must have the skills and resources (right livestock and infrastructure) to manage grazing to achieve the goals.

The different species of grazers have different vegetation preferences. Cattle mainly prefer grass, but do consume some forbs and browse (woody species, such as brush). Goats prefer woody species and grass, but will also select forbs. Sheep generally consume mostly grass and forbs and express a lower preference for woody plants. These are general statements and just because a particular grazing animal prefers and consumes a

particular plant in one setting, it doesn't necessarily mean that it will react in a similar way when grazing in another plant community. Still, generalities can provide a starting point for developing a prescription for grazing to suppress fire fuels.

University of California
Agriculture and Natural Resources

ANR Publication #24 | July 2015
<http://anrcatalog.ucanr.edu>



UNDERSTANDING WORKING RANGELANDS Cattle, Sheep, Goats, and Horses: What's the Difference for Working Rangelands?

Introduction

STEFANIE LINDEN, University of California Cooperative Extension County Director and Livestock Range Management Advisor, Sonoma County; **SHELIA BARRY**, University of California Cooperative Extension County Director and Livestock Range Management Advisor, San Francisco Bay Area; and **USA RSP**, Rangeland consultant.

Domestic livestock commonly raised in California include cattle (bovines), sheep (ovines), goats (caprines), and horses (equines). Cattle, sheep, and goats can be used for the production of meat or dairy products, depending on their breed and management. Horses are kept primarily for recreation and for use in ranch work. Each livestock species has dissimilar food and husbandry needs, interacts with humans differently, and has varying effects on the land and vegetation.

Livestock affect land and vegetation in several interconnected ways, including removal of leaves, stems, and other plant parts; removal or redistribution of nutrients; and mechanical impacts on soil and plants through trampling (Valentine 1996). All of these factors vary by animal species, depending on dietary preferences, digestive organs, mouth anatomy, and



Photo: Josh MacCarthy/Flora

Working rangelands are public or privately owned open space lands that are managed with livestock grazing and for other uses. Their management contributes to the production of a variety of ecosystem services, including food, clean water, weed control, wildlife habitat, fire fuel reduction, carbon sequestration, pollination, aesthetic views, cultural heritage, recreation and educational opportunities, and open space preservation.

To learn more about the difference in species of grazing animals:

<https://ucanr.edu/sites/BayAreaRangeland/files/251455.pdf>

For additional information, see handbook on targeted grazing for fire fuels management.

https://www.webpages.uidaho.edu/rx-grazing/Handbook/Chapter_12_Targeted_Grazing.pdf

Greenhouse Gases, Wildfire and Grazing on California's Rangelands

Burning 1000 lbs of dry annual grass generates

5 lbs of particulates
1829 lbs of CO₂ & equivalent
(carbon dioxide)

includes

2 lbs of CH₄ (methane)

0.32 lbs of N₂O (nitrous oxide)

(Urbanski et al. 2009, Ito and Penner 2004, Boubel et al. 1969)



Grazing 1000 lbs of annual grass

Feeds a cow for 1 month and produces

375 lbs of CO₂ equivalent
(carbon dioxide)

includes

15 lbs of CH₄ (methane)

0.00003 lbs of N₂O (nitrous oxide)

(DeRamus et al. 2003, Harper et al. 1999)



Upcoming Events

Sonoma RCD Range Tailgate 2

Cows, Compost + Carbon, Year 2 Demonstration Project Updates



The Sonoma RCD and [Sonoma Mountain Institute](#) invite ranchers and prospective ranchers to come learn the latest findings from their Healthy Soils Demonstration Project. This demonstration field trail started in 2018 on a private 300-acre ranch owned by the Sonoma Mountain Institute, is looking at how compost application influences soil health and forage productivity on a working rangeland. This tailgate will include a discussion on the comparison of our baseline vs year 1 soil samples on both treatment and control plots as well as a discussion of practice adoption pros and cons from the ranch manager. We'll also hear from professionals on how to determine the best type of compost for your ranch.

When:

Tuesday, August 27, 2019
9:30 - 11:30 a.m.

Where:

Private ranch in east Petaluma.
Address given to attendees only.

Please RSVP [HERE](#)

To learn more about this event visit:

<https://sonomarcld.org/get-involved/>

Grant Funding Available for Fire Recovery Projects Impacted by the Tubbs and Nuns Fires

Funds can cover projects such as: replacement of old culverts, unsurfaced road drainage improvements, riparian revegetation/invasive removal, streambank stabilization, upland gully or headcut repair, livestock riparian fencing, and cross fence replacement.

Timeframe: Sonoma RCD will conduct outreach and project identification in summer/fall 2019, project prioritization in winter 2019 with construction for high priority projects slated for summer of 2020 and 2021.

For more information visit

<https://sonomarcld.org/resources/fire-recovery/>

If interested please fill out landowner Inquiry Form <https://www.surveymonkey.com/r/QC8B28M> by September 6, 2019.



CCRC & SRM FALL MEETING

**Beef, Bees, Trees and Gelato:
Doing and Earning More from a Ranch**

This joint meeting of the CCRC and SRM will focus on ranch diversification, which promote sustainable working rangelands. We will hear from ranchers and landowners who have reconfigured their ranches to generate additional income by diversifying the use of their resources. We will hear from land managers who have worked with ranchers to diversify enterprises that promote land management goals and rancher sustainability. We will learn how they identified opportunities for new enterprises and worked through resource and regulatory issues.

Agenda and Registration to come.
Calpac SRM Board will meet prior to the meeting on Wednesday, Oct 16.

When:

Thursday, October 17, 2019

Where:

Join us at the [Stemple Creek Ranch](#) in Marin County



This newsletter is provided by the UC Cooperative Extension Natural Resources Program in the San Francisco Bay Area and provides information to managers of both public and private rangelands. RANGELAND, which is land characterized by natural vegetation i.e., grass, forbs and shrubs and managed as a natural ecosystem, is the predominate source of OPEN SPACE in the San Francisco Bay Area.

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