

Summer, 2019

FIND THIS NEWSLETTER AND MORE AT:
ucanr.edu/BayAreaRangeland



Summer, 2019
In This Issue

ARTICLE:

Livestock's Impact on Greenhouse Gases and California's Rangelands
By Theresa Becchetti and Sheila Barry

"Livestock's Long Shadow", a United Nations Report, released by the Food and Agriculture Organization in 2006 stated that livestock produced more greenhouse gases than transportation worldwide. The report shocked and outraged many involved in livestock production, including University of California's Air Quality Specialist, Frank Mitloehner.

[<more below>](#)

UPCOMING EVENTS:

Meeting:

Assessing and Managing California Rangeland Health and Soils
Monday, June 3, 2019, Los Olivos, CA (Santa Barbara County)

Workshop:

Prescribed Fire Workshop in San Benito County
Wednesday and Thursday, June 5-6, 2019



Jgolby/Shutterstock

Article

Livestock's Impact on Greenhouse Gasses and California's Rangelands

By Theresa Becchetti and Sheila Barry

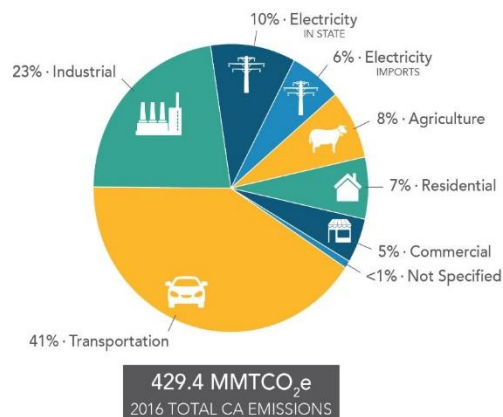
“Livestock’s Long Shadow”, a United Nations Report, released by the Food and Agriculture Organization (FAO) in 2006 stated that livestock produced more greenhouse gases than transportation worldwide. The report shocked and outraged many involved in livestock production, including University of California’s Air Quality Specialist, Frank Mitloehner. His research indicated that a much smaller percent of greenhouse gases (GHG) were coming from cattle.

The emissions from cows is often mistakenly called “cow farts,” however methane emissions from cows comes primarily from “belching”. Ruminant animals including cattle, sheep, goats, deer, bison, elk etc. have billions of microbes in their rumens, which operate like a large fermentation vat in their digestive system. While these microbes allow ruminant digestive systems to make protein, energy and even vitamins from low quality feeds, they also produce methane, which is released by belching. Dr. Mitloehner found that the FAO report compared the entire production cycle for livestock, with only tail pipe emissions for transportation, ignoring the emissions associated with the manufacturing of vehicles. The author acknowledged his errors, yet Livestock’s Long Shadow still casts a shadow of misinformation over animal production thirteen years later.

Following are some facts, stemming from Dr. Mitloehner’s research, to help put things in perspective:

In California, 8% of the state’s GHG emissions come from agriculture (livestock and crops), residential and commercial activities generate 11%, while 80% of emissions are from transportation, electricity, and industry with 1% unidentified. Out of the state’s agriculture 8%, half is from all of livestock production. Other researchers (White and Hall 2017) have calculated that even if everyone living in the U.S. became vegan (consuming no meat, no dairy, no eggs, no fish), we would reduce our total GHG

Emissions by Economic Sector



emissions by only 2.6%. Dr. Mitloehner points out that the greenhouse emissions saved by one person eating a vegan diet for one year is equivalent to cancelling a one-way flight from San Francisco to London.

Our meat producers are very efficient in the US and California and have continually made improvements in pounds of production per animal, improved breeding, improved health, etc. The US produces more beef with less GHG emissions than any other country

The impact of livestock production on greenhouse emissions is a simplistic view of a much more complex environmental picture. Livestock production, especially in California, provides a vital role in many ecosystem services. Cattle grazing on rangelands can help sequester carbon on grazed lands, manure is often used in organic farming as the main fertilizer and livestock plays a vital role in upcycling by-products from other ag sectors such as almond hulls, tomato pumice, rice bran, cottonseed and distiller's grain. (Grasser et al. 1995, Oltjen and Beckett 1996, Sulc et al. 2014) Many of the by-products from producing meat substitutes like the Impossible Burger©, such as soybean hulls, are fed to livestock instead of becoming organic waste.

Cattle grazing - the number one land use in California, reduces fire fuel loads by consuming grass, can minimize greenhouse gas emissions from catastrophic wildfires and supports habitat for many of California's threatened and endangered species (Bartolome et al. 2014, Germano et al. 2012, Marty 2005, Weiss 1999). The research shows that it is too simplistic to suggest that reducing meat consumption is a climate smart strategy.

<https://www.arb.ca.gov/cc/inventory/data/data.htm>

Bartolome, J.W., Allen-Diaz, B.H., Barry, S., Ford, L.D., Hammond, M., Hopkinson, P., Ratcliff, F., Spiegel, S. and White, M.D., 2014. Grazing for biodiversity in Californian Mediterranean grasslands. *Rangelands*, 36(5), pp.36-43.

Grasser, L.A., Fadel, J.G., Garnett, I. and DePeters, E.J., 1995. Quantity and economic importance of nine selected by-products used in California dairy rations. *Journal of Dairy Science*, 78(4), pp.962-971.

White, R.R., and M.B. Hall. 2017. Nutritional and greenhouse gas impacts of removing animals from US agriculture. *Proceedings from the National Academy of Sciences of the United States of America*. 114 (48) 10301-10308

Upcoming Events



ASSESSING AND MANAGING CALIFORNIA RANGELAND HEALTH AND SOILS MEETING

This meeting will be an interactive and educational event, aimed at understanding local rangeland management priorities and showcasing tools for strengthening rangeland economics and ecological resilience. While the CCRC is not co-hosting, it is interested in the topics being discussed. Speakers will include Matthew Shapero, UC Cooperative Extension, Livestock and Range Advisor for Santa Barbara and Ventura Counties, and Royce Larsen, UC Coop Extension for San Luis Obispo County. The meeting host, The Community Environmental Council (<https://www.cecsb.org/>), is an established organization in their region with a primary interest is climate change. Their collaborators in the research and education are Jeff Borum of the East Stanislaus RCD and Prof. Josh Schimel at UC Santa Barbara.

- Strategies for drought adaptation and increased forage productivity
- Indicators of rangeland health and soil health
- Current science on compost application on rangeland
- Overview of funding sources available for CA ranchers

and farmers

When:

Monday, June 3, 2019
9:30 - 11:30 a.m.

Where:

[Ted Chamberlin Ranch](#)
4155 Figueroa Mountain Rd.
Los Olivos, CA
[DIRECTIONS](#)

Please RSVP by May 29th to
Allegra Roth arothe@cecmail.org

Attendance is FREE



PRESCRIBED FIRE WORKSHOP IN SAN BENITO COUNTY

Come learn about options for prescribed fire on private lands, including details on regulations and permits, unit preparation, burn planning and more. Workshop participants will have the opportunity to participate in a live-fire training in Bitterwater (weather permitting).

When and Where:

Wednesday, June 5, 8:00 a.m. - 4:30 p.m.
Hollister Veteran's Memorial Building (lunch provided)
649 San Benito St., Hollister CA
[DIRECTIONS](#)

Thursday, June 6, 8:00 a.m. - 2:00 p.m.
Selleck-Ivens Ranch
46340 Airline Highway in King City (Bitterwater)
[DIRECTIONS](#)

[REGISTRATION REQUIRED](#) - May 30 deadline

To see presenters, check out the agenda, and more, download:
[Prescribed Burning Agenda](#)

Cost: \$30.00



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.

Sheila Barry, UCCE Bay Area Natural Resources/Livestock Advisor
Certified Rangeland Manager #63
sbarry@ucanr.edu 408-282-3106

ANR NONDISCRIMINATION AND AFFIRMATIVE ACTION POLICY STATEMENT FOR UNIVERSITY OF CALIFORNIA

It is the policy of the University of California (UC) and the UC Division of Agriculture & Natural Resources not to engage in discrimination against or harassment of any person in any of its programs or activities (Complete nondiscrimination policy statement can be found at <http://ucanr.edu/sites/anrstaff/files/215244.pdf>)

Inquiries regarding ANR's nondiscrimination policies may be directed to John I. Sims, Affirmative Action Compliance Officer/Title IX Officer, University of California, Agriculture and Natural Resources, 2801 Second Street, Davis, CA 95618, (530) 750-1397.

Copyright © 2019 UC Cooperative Extension - Santa Clara County, All rights reserved.

You are receiving "Keeping Rangelands Working" because Livestock & Natural Resources Advisor, Sheila Barry of UC Cooperative Extension thought you might find important notices of rangeland specific workshops and meetings in and around the Bay Area to be useful. We have recently revised our contact list - If you have opted out but are receiving this notice, please opt out a final time and accept our apologies.

Our mailing address is:

UC Cooperative Extension - Santa Clara County
1553 Berger Dr., Bldg. 1, 2nd floor
San Jose, CA 95112

[Add us to your address book](#)

Want to change how you receive these emails?
You can [update your preferences](#) or [unsubscribe from this list](#)