A person wearing a plaid shirt and a tan vest stands in a field, looking towards a brown cow and a black dog. The background shows a fence and snow-capped mountains under a cloudy sky.

Keeping Cattle and People at Home on the Range: *Positive Livestock-Recreation Interactions*

**Elkhorn Slough Coastal Training Program
September 29th, 2015**

**Kristina Wolf
*PhD Candidate, U.C. Davis
Central Coast Rangeland Coalition
Midpeninsula Regional Open Space District***

Today's Overview

- **Literature Review**
 - **Methods**
 - **History of grazing in California**
 - **Public lands management goals**
 - **Why are there cows in the park?**
 - **Potential outcomes of recreation and grazing**
- **Interview Data**
 - **Methods, Results**
- **How can we facilitate positive interactions?**

Today's Overview

- **Literature Review**
 - **Methods**
 - **History of grazing in California**
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 - **Why are there cows in the park?**
 - **Potential outcomes of recreation and grazing**
- **Interview Data**
 - **Methods, Results**
- **Or, decrease negative interactions?**

“Livestock-recreation interactions”

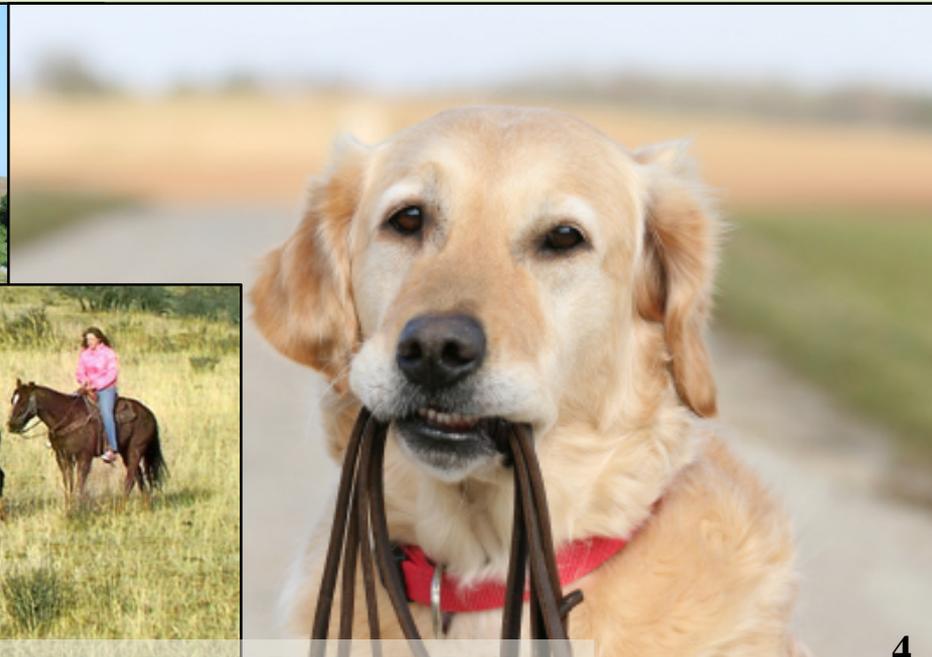
Encounters between

livestock (or the effects of livestock)

and

recreationists (or the effects of recreation)

*includes animals under the control of recreationists



Methods

Literature Review

- scientific articles

Environmental Management (2014) 53:454–464

DOI 10.1007/s00267-013-0216-4

Using Social Media to Discover Public Values, Interests, and Perceptions about Cattle Grazing on Park Lands

Sheila J. Barry

Methods

Literature Review

- scientific articles
- newspapers

Times-Herald
NEWS

News ▾ Sports ▾ Business Entertainment ▾ Lifestyle ▾ Obituaries ▾ Jobs ▾ Opinion ▾

Home News

Walnut Creek hikers, dogs running afoul of cows



Hikers, bike riders and runners are still learning how to co-exist with grazing cattle along open space trails. There have been some reports of incidents between bovine and human which has resulted in the posting of new informational warning signs and the removal of problem cows or steers. Dan Honda — Bay Area News Group

POSTED: 04/26/15, 1:05 PM PDT | UPDATED: ON 04/26/2015 | 0 COMMENTS

By Andrew McGall
Bay Area News Group

Methods

Literature Review

- scientific articles
- newspapers
- newsletters



I·A·R·E·H
Institute of Agricultural Rural and Environmental Health



Fact Sheet
No. 16
March 2002

LOW STRESS CATTLE HANDLING

Methods

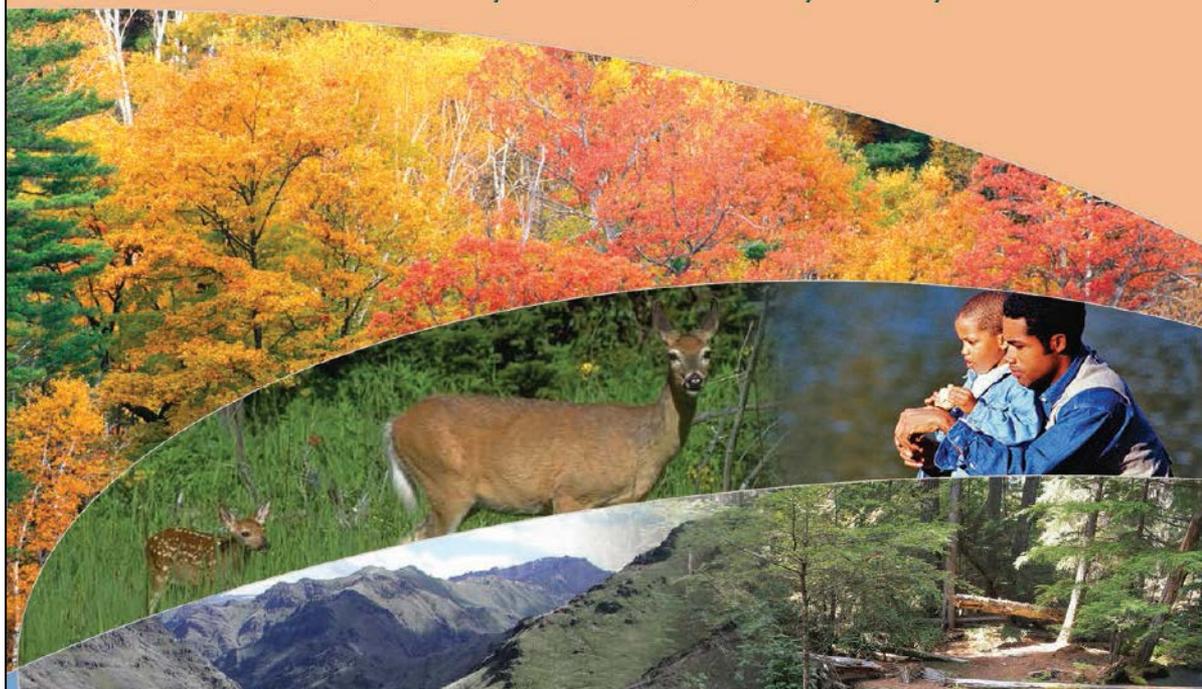
Literature Review

- scientific articles
- newspapers
- newsletters
- bulletins and reports

Outdoor Recreation Participation in the United States—Projections to 2060

A Technical Document Supporting
the Forest Service 2010 RPA Assessment

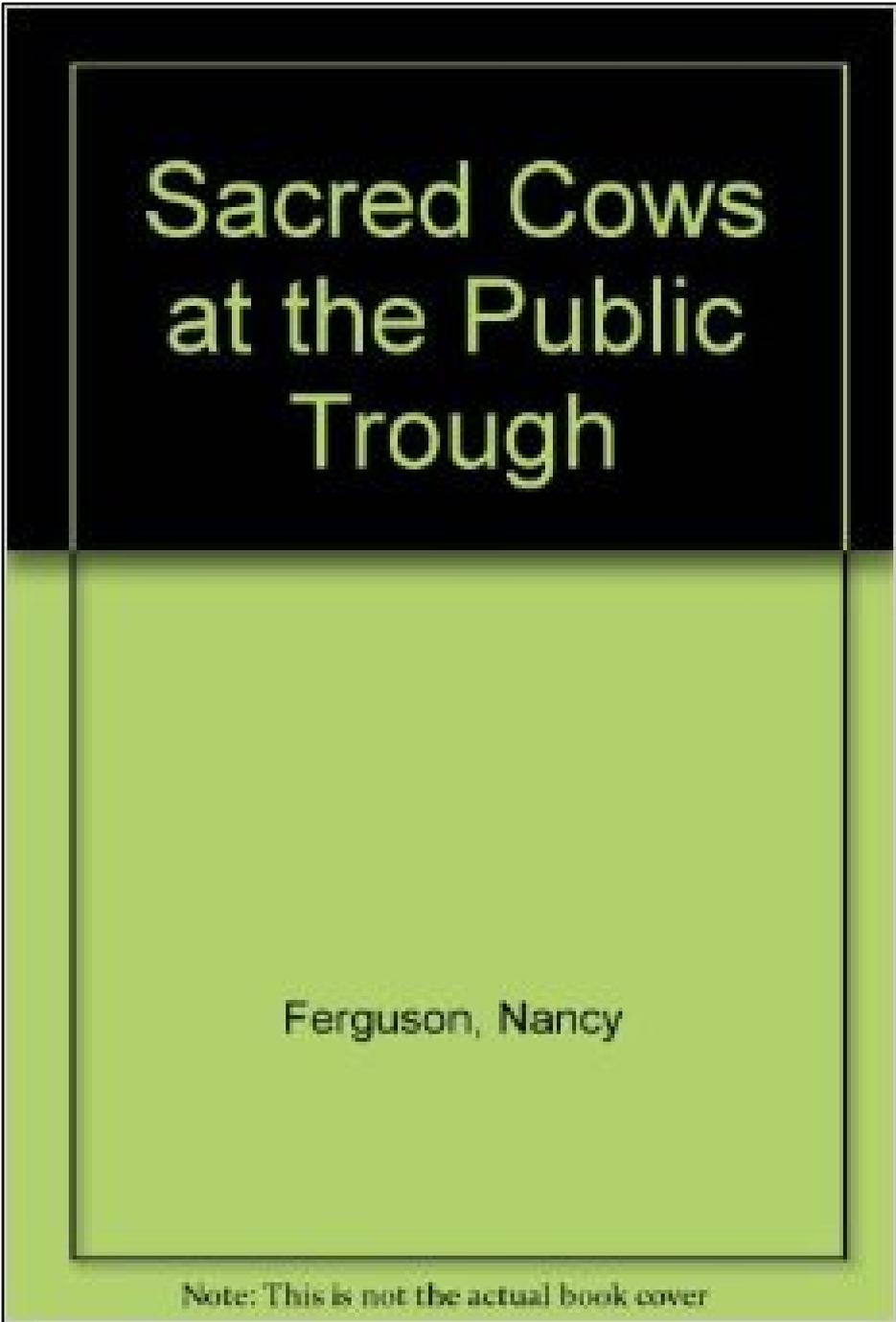
J.M. Bowker, Ashley E. Askew, H. Ken Cordell,
Carter J. Betz, Stanley J. Zarnoch, and Lynne Seymour



Methods

Literature Review

- scientific articles
- newspapers
- newsletters
- bulletins and reports
- books



Sacred Cows at the Public Trough

Ferguson, Nancy

Note: This is not the actual book cover

Methods

Literature Review

- scientific articles
- newspapers
- newsletters
- bulletins and reports
- books

Interviews

- ranchers

Photo Credits : NRCS (top); Vinee Tong, KQED (bottom)



Methods

Literature Review

- **scientific articles**
- **newspapers**
- **newsletters**
- **bulletins and reports**
- **books**

Interviews

- **ranchers**
- **consultants**

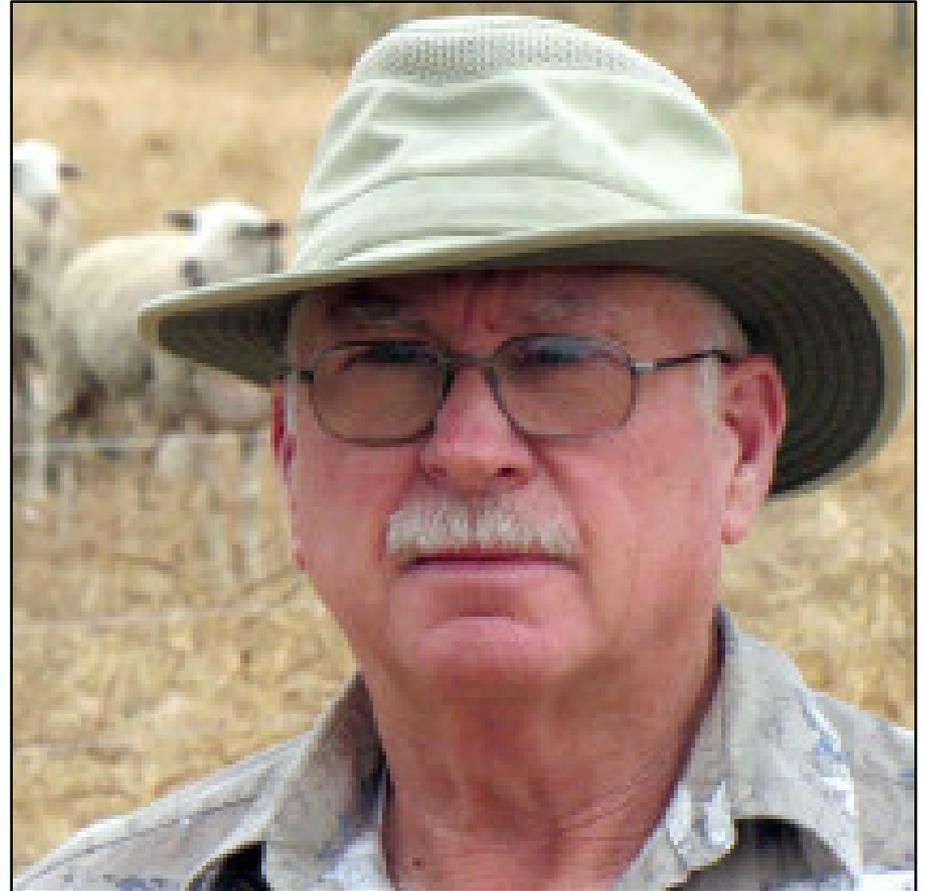


Photo Credit: Holistic Management International

Methods

Literature Review

- **scientific articles**
- **newspapers**
- **newsletters**
- **bulletins and reports**
- **books**

Interviews

- **ranchers**
- **consultants**
- **public lands managers**



Photo Credit: VenturaCountyTrails.org

Methods

Literature Review

- scientific articles
- newspapers
- newsletters
- bulletins and reports
- books

Interviews

- ranchers
- consultants
- public lands managers

Products

- workshops and discussions



PUBLIC WORKSHOP ANNOUNCEMENT:
INTERACTING WITH CATTLE IN SANTA CLARA COUNTY PARKS
Saturday, October 17, 2015 • 10:00 AM to Noon
Coyote Lake-Harvey Bear County Park. Harvey Bear Park entrance San Martin, CA

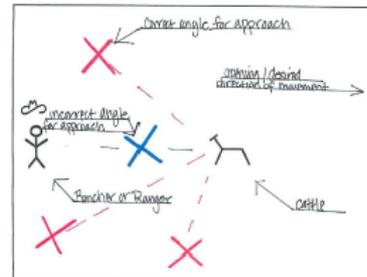


The Santa Clara County Parks and Recreation Department invites all interested park visitors to participate in a 2 hour public workshop focused on public safety aspects of livestock grazing on County Park lands.



Park staff, ranchers, and livestock and range management experts will make presentations and answer questions.

Topics will include natural resources management, cattle behavior, livestock operations, and techniques for improving visitor safety and protecting park resources.



Meet At: Harvey Bear Ranch Trailhead,
Coyote Lake-Harvey Bear Ranch County Park, San Martin, CA 95046
Past the corner of Foothill Ave. and San Martin Ave..

How to Get There: From U.S. Highway 101 in San Martin, take the San Martin Ave. exit. Proceed east on San Martin Ave. for 2 miles. The entrance to the park is on the left, one-quarter mile east of Foothill Avenue (near the intersection with New Avenue) in San Martin.

We hope to see you there!
For more information, call Barry Hill at (408)-489-8908.
www.ParkHere.org

Methods

Literature Review

- scientific articles
- newspapers
- newsletters
- bulletins and reports
- books

Interviews

- ranchers
- consultants
- public lands managers

Products

- workshops and discussions
- two journal articles

Livestock-Recreation Interactions, Part One: Literature Review

1 Are livestock grazing and recreational uses compatible on coastal California's public
2 lands? The what, where, why, and how of livestock grazing on public lands

3
4 Authors: Kristina M. Wolf^a, Roger Baldwin^b, and Sheila Barry^c

5
6 ^aCorresponding Author; Department of Plant Sciences and Graduate Group in Ecology,
7 University of California, Davis, 1 Shields Avenue, Davis, CA 95616, USA;
8 kmwolf@ucdavis.edu

9
10 ^bDepartment of Wildlife, Fish, and Conservation Biology and University of California
11 Cooperative Extension Human-Wildlife Conflict Resolution, University of California, Davis, 1
12 Shields Avenue, Davis, CA 95616, USA; rabaldwin@ucanr.edu

13
14 ^cUniversity of California Cooperative Extension Livestock and Natural Resources Advisor and
15 Country Director Santa Clara, University of California, Santa Clara, 1553 Berger Drive, San
16 Jose, CA 95112, USA; sbarry@ucanr.edu

17 Abstract

18 While the primary use of rangelands for well over a century has been livestock grazing to
19 produce food and fiber, elevated demands for recreational land has increasingly brought
20 livestock-recreation interactions to the forefront. California's Central Coast is a hotspot for
21 graziers and recreationists alike and an important region in which to address the challenges and
22 synergies of concurrent grazing and recreation. Here we review the literature to elucidate the
23 impetus for livestock grazing on publicly-owned recreational lands, discuss potential areas of
24 conflict, and highlight promising avenues for fostering positive livestock-recreation interactions.
25 Managers grazing livestock on public lands have adopted a variety of management practices to
26 minimize conflicts and maximize benefits derived from multiple uses of public lands. Graziers
27 are interested in supporting environmental health and protecting ecosystem services provided by
28 rangelands, and grazing practices have improved over time to the point that well-managed
29 grazing can enhance recreational lands and improve wildlife habitat. However, even a few
30 perceived negative recreationist experiences may prompt some public land agencies to remove
31 livestock grazing entirely. Conflicts between recreationists, environmentalists, and ranchers
32 could be minimized and benefits maximized with appropriate policies and creative management.
33 Moreover, California's grasslands are the most "at risk" habitat type for development, and
34 increasing economic and social pressures on ranchers that utilize leased public lands make it
35 more likely that ranchers will sell their private lands to developers if access to public grazing
36 land was eliminated, further increasing threats to our already dwindling rangelands. The
37 continued accessibility of public lands for grazing is thus inextricably linked to the protection of
38 private rangelands and the critical resources they provide. Novel approaches to public education
39 and collaborative land management are critical to reducing negative livestock-recreation
40 encounter and ensure continued conservation of wildlands.

Rangeland
Ecology & Management

Formerly Journal of Range Management

Methods

Literature Review

- scientific articles
- newspapers
- newsletters
- bulletins and reports
- books

Interviews

- ranchers
- consultants
- public lands managers

Products

- workshops and discussions
- two journal articles

Livestock-Recreation Interactions, Part Two: Interviews

1 Public lands managers and ranchers address concurrent recreation and livestock grazing
2 on coastal California public lands: Fostering positive livestock-recreation interactions
3

4 Authors: Kristina M. Wolf^a, Roger Baldwin^b, and Sheila Barry^c
5

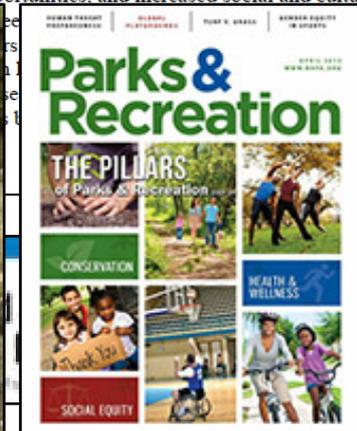
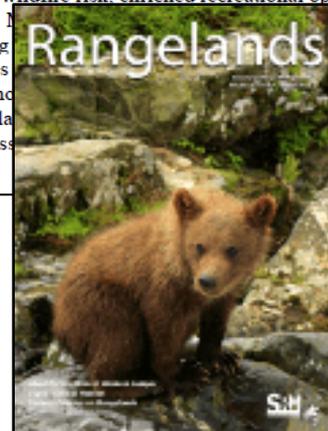
6 ^aCorresponding Author; Department of Plant Sciences and Graduate Group in Ecology,
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16 Jose, CA 95112, USA; sbarry@ucanr.edu

17 Abstract

18 The primary use of California rangelands has been livestock grazing to produce food and fiber,
19 but approximately 47,000 acres (19,000 ha) of rangeland are converted to other uses *each year*,
20 leaving graziers with a dwindling resource base. Due to increased pressures on graziers,
21 including rising costs, increased regulations, a strong interest in conserving and sustaining their
22 rangeland resource base, and negative effects of climate change and long-term drought, many
23 have either sold their operations, decreased herd sizes, or moved to public lands' grazing to
24 sustain their livelihoods, cultures, and traditions. Simultaneously, elevated demand for
25 recreational land along the California coast has brought interactions between livestock and
26 recreationists to the forefront of public lands' management concerns. Here we used one-on-one
27 interviews and surveys of land managers and graziers to elucidate issues arising from concurrent
28 recreation and grazing on public lands, and to determine best practices for managers and
29 recreationists for minimizing conflicts and maximizing the multiple benefits derived from public
30 lands. We find that ranchers and managers are strongly interested in environmental health and
31 the protection of ecosystem services provided by rangelands, and are motivated to implement
32 practices that provide multiple benefits in the forms of enhanced habitat for local flora and fauna,
33 reduced wildfire risk, enriched recreational opportunities, and increased social and cultural
34 benefits. These findings have implications for public lands management, including
35 including grazing as a management strategy, and economic and social awareness
36 strategies and economic and social awareness
37 and economic and social awareness
38 grazing land management and social awareness
39 awareness



Methods

Literature Review

- **scientific articles**
- **newspapers**
- **newsletters**
- **bulletins and reports**
- **books**

Interviews

- **ranchers**
- **consultants**
- **public lands managers**

Products

- **workshops and discussions**
- **two journal articles**
- **outreach article (CCRC, Rangeland Roundup)**

Grazing in the West: An evolving approach

- **Intensive use, extractive, production focused**



Photo Credit: IZ Ranch, 2015

Grazing in the West: An evolving approach

- Intensive use, extractive, production focused
- “Preservation” via grazing removal



Photo Credits left to right: eatkamloops.org; bushfiresmillpark; Josh Edelson

Grazing in the West: An evolving approach

- **Intensive use, extractive, production focused**
- **“Preservation” via grazing removal**
- **Working landscapes for multiple benefits**
 - Sustainable multiple use
 - Economically viable
 - Protect from development
 - Support local communities
 - Reduce fire risk
 - Enhance ecosystem services

Trends in Recreation & Grazing

- More people, more recreation⁴
 - 7% more recreationists; 30% more recreation days
 - “Nature viewing” increases by 100 million visitors
- Rancher Challenges
 - No increase in livestock numbers⁹
 - Liability / risk¹⁰
 - Long-term drought, climate change^{9,11}
 - Grasslands at risk for development⁹
- Keep graziers on the land
 - Private lands → public lands ownership^{9,11}
 - Barriers to public lands’ grazing¹⁰
- Recreation + grazing public lands
== increasing potential for conflict⁹

Preservation
Conservation
Working Landscapes

Public lands’ grazing linked to protection of open spaces and ecosystem services¹²

Are public lands only for public uses?

Biological Diversity and Ecosystem Health

- Wildland-urban fire hazards
- Noxious weeds

Social and Cultural Services

- Accident-free visitor experiences
- Outdoor recreational opportunities
- Environmental education

Park Infrastructure

- Marijuana eradications
- Facilities and critical infrastructure

Working landscapes

- Sustainable livestock grazing
- Maximize revenue potential from leases

Background
Photo Credit:
coolhorsetrails.
com

*Positive Impacts of Grazing**

- **Plants and ungulates co-evolved → some native plants adapted to grazing¹⁶⁻¹⁸**

Some native grasses that tolerate, or benefit from, well-managed grazing

California Oat Grass, *Danthonia californica*

California brome, *Bromus carinatus*

Blue wildrye, *Elymus glaucus*

Red fescue, *Festuca rubra*

Tufted hairgrass, *Deschampsia cespitosa*

Meadow barley, *Hordeum brachyantherum*



Positive Impacts of Grazing

Plants and ungulates co-evolved → some native plants adapted to grazing¹⁶⁻¹⁸

Weed management

– Mediterranean weeds abundant¹⁹⁻²⁰

- **Dominant, unpleasant to navigate²¹**
- **Stickers / seeds may hurt animals²²⁻²³**
- **Native floral abundance and diversity suffers²¹**
- **Trophic cascades²²⁻²³**

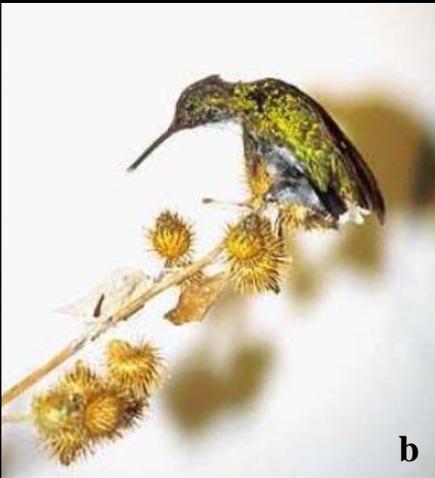


Photo Credits: a – Eddie B. Horvath; b – Shawna L. Bautista; c – UCANR; d:e – UC Regents (J.M. DiTomaso); f – Bert & Celeste Wilson; g – Kevin Cole

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- **Landscape aesthetics^{20,26}**
 - **Golden hills of California?**
 - **Partly due to annual invasion**
 - **Woody encroachment**



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- **Alternative to repeated burns²⁶⁻²⁷, mowing^{27,29}, herbicide²⁸, tillage^{27,29}, tarping²⁹, hired goats³⁰⁻³¹**



Photo Credit: Brian Hutchison, National Post

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- **Educational opportunities³²⁻³³**

*Negative Impacts of Grazing**

- **Potential ecological impacts**
 - Often attributed to grazing³⁴⁻³⁶



Photo Credits: a – Tom Choma; b – Greg Schneider; c – AIZON; d – Mike Hudak

*Negative Impacts of Grazing**

- **Potential ecological impacts**
 - Often attributed to grazing³⁴⁻³⁶
 - Perceived? Must monitor.³⁷



Photo Credit: CDFW

*Negative Impacts of Grazing**

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 - Perceived? Must monitor.³⁷
- **Aesthetic³⁴**
 - Manure, flies

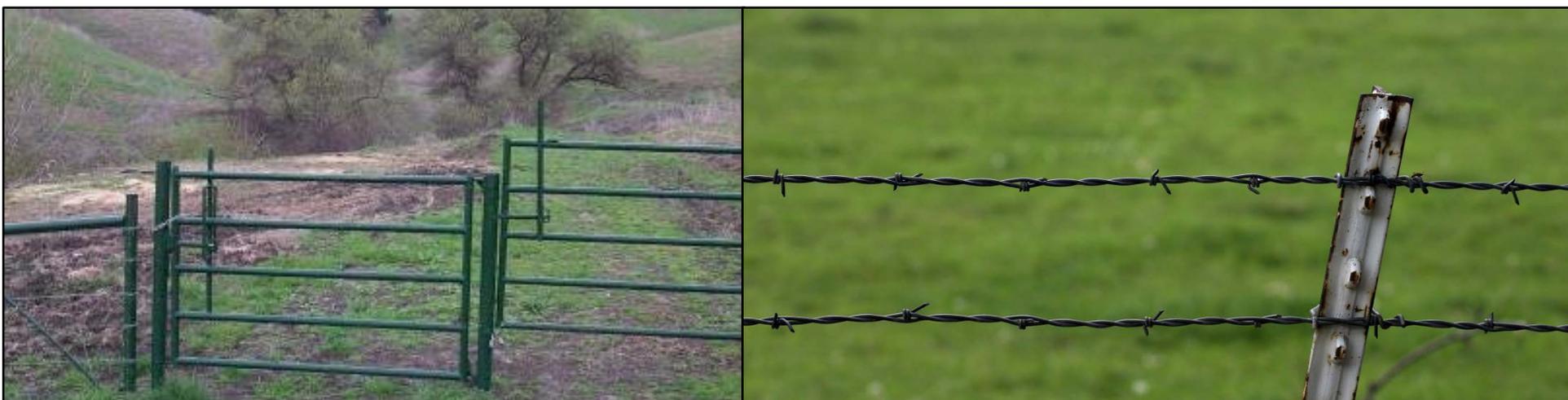


Photo Credits: Greg Schneider

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- **Aesthetic**³⁴
 - Manure, flies
- **Logistic**³⁶⁻³⁷
 - **Fencing**

Photo Credits: left - Greg Schneider; right – mandhanawires.com



*Negative Impacts of Grazing**

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 - Fencing
 - Movement of animals
 - Animal presence



*Negative Impacts of Grazing**

- **Potential ecological impacts**
 - Often attributed to grazing
 - Perceived? Must monitor.
- **Aesthetic**
 - Manure, flies
- **Logistic**
 - Fencing
 - Movement of animals
 - Animal presence
- **Impacts on recreationists and pets³⁷**
 - Spooked horses, dogs, or people



Photo Credit: Ron Atkinson

*Negative Impacts of Grazing**

Real or perceived?³⁷



Photo Credit: IntelliHub

*Positive Impacts of Recreation**

- **Enjoyment of natural open spaces**



Photo Credit: County of Sonoma

*Positive Impacts of Recreation**

- **Enjoyment of natural open spaces**
- **Wildlife and floral habitat**



Stock pond for California Tiger Salamander
Photo Credit: Alameda County RCD

Coastal prairie wildflowers
Photo Credit: J. Coleman

*Positive Impacts of Recreation**

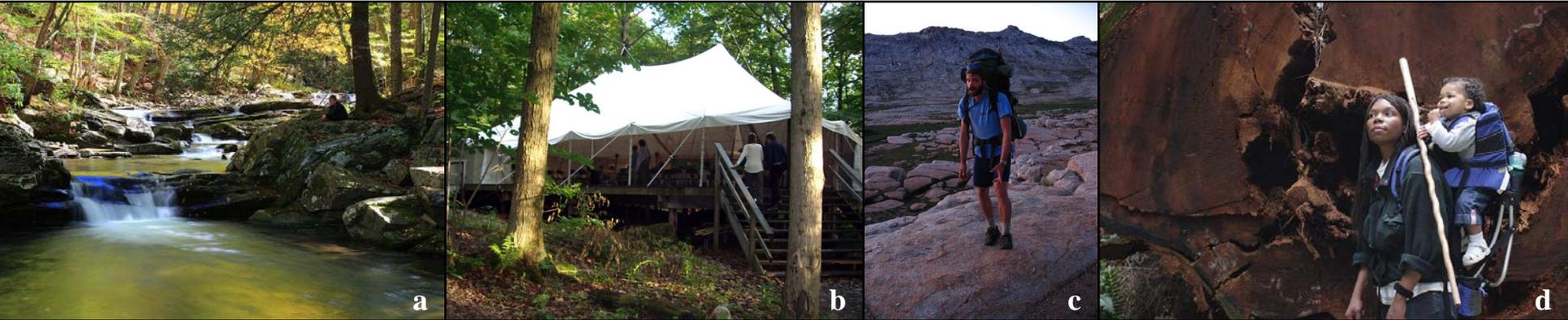


Photo Credits: a - ForestWander.com; b:c – Public domain; d USFWS

- **Recreational opportunities**
- **Psychological benefits of being in nature**
- **Health benefits of physical activity**
- **Increase connection to natural world**

*Negative Impacts of Recreation**

- Trail damage



Photo Credits: left – Phil Riggan; right – Jim Bell

*Negative Impacts of Recreation**

- Trail damage
- Damage to infrastructure, sabotage



Photo Credit: besllcorners

*Negative Impacts of Recreation**

- Trail damage
- Damage to infrastructure, sabotage
- **Vandalism and crime**



Photo Credits: left – Anne Berleant; right – Inside Bay Area News

*Negative Impacts of Recreation**

- Trail damage
- Damage to infrastructure, sabotage
- Vandalism and crime
- Introduction of weedy plant species



Photo Credits: left – USDA; right – NPS

*Negative Impacts of Recreation**

- **Trail damage**
- **Damage to infrastructure, sabotage**
- **Vandalism and crime**
- **Introduction of weedy plant species**
- **Trash**



Photo Credit: Isaac Fast

Objectives

Literature Review – Interviews – Surveys

- Can livestock grazing and public recreation coexist on public lands?



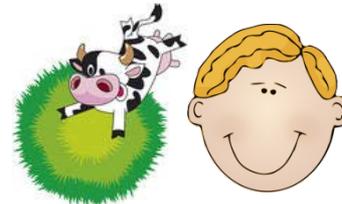
- What are potential downsides to concurrent recreation and grazing?



- What are potential benefits to concurrent recreation and grazing?



- How to facilitate positive relationships?



Interview Results

- **n = 15, contact me if interested!**
- **Clicker Survey data**
- **13 questions (similar to clicker survey)**
 - **Compatibility of recreation and grazing**
 - **Types of recreation**
 - **Barriers to grazing on public lands**
 - **Trade-offs**
 - **Positive interactions**



Are livestock grazing and recreation compatible on public lands?

- **Yes – 100%**
 - **Enjoyment of livestock**
 - **Public education re: managed grazing as a tool**
 - **Ecosystem services**

Rancher

“How to make interactions positive?

***PLAN* for it!”**

- **Caveats**
 - **Problematic public disconnect to natural world**
 - **Poor management could have negative ecological effects**

Are livestock grazing and recreation compatible on public lands?

Rancher

“You have to do everything you can to reduce liability and conflict. If you don’t understand that, you shouldn’t be on public ground. You are there as a **PRIVILEGE**... Anything and everything you do has to reduce or eliminate conflict, and this is what it is about on public ground...”

Rancher

“[Cattle grazing on public lands] may not be easy, but the whole key is that the cattle owner and the land agency need to work together... very little **COMMUNICATION** is often the problem.”

What types of recreational activities have you observed on grazed lands?

Percentage of land managers observing recreational activities on grazed lands in the Central Coast of California, based on phone, in-person, and email interviews.

<i>Activity</i>	<i>Percent</i>	<i>Activity</i>	<i>Percent</i>
Cultural/Heritage/Archaeological Sites	54	Dog Walking**	46
Cattle Drive	69	Biking*	62
Ranch Retreat	38	Falconry	23
Horse Camp	38	Fishing	38
Hunting	62	Picnics	31
Bed & Breakfast	31	Kites	31
ATV*	54	Hang Gliding	8
Camping	46	Birding	100
Hiking*	100	Other Wildlife Viewing	77
Horseback Riding*	85	Other Activities	54

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*** Most common problematic interactions with livestock**

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*** Most common problematic interactions with livestock**

**** Most common ≠ most problematic all the time**

Are outcomes generally negative then?

Have outcomes been generally positive, negative, mixed, or neutral?

- **Positive – 70%**

- Enjoyed public interaction; public enjoyed livestock
- Plan for it

East Bay Regional Parks District
18 (reported) incidents / 4 years
0.000225%

- **Negative – 15%**

- Too much work and stress; too little return
- Sabotage, economic losses
- Openly hostile recreationists (rare)

- **Depends – 15%**

- Context- or region-specific

Have outcomes been generally positive, negative, mixed, or neutral?

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- Plan for it

Sunol Regional Wilderness

*A few out of millions is an
“unacceptable risk”*

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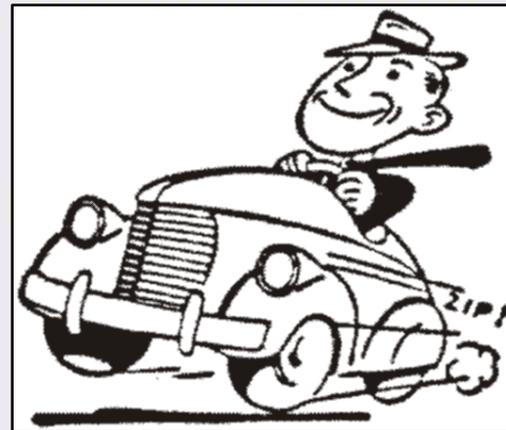
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 - **Plan for it**
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 - **Openly hostile recreationists (rare)**
- **Depends – 15%**
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 - Plan for it
- **Negative – 15%**
 - Too much work and stress; too little return
 - Sabotage, economic losses
 - Openly hostile recreationists (rare)
- **Depends – 15%**
 - Context- or region-specific

Have outcomes been generally positive, negative, mixed, or neutral?

Rancher

“Overwhelmingly it has been a positive relationship between me, the cattle, and the enjoyment of the visiting public. But it takes only a couple of negative encounters to leave a bad lasting impression with me.”

*How do you currently encourage
positive interactions?*

92% actively encouraged positive interactions

How do you currently encourage positive interactions?

92% actively encouraged positive interactions

- **Engaged recreationists**
 - Answer Q's
 - Demonstrate safe interactions
 - Make allies

How do you currently encourage positive interactions?

92% actively encouraged positive interactions

- **Engaged recreationists**
- **Participated in workshops, tours, seminars**

How do you currently encourage positive interactions?

92% actively encouraged positive interactions

- **Engaged recreationists**
- **Participated in workshops, tours, seminars**
- **Stockmanship**
 - **Training and habituation**
 - **Breeding for temperament, culling**

How do you currently encourage positive interactions?

92% actively encouraged positive interactions

- **Engaged recreationists**
- **Participated in workshops, tours, seminars**
- **Stockmanship**
- **Avoidance strategies**
 - **Avoid high traffic days or areas**
 - **Change locations during breeding and calving seasons**

How do you currently encourage positive interactions?

92% actively encouraged positive interactions

- **Engaged recreationists**
- **Participated in workshops, tours, seminars**
- **Stockmanship**
- **Avoidance strategies**
- **Signage**
 - **Where are livestock**
 - **How to interact**
 - **Who to call if emergency**
 - **What *is* an emergency?**
 - **Why graze?**

How do you currently encourage positive interactions?

92% actively encouraged positive interactions

- **Engaged recreationists**
- **Participated in workshops, tours, seminars**
- **Stockmanship**
- **Avoidance strategies**
- **Signage**
- **Websites, social media, articles**
- **Provide other services in parks**

How will you encourage positive interactions in the future?

62% planned new actions to facilitate positive interactions

- **Assist recreationists in navigating trails and fencing**
 - Curated trails
 - Improved signage
 - Use of temporary fencing
- **Signage**
 - Maps
 - Benefits of livestock grazing
 - Dog-walking
 - Safe livestock interactions
- **Public events or meetings**
- **Stockmanship courses**
- **Avoidance strategies**

What barriers limit or prohibit grazing on public lands?

**100% felt there were significant barriers for them,
or for graziers in general**

Barriers to grazing on public lands: Percentage of respondents that cited either personally experienced or general barriers to livestock grazing on public lands based on interviews.

<i>Barrier Category</i>	<i>Personal</i>	<i>General</i>
Logistical constraints	30	50
Economic constraints	20	40
Sabotage	17	10
Increased liability and risk	20	10
Availability of grazing leases	10	25
Negative ecological impacts	0	17
Recreationist interference	30	33
Poor grazier attitudes limiting availability	8	10
Public / agency misunderstanding of grazing impacts	90	75

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Differences might be due to 1) not all respondents grazed on public lands; 2) those who have grazed on public lands have more experience now; 3) good individual management, as compared to *all* ranchers; 4) “grass is always greener...” perceptions

What barriers limit or prohibit grazing on public lands?

Rancher

“Often I feel that the agency people **THINK** I am just throwing my cattle out on the land, and am getting paid to do nothing. That is *not* the case; as a rancher you work hard to create your own profit.”

Lands Manager (agency)

“I had about a miles worth of fence cut due to people angry with cattle grazing... these are **PUBLIC INDIVIDUALS** doing what they feel is best for them, and not considering others. This happened over a period of years, and for two years [the park] quit grazing and hired someone to be part of a management plan process and create a grazing plan. Currently everything is fine though. After they removed the grazing for two years, it took 6-7 years to knock back the thatch and bring back flowers, and many of our wildflower populations have not recovered since this. The grazing removal had very obvious and clear ramifications.”

What are downsides to grazing on public lands?

100% acknowledged potential downsides

Percentage of *all* respondents, and of graziers specifically (with the difference between the two), that cited negative impacts of livestock grazing on public lands, based on interviews.

<i>Negative Impact Category</i>	<i>All Respondents</i>	<i>Graziers</i>	<i>Difference</i>
Logistical constraints	69	78	9
Economic constraints	39	44	5
Sabotage	31	44	13
Availability of grazing leases	23	22	-1
Negative ecological impacts	15	11	-4
Recreationist interference	54	78	24
Poor grazier attitudes limiting availability	8	0	-8
Public / agency misunderstanding of grazing	54	56	2
Impacts on aesthetics	23	22	-1
Loss of grazier privacy	8	11	3

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Rancher

69

“I’ve been doing it for 15-20 years. It takes a completely different mindset than from operating on private ground, so if you don’t get your head around that, it can drive you absolutely insane.”

What are positive outcomes of grazing on public lands?

100% acknowledged potential positive outcomes

Percentage of *all* respondents, and of graziers specifically (with the difference between the two), that cited positive impacts of livestock grazing on public lands, based on interviews.

Positive Impact Category	All Respondents	Graziers	Difference
Economic benefits	46	56	10
Positive ecological impacts	77	67	-10
Positive aesthetic changes	15	11	-4
Social & cultural benefits*	46	56	10
Educational opportunities	62	78	16

* Includes a reduction in vandalism and illegal marijuana-growing operations due to more eyes on the land

What are positive outcomes of grazing on public lands?

100% acknowledged potential positive outcomes

Percentage of *all* respondents, and of graziers specifically (with the difference between the two), that cited positive impacts of livestock grazing on public lands, based on interviews.

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Manager and Consultant

“When you plan for both [cattle grazing and recreation are] compatible, and you can use both as *EDUCATIONAL* and *OUTREACH* opportunities for the rancher *and* recreationists.”

Facilitating positive interactions



Facilitating positive interactions

- **As recreation increases, interactions increase**
- **All respondents amenable to (or already doing) a variety of practices to improve interactions**
- **More than half of respondents**
 - **Personal webpages**
 - **Community tours**
 - **Signage to improve interactions**
 - **Condition / select livestock**
 - **Graze in highly visible or public settings**
 - **Outreach events / workshops**

Facilitating positive interactions

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- **All respondents amenable to (or already doing) a variety of practices to improve interactions**
- **More than half of respondents**
 - **Personal webpages**
 - **Community tours**
 - **Signage → need more and better!**
 - **Condition / select livestock**
 - **Graze in highly visible or public settings**
 - **Outreach events / workshops → the “WHY”**

What can public land agencies do?

- **Signage***



**YOU ARE ENTERING A
CATTLE GRAZING AREA**

Cattle are an important tool to maintain our grasslands

- Protect yourself, your pets and the livestock. Do not let your pets chase or harass livestock.
- If cattle are blocking the trail approach them slowly, speak normally and allow them to move away.
- Don't attempt to touch livestock. Do not get between the mother cow and young calves.
- If you encounter a cow that is acting in a threatening manner or appears to be injured, sick or dead, please note the location, the color of the animal, the ear tag number, and report it to the park staff.

PARK OFFICE _____

For Emergencies call **911**
or Public Safety Dispatch: **(510) 881-1833**

For more information on grazing in the parks,
please visit our website:
www.ebparks.org/about/stewardship/grazing

East Bay 
Regional Park District

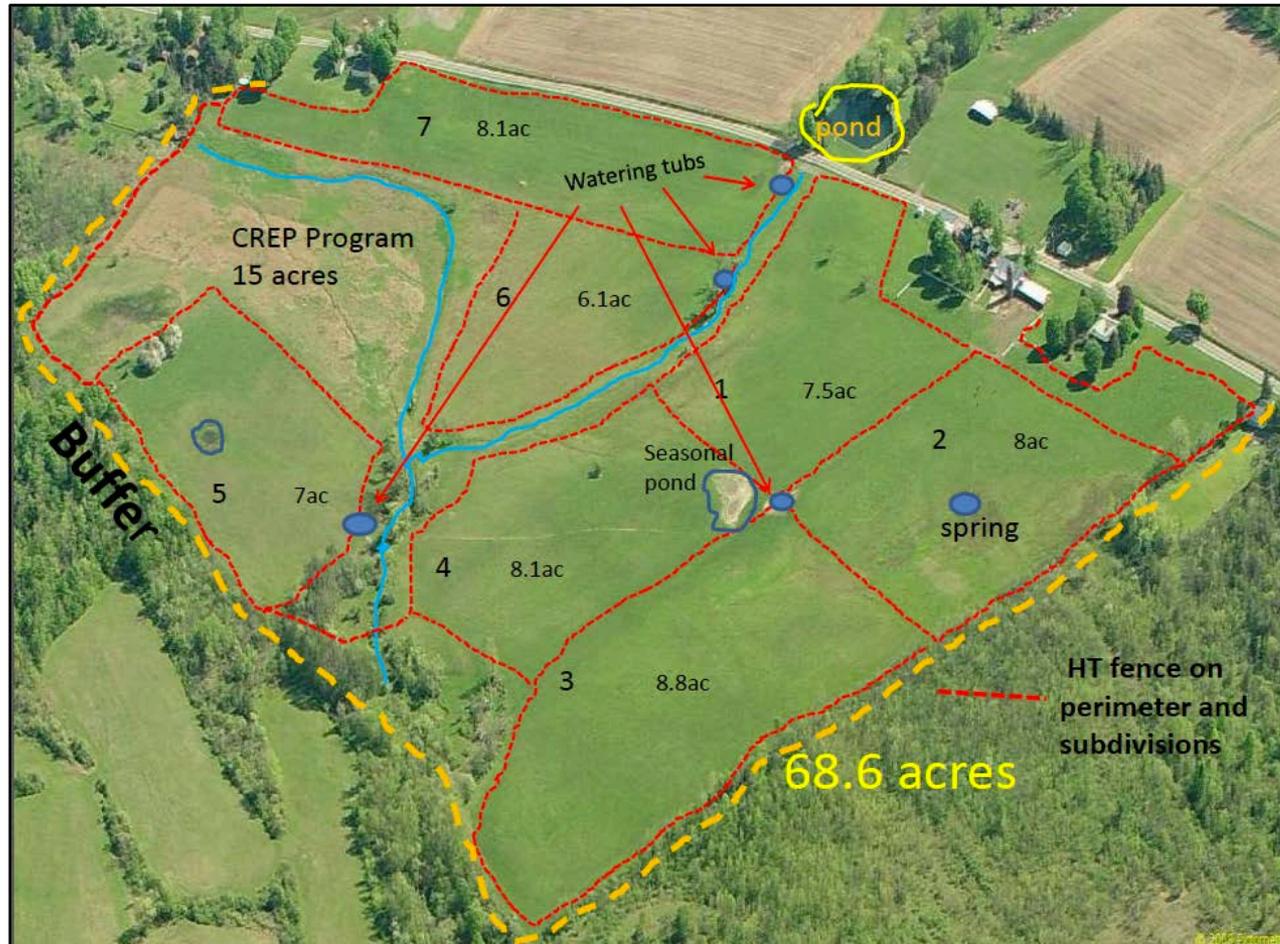
What can public land agencies do?

- **Signage***



What can public land agencies do?

- **Signage***



What can public land agencies do?

- Signage*
- Pamphlets / Factsheets

University of California
Agriculture and Natural Resources

ANR Publication 8517 | April 2015
<http://anrcatalog.ucanr.edu>

UC
PEER
REVIEWED

Photo: runaway/Flickr

UNDERSTANDING WORKING RANGELANDS

The Benefits of Grazing – Livestock Grazing: A Conservation Tool on California's Annual Grasslands

Looking out across the grasslands of California's Mediterranean climate zone, most of the plants you see are non-native annuals brought here from Europe and Asia. These include grasses, such as wild oats (*Avena* spp.) and soft chess (*Bromus hordeaceus mollis*) as well as forbs such as filarees (*Erodium* spp.) and black mustard (*Brassica nigra*). When left unmanaged, these non-native grasses and forbs can grow profusely in normal and above-normal precipitation years, degrading habitat conditions for some native plants and animals and increasing the risks of wildfire and pest plant infestations. California's Mediterranean-type grasslands are recognized among the world's "hot spots" of native biodiversity, despite being generally dominated by non-native species (Bartolome et al. 2014). An appreciation of this paradox and how it came to be can help conservation biologists, environmental regulators, agency managers, recreationists, and ranchers communicate more clearly about how to best manage California rangelands for the purposes of conservation.

SHEILA BARRY is UC Cooperative Extension livestock and natural resources advisor for the San Francisco Bay Area and UCCE county director for Santa Clara County; LISA BUSH is a rangeland management consultant in Sebastopol, California; STEPHANIE LARSON is UCCE livestock and range management advisor and UCCE county director for Sonoma County; and LAWRENCE D. FORD is a rangeland conservation science consultant in Felton, California.

Cattle grazing in the Bay checkerspot butterfly habitat at Coyote Ridge, south of San Jose, California. Photo: Sheila Barry

Working rangelands are open space lands that are managed with livestock grazing and rancher stewardship. Their management contributes to a variety of ecosystem services including food production, clean water, weed control, wildlife habitat maintenance and creation, fire fuel reduction, carbon sequestration, pollination services, and open space conservation.

What can public land agencies do?

- Signage*
- Pamphlets / Factsheets
- Articles

RANGELAND ROUND-UP *from the California Cattlemen's Association*

Taking Grazing to the Next Level

Rancher benefits from Bay area managed lands

by Tracy Schohr, director of rangeland conservation, California Cattlemen's Association

For nearly a one-half century, Fields Livestock, Castro Valley, has been grazing the same land in one of the most populated regions in the nation, California's Bay Area. When East Bay Regional Park District (District), based in Oakland, acquired the rolling hills studded with oak trees, abundant with wildlife and home to a diversity of plants, they continued the management practices that had been on the land, grazing.

In 1961, the District acquired the Sunol Regional Wilderness park (Park), that same year, Fields' began the grazing the 4,700-acre site.

With a rich history originating in 1934, the District today spans more than 100,000 acres with 65 parks, including 1,100 miles of trails. The nation's largest regional park district began with the foresight of local leaders seeking to preserve watershed lands in region. With a strong grassroots campaign, the District was created with a 71 percent approval rating at the polls. What's even more impressive is that this ballot measure passed in the height of the Great Depression.

With California's legacy in

environmental conservation, it is not surprising that voters created the first regional park district in the nation. This vision of local leaders sought to balance recreational opportunities and natural resources, uncommon for the time.

The mission of the District is to provide recreational opportunities, preserving the natural beauty of the land and protect wildlife habitat. The same values that the visionary leaders sought when the District was formed more than 75 years ago, today is achieved with managed grazing.

As David Amme, the District's wildland vegetation program manager recalled, "The District has been grazing for a long time, and there have been situations where the grazing program was questioned. There are strong reasons and objectives to the grazing on the land, including preventing brush encroachment and encouraging wildlife habitat."

The District has leases with ranchers in the region, providing forage to cattle, sheep and goats, while promoting healthy natural resources and diverse ecosystems. Nearly one-half of the District parks located in

Contra Costa and Alameda counties are grazed.

Russ Fields, owner of Fields Livestock, controls invasive species, reduces fire fuel loads, promotes native plants and creates habitat preferred by common species, and species of special concern on public land through cattle grazing.

The lease Fields has with the District is one of a handful of year-long grazing leases on public ground. Annually, he is responsible for meeting goals and objectives set forth by the District on the site.

On the Park, there is Residual Dry Matter (RDM) monitoring objectives that have to be met. In addition, you can find grazing exclosures on the Park, which serve as long term controls to demonstrate the benefits of managed grazing on the site.

"There has been opposition to the cattle on the site over the years," reflects Amme. "In response, the District has created a Wildland Management Policies document and taken up more extensive research on monitoring species composition and trends in collaboration with a

Continued on page 76

What can public land agencies do?

- **Signage***
- **Pamphlets / Factsheets**
- **Articles**
- **Online**
 - **Social Media**
 - **Facebook**

What can public land agencies do?

The screenshot shows a Facebook interface. On the left is a sidebar with navigation options: 'Central Coast Kan...', 'University of Califo...', 'University of Califo...', 'INTERESTS' (Pages and Public...), 'EVENTS' (Boca Dives in Dee..., Afrolicious with Bo..., Subscribed Events, Create Event), and 'PAGES' (Pages Feed 20+, Like Pages, Create Page). The main content area features a video player at the top with a 01:43 duration, 165k Views, 488 Likes, 33 Comments, and 161 Shares. Below it is a post from 'Wildlife Mentoring of Los Angeles' dated August 12. The post text reads: 'City of Long Beach Agenda Item: 15-0764 08-11-15 "Possibility of Coyote Mitigation Program" Recommendation to request City Manager to direct Animal Care Services (ACS) to study the potential of establishing a coyote mitigation program to address the growing presence of coyotes in Long Beach and to report back to City Council within thirty (30) days. Gregory Randall Wildlife Specialist Commentary'. The video thumbnail shows a coyote with a play button overlay and a 02:25 duration. Below the video are 63 Views, 2 Likes, and 2 Comments. At the bottom, another post from 'Wildlife Mentoring of Los Angeles' is partially visible, dated July 25, with the text 'shared a link.'

What can public land agencies do?

- **Signage***
- **Pamphlets / Factsheets**
- **Articles**
- **Online**
 - **Social Media**
 - **Facebook**
 - **Twitter**

What can public land agencies do?

The screenshot shows the Twitter profile for CA State Parks (@CAStateParks). The profile includes the California State Parks logo, a bio stating it is the official Twitter feed, and a grid of 233 photos and videos. A tweet from Sep 14 is highlighted, reporting on the closure of several parks due to fires. The tweet text is: "Attached are today's updates for both the #ValleyFire and #ButteFire and California State Park closures. Valley Fire: Robert Lewis Stevenson State Park is closed until further notice. Butte Fire: Calaveras Big Trees State Park and Indian Grinding Rock State Historic Park are closed for both camping and day-use through Tuesday, September 15. Both parks are scheduled to reopen Wednesday, September 16. Reservations for camping and cabins have been canceled through September 15 and refunds have been issued." The tweet has 27 retweets and 16 likes. A retweet by Sara M Skinner Photo is also visible.

New to Twitter? [Sign up](#)

Search Twitter Have an account? [Log in](#)

 **CA State Parks** [@CAStateParks](#)
Official California State Parks Twitter feed. RTs & follows are not endorsement. Contact media@parks.ca.gov
California
parks.ca.gov
Joined May 2009

233 Photos and videos

Tweets Tweets & replies Photos & videos

CA State Parks [@CAStateParks](#) · Sep 14
Attached are today's updates for both the [#ValleyFire](#) and [#ButteFire](#) and California State Park closures.

Valley Fire: Robert Lewis Stevenson State Park is closed until further notice.

Butte Fire: Calaveras Big Trees State Park and Indian Grinding Rock State Historic Park are closed for both camping and day-use through Tuesday, September 15. Both parks are scheduled to reopen Wednesday, September 16. Reservations for camping and cabins have been canceled through September 15 and refunds have been issued.

CA State Parks retweeted **Sara M Skinner Photo** [@SaraMPhotos](#) · Sep 12
Great day for kayaking Morro Bay [@CAStateParks](#) [@VisitSLOC](#) [@CA_NATIVES](#)

New to Twitter?
Sign up now to get your own personalized timeline!
[Sign up](#)

You may also like · Refresh

-  **Cal Fish & Wildlife** [@CaliforniaDFW](#)
-  **Visit California** [@VisitCA](#)
-  **CalParks** [@calparks](#)
-  **Yosemite National Pk** [@YosemiteNPS](#)
-  **NationalParkService** [@NatlParkService](#)

Trends

- [#GOPDebate](#)
- [#IStandWithAhmed](#)
- [iOS 9](#)
- [#TheNewBrokenScene](#)

What can public land agencies do?

- **Signage**
- **Pamphlets / Factsheets**
- **Articles**
- **Online**
 - **Social Media**
 - **Facebook**
 - **Twitter**
 - **Blogs**

What can public land agencies do?

The screenshot shows the California State Parks website with a dark header containing "My Site" and "Reader" icons. The main content area features three news items:

- Left Item:** "AMERICAN DAY GALA" on July 18, 2015, 6-9 PM, at the Highlands Senior Center. It features a world film premiere of "A WALK THROUGH TIME: THE STORY OF ANDERSON MARSH" with appearances by documentary filmmaker RY. Tickets are \$20. Ticket locations include Clearlake, Catfish Coffee House, Lakeport, and Watershed Books.
- Middle Item:** "CALIFORNIA STATE PARKS AND GOOGLE CONTINUE PARTNERSHIP" dated July 10, 2015, with a background image of a coastal landscape.
- Right Item:** "NEW VISITOR CENTER AT MCARTHUR-BURNEY FALLS MEMORIAL STATE PARK" dated May 29, 2015, with a background image of a wooden visitor center building.

At the bottom right of the screenshot, there is a "Follow" button with a plus icon and three dots.

What can public land agencies do?

- **Signage**
- **Pamphlets / Factsheets**
- **Articles**
- **Online**
 - **Social Media**
 - **Facebook**
 - **Twitter**
 - **Blogs**
 - **Websites**

East Bay Regional Park District webpage

The screenshot shows the East Bay Regional Park District website. The header includes the logo and navigation options like 'Print', 'Subscribe', and 'Share'. The main content area is titled 'Grazing' and contains several paragraphs of text. A sidebar on the left lists various categories under 'SEE AND DO!'. A 'LINKS' sidebar on the right provides additional resources.

SEE AND DO!

- Parks / Trails
- Activities
- Reservations / Registration
- About Us
 - About the District
 - I Want To...
 - Park Rules and Regulations
 - News
 - Human Resources / Jobs
 - Bids and RFPs
 - Board of Directors
 - General Manager
 - Park Advisory Committee
 - Public Meetings / Notices
 - Budget and Finances
 - Park Planning
 - Stewardship / Resources
 - Stewardship - Resources
 - Fisheries
 - Grazing
 - Benefits of Grazing Animals
 - Parks With Grazing
 - Safety Tips for Hiking Near Grazing Animals
 - What You Can Do to Help
 - Integrated Pest Management
 - Water Resources

LINKS

- [Wildland Management Policies](#)
Download Wildland Management Policies in PDF format
- [Grassland Management Monitoring Project 2012](#)
Download Grassland Management Monitoring Project 2012 in PDF format
- [Grassland Management Monitoring Project 2012 Appendices](#)
Download Grassland Management Monitoring Project 2012 Appendices in PDF format
- [Grazing Brochure](#)
Download Grazing Brochure in PDF format
- [Field Season, Grassland Monitoring Project](#)
Final Report for EBRPD 2009 Field Season, Grassland Monitoring Project--Year 8
- [Wildfire Hazard Reduction And Resource Management Plan and EIR](#)
Learn more about East Bay Hills Wildfire Hazard Reduction And Resource Management Plan and EIR

Synergies

Vegetation Mgmt

=

Habitat Forage

=

*Wildlife Management
Livestock Production*

What can public land agencies do?

- **Meet the Rancher days**
 - **BBQ lunch, Q&A, prizes**

Hopcott's Is Celebrating Its 7th Anniversary
MEET THE RANCHER
Sat, July 27th + Event Hours: 11am to 3pm

Know Where Your Meat Is Coming From
Meet the ranchers and farmers who raise the meat you eat.
100 Mile House, Lumby, Merritt & Pitt Meadows

Ask Questions, Learn About Our Beef
& TASTE, TASTE, TASTE !!



CASH ONLY BBQ SUPER SPECIALS
FREE COFFEE SAMPLES FUN FOR KIDS
PRIZES CHARITY DUNK TANK
GABY DAVIS FOUNDATION

www.HopcottMeats.ca + 604.465.7799
18385 Old Dewdney Trunk Rd, Pitt Meadows

Photo Credit: Gaby Davis Foundation

What can public land agencies do?

- **Meet the Rancher days**
 - BBQ lunch, Q&A, prizes
- **Nature Days**
 - Wildflower and wildlife walks



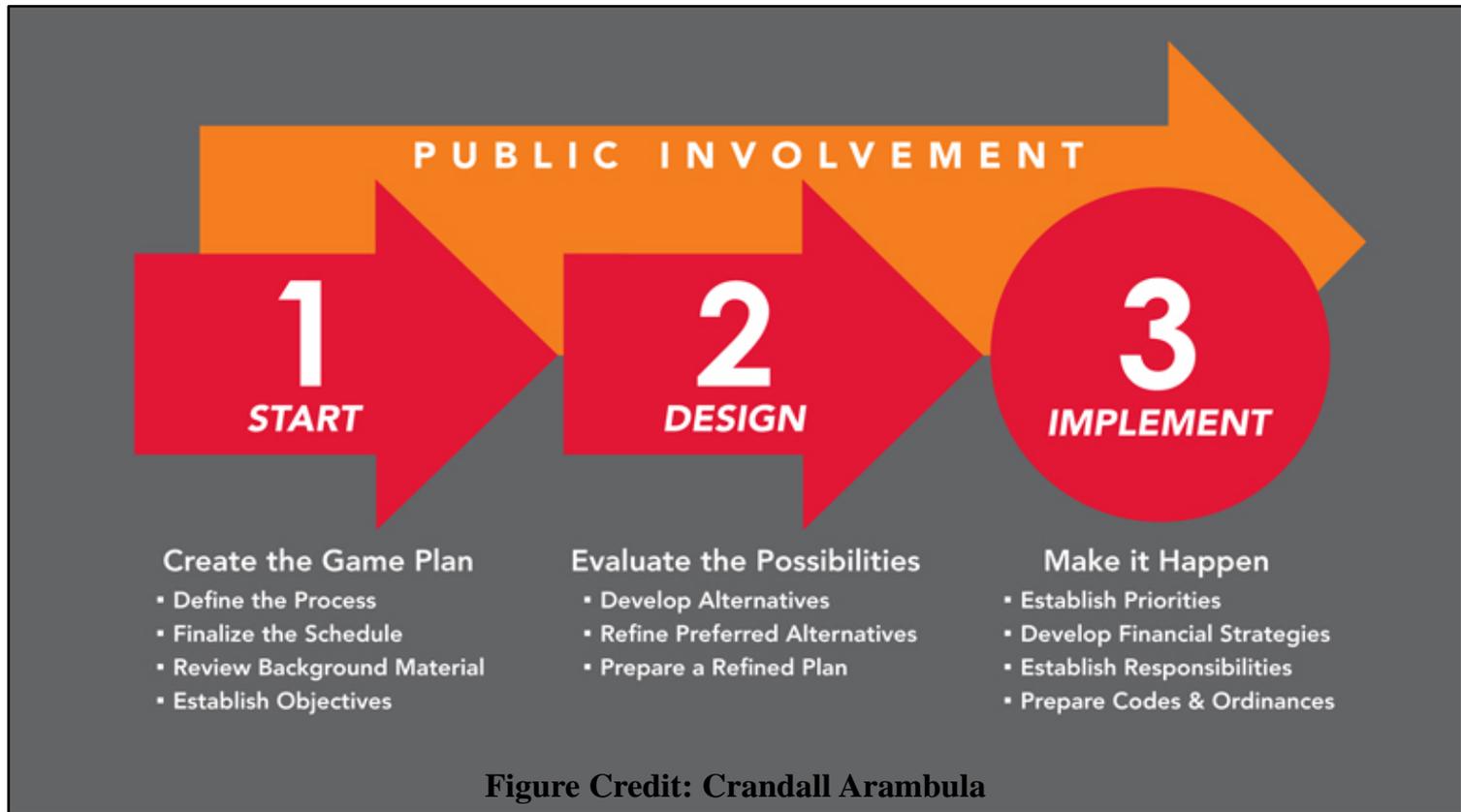
What can public land agencies do?



**Photo Credit:
Gaby Davis
Foundation**

- **Work Days**
 - **Trail maintenance, vegetation management, restoration projects**

What can public land agencies do?



- **Public participation in visioning processes**
 - What does the public want or need?

What can public land agencies do?

Focus on Education

What can managers do to help?

- **One-on-one with recreationists**
 - Initiate conversations, answer questions
 - Wave and smile
 - Open gates for recreationists
- **Communicate**
 - graziers / agencies to encourage appropriate interactions
 - law enforcement to triage emergency calls
- **Meet-the-rancher days in conjunction with public lands agencies, speak at workshops**

PUT A FACE ON THE GRAZIER

What can managers do to help?

- **One-on-one with recreationists**
 - Initiate conversations, answer questions
 - Wave and smile
 - Open gates for recreationists
- **Communicate**
 - graziers / agencies to encourage appropriate interactions
 - law enforcement to triage emergency calls
- **Meet-the-rancher days in conjunction with public lands agencies, speak at workshops**
- **Signage**
 - maintain signage
 - contribute to development of signage, pamphlets, and online educational materials for visiting recreationists

What can/do managers do to help?



What can/do managers do to help?

- **Perform other ecological services**
 - Plant trees
 - Pick up trash
 - Fix fences
 - Maintain water for dogs, horses, *and* wildlife
 - Keep gates in easy working order
- **Choose the best stock for public lands**
 - Animals with proven dispositions
 - Sound stockmanship
 - Remove aggressive, sick, or injured animals
- **Reduce interactions during potentially higher risk periods**
 - Bulls far away during breeding
 - Livestock away from high recreation areas when calving
 - Plan around peak recreational periods

What can/do managers do to help?

Time + Money

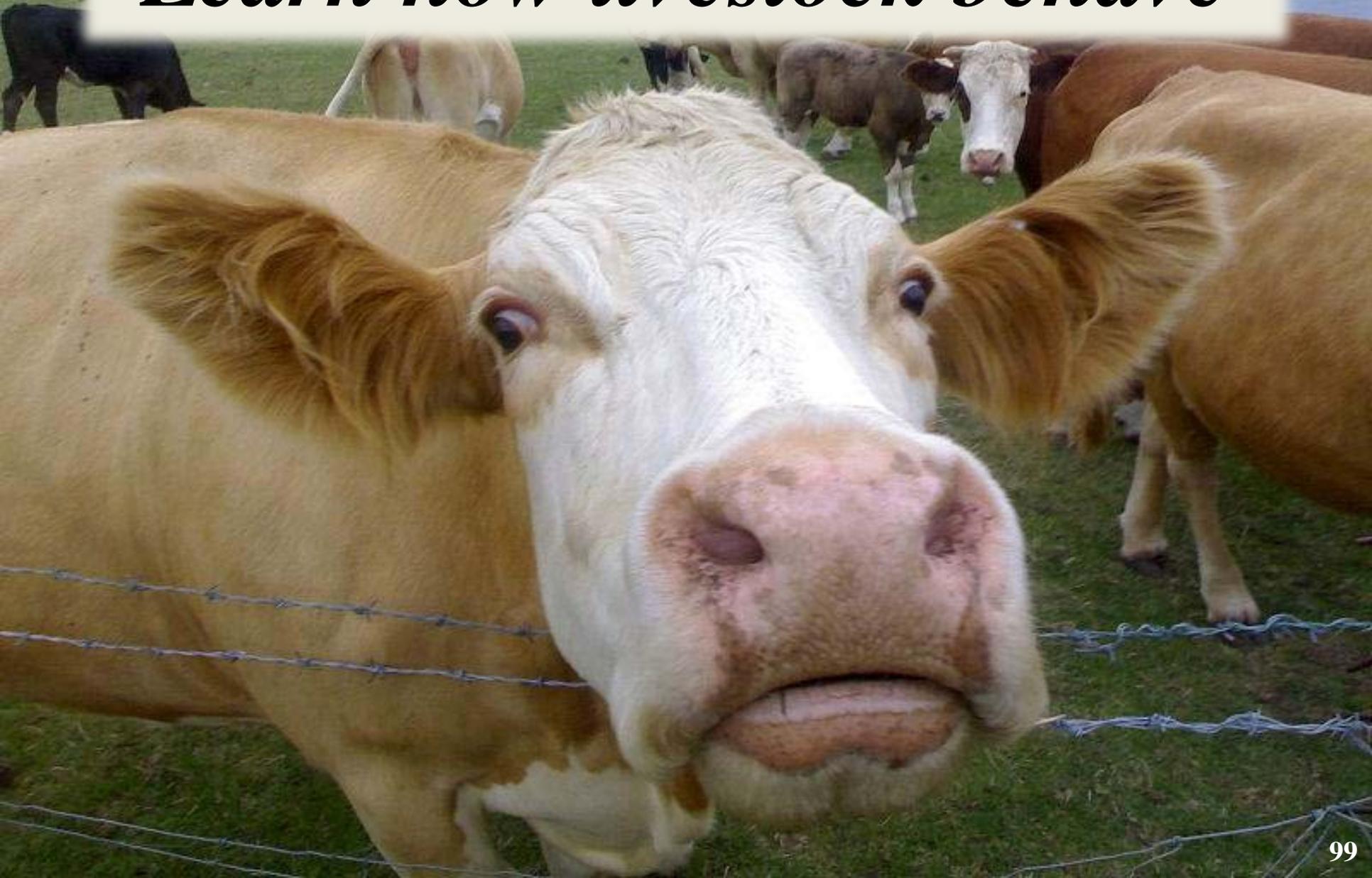
INVESTMENTS

- **Conflict Reduction**
- **Continued Public Lease Availability**
- **Added-Value, Marketing**
- **Long-term Economic Stability**

What can visitors do?

- *Read all signs and check online*
- *Leave gates as you find them*
- *Report maintenance needs*
- *Ask questions*
- *Do not interact directly with animals*

Learn how livestock behave



Learn how livestock behave

- **Walk towards you**
 - **Curiosity \neq Aggression**
- **Paw or root through your belongings**
- **May become frightened or feel threatened**
 - **unfamiliar objects**
 - **fast-moving vehicles or bikes**
 - **off-leash dogs**
 - **running or yelling**
 - **dogs/people near their young**

Aggression in cattle is rare

- Usually occurs only if an animal...
 - is very ill
 - feels threatened
 - chased or harassed
 - backed into a corner or singled out
- Flight is almost always their first choice
 - Give them a way out!

Pacheco State Park visitor

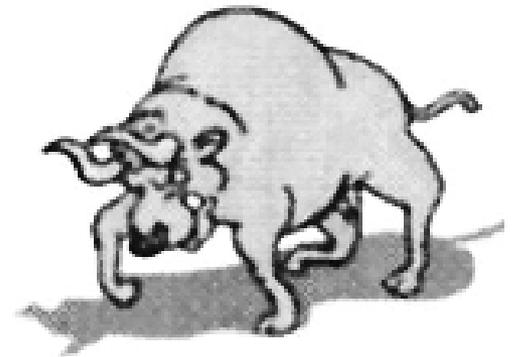
“The park is used as grazing land and during the first few miles we had several close cattle encounters, including a little guy who tried to **BLUFF CHARGE** me – more cute than terrifying. Other wildlife was minimal, except for the trio of coyotes spotted in the first mile, a few circling hawks, and curious ground squirrels. Wildflowers were blooming, and I was especially happy to see some beautiful hillsides covered in poppies.”

Warning Signs

- **Dropping head to the ground**
- **Shaking head**
- **Bellowing**

Signs of Aggression:

- quick, erratic movements
- raised tail/flicking tail
- pawing the ground
- turning sideways
- raised ears
- snorting

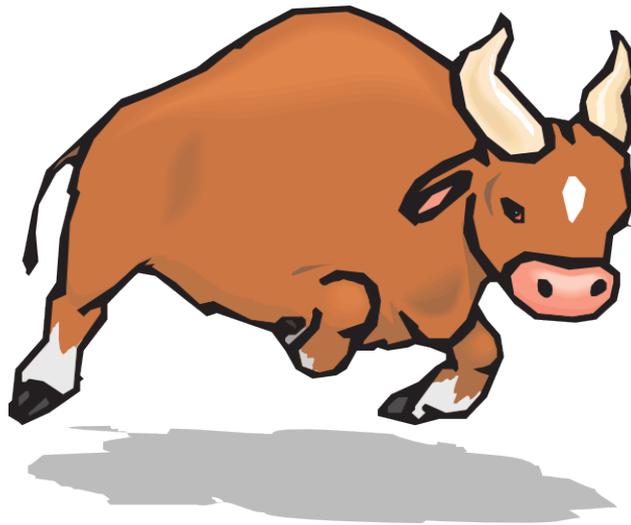


IF you feel threatened



IF you feel threatened

- **Turn sideways**
- **Move away slowly**
- **Keep calm**
- **Speak in soft voice**
- **DO NOT RUN**



Dog walking



Dog walking

- Dogs are not allowed off-leash



Dog walking

- **Dogs are not allowed off-leash**
 - protect wildlife



Photo Credit: Satyendra Kumar Tiwari

Dog walking

- **Dogs are not allowed off-leash**
 - protect wildlife
 - keep children and other visitors safe



Don't let this happen to you!

Dog walking

- **Dogs are not allowed off-leash**
 - protect wildlife
 - keep children and other visitors safe
 - prevent dog fights



Dog walking

- **Dogs are not allowed off-leash**
 - protect wildlife
 - keep children and other visitors safe
 - prevent dog fights
 - protect from injury and prevent chasing other animals



Dog walking

- **Dogs are not allowed off-leash**
 - protect wildlife
 - keep children and other visitors safe
 - prevent dog fights
 - protect from injury and prevent chasing other animals
- **Keep dogs on leash, maintaining control at all times**



Dog walking

- **Dogs are not allowed off-leash**
 - protect wildlife
 - keep children and other visitors safe
 - prevent dog fights
 - protect from injury and prevent chasing other animals
- **Keep dogs on leash, maintaining control at all times**
- **Most dogs do not know how to interact safely with livestock**
 - only trained dogs employed by managers should herd

Dog walking

Don't worry, I'm a trained professional



Dog walking



Photo Credit: Brett Little

Dog walking

- **Dogs are not allowed off-leash**
 - protect wildlife
 - keep children and other visitors safe
 - prevent dog fights
 - protect from injury and prevent chasing other animals
- **Keep dogs on leash, maintaining control at all times**
- **Most dogs do not know how to interact safely with livestock**
 - only trained dogs employed by managers should herd
- **Do not encourage dogs to chase or bark at other animals**
- **Report off-leash dogs and harassment of animals to park staff or rancher**

Horses, bikes, and ATVs



Photo Credit: Tanya Koob

Horses, bikes, and ATVs

- **If you encounter livestock, ride slowly around them**
- **Test-ride horses around livestock beforehand**
- **Move away from livestock as far as possible**
 - **also applies to horseback riders, dogs, and children**
 - **all can move unpredictably**



Photo Credit: Albert Herring

Cows and Calves



Photo Credit: Hubert Berberich

Cows and Calves

- **Most injuries occur during calving season**
- **Do not walk directly at mama cows**
- **Give them a wide berth**
- **Avoid startling**
- **Want to protect their young**

Cows and Calves

Don't try this at home (or in the parks)



If you encounter animals in a large group...

- Go around them, NOT through them
- Give them space
- Move slowly, calm voice
- No sudden movements
- If you have an animal
 - Secure dog leash
 - Dismount horse,
maintain control

If you encounter animals in a large group...

- Go around them, NOT through them
- Give them space
- Move slowly, calm voice
- No sudden movements
- If you have an animal
 - Secure dog leash
 - Dismount horse, maintain control

On the flip side (graziers)

- Can be frustrating
- Risk of scattering
- Keep calm & regather



Photo Credit: Alex Proimos

If you see a calf alone...

- Do not approach
- If bawling loudly, *clearly* in severe distress / injured, call 911
- Notable structures
- Waypoints
- Description of animal
- Eartag number



Photo Credit: Rinalia



Photo Credits: (left) Ric Garrido; (right) Lee Rentz

Trade-offs: Net Outcomes?

- **Manure, flies**
- **Inconvenience**
- **Negative impact on ecosystems (if poor management)**
- **Very rare injuries, fear**
- **Disagreement on principle**
- **Management barriers**
- **Effects of sabotage & recreational interference**
- **Barriers to entry**

- **Wildfire risk reduction**
- **Native wildflowers**
- **Targeted wildlife habitat management (T&E)**
- **Weed management**
- **Educational opportunities**
- **Cost-effective**
- **Generates income**
- **Financial benefits to local economies**
- **Tradition, cultural & social benefits**
- **Protection from wildland development**
- **Potential to use existing infrastructure**
- **Grazier actions that “add value” to recreation**



Trade-offs: Net Outcomes?

- Manure, flies
- Inconvenience
- Negative impact on ecosystems (if poor management)
- Very rare in some areas
- Disagreement on management
- Effects of some recreational activities
- Barriers to entry

- Wildfire risk reduction
- Native wildflowers
- Targeted wildlife habitat management (T&E)
- Wildlife management opportunities
- Economic benefits to local economies
- Recreation, cultural & social benefits
- Protection from wildland development
- Potential to use existing infrastructure
- Grazier actions that “add value” to recreation

Weights
It's not simple addition
and will vary by region!



Trade-offs: Net Outcomes?

- Manure, flies
- Inconvenience
- Negative impact on ecosystems (if poor management)
- Very rare in some areas
- Disagreements
- Management costs
- Effects of seasonal recreation
- Barriers to entry

- Wildfire risk reduction
- Native wildflowers
- Targeted wildlife habitat management (T&E)
- Wildlife management
- Economic opportunities
- Recreation benefits to local economies
- Education, cultural & social benefits
- Protection from wildland development
- Potential to use existing infrastructure
- Grazier actions that “add value” to recreation

Weights
It's not simple addition
and will vary by region!



Consultant
“Grazing is not only compatible [with recreation], it is mandatory [for grassland management].”

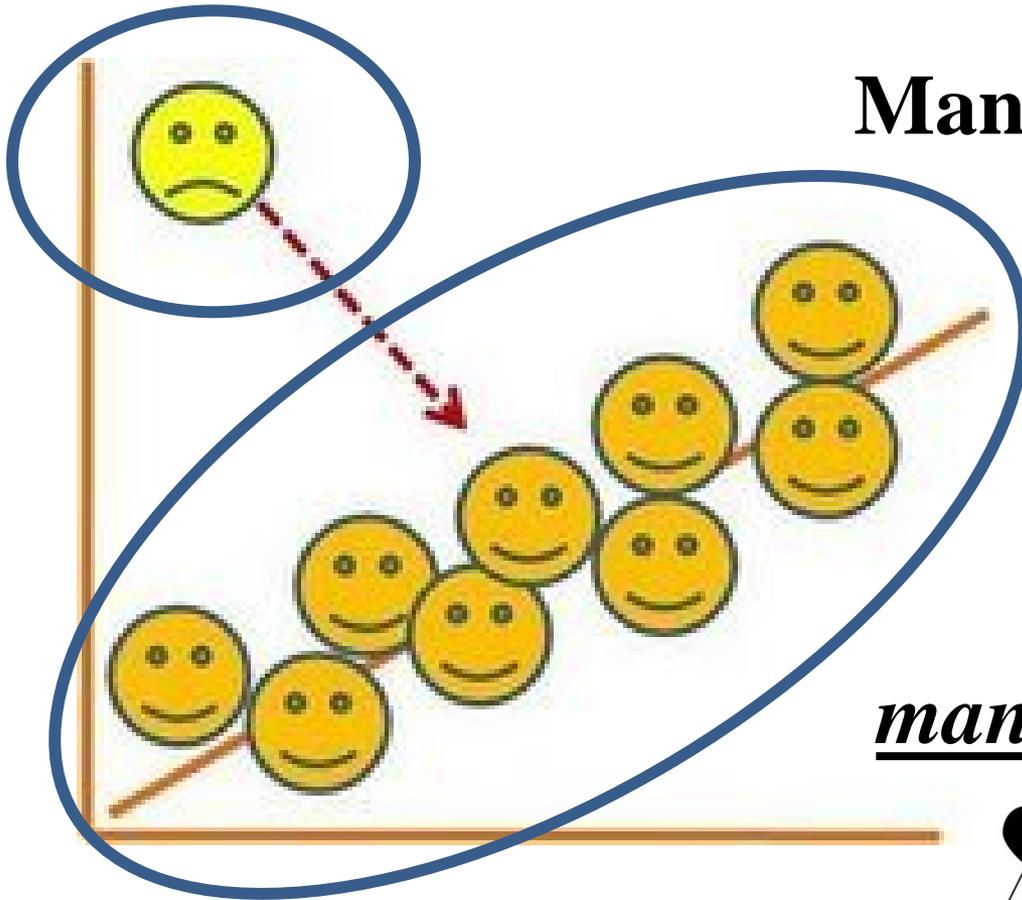
Managing for the outlier

while

Basing policy
on the average

and

managing for trade-offs



***DON'T LOSE
SIGHT OF
THE
AVERAGE***



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- **Interviewees**
- **Attendees here today!**

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