Enabling pastoral landscapes: Building social capital to restore natural capital

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Outline

• Rangeland social-ecological services

• “Grassroots” : Bottom up conservation
  • Continue rangeland SES services

• California Rangeland Conservation Coalition
  • Sustainable ranches
  • Access to rangelands
“Ecosystem Services”
“Ecosystem Services”

OR

Co-production of
“social ecological services”
“Ecologists …have paid surprisingly little attention to how environments are created and maintained”

they don’t consider “the role of engineering in habitat modification, creation and maintenance.”

Jones et al. *Ecosystem Engineering*

Engineers = wildlife, humans
Ranches can create ecosystem services at both landscape and pasture scales
Landscape
maintain extensive habitat

Ranch
food & heritage

Pasture
improve habitat, reduce fire hazard
Example: Destruction of SES services in 20\textsuperscript{th} century

- SE service: purposeful fire
Brown Valley

Herding to mountains since 1845
State = 40 million ha

Rangeland = 21 million ha
California “Transhumance” use of mountain meadows, cattle trails.
Intentional burning by indigenous people created California forests: “The range of light”

In late 19th and early 20th centuries, herders and ranchers continued burning regularly, engineering a pastoral landscape
SES service: rancher and indigenous burning to engineer habitat

1. Alter species composition
2. Change vegetation structure
3. Maintain meadows and open forest
Fire suppression: Letter from Forest Supervisor to local ranchers during WWI

“A patriotic duty to fight fire”
Uncle Sam, 1937
This shameful waste WEAKENS AMERICA!

Remember—Only you can PREVENT THE MADNESS!
Fire suppression reduced forage, stopped SES engineering in forest
Today, after fire suppression (scientific management) since 1906
North Sacramento Valley

Cow Months of Forage Harvested By Year, Forest Service Grazing Leases

Reduced herds & time
2012: 3.7 million ha burned
harvested: 80,000 ha

Billions of dollars in costs
Increases in forest density increase vulnerability to drought, disease and fire.
Winter pasture: grazing reduces fire hazard in the grassland....

and improves habitat for many species
Global biodiversity hot spot
Many endemic, rare, plant and animal species Mediterranea annual grassland
SE services: California ranching can both maintain and improve habitat.
SE services: co-producing wildlife habitat with grazing

Research shows benefit from change in grass structure

- Western burrowing owl (CCWD 2005).
- Stephens kangaroo rats (Kelt et al 2005; USFWS 1997)
- Goldfields (Barry 2005)
- Some insects/beetles (Dennis et al 1997)
- Western pond turtle (CCWD 2005).
- Butterflies (Weiss, 1999)
- San Joaquin Kit Fox (USFWS 2010)
- Home for pollinators (Chapline-Kramer 2011)
SES engineering: Construction and maintenance of stock ponds by ranchers
Endangered California tiger salamanders (Ambystoma californiense) do best in grazed stock ponds.
Prefer short grass and reduced aquatic vegetation
Landscape scale
SE service: distribution of stockponds ideal for the species, maintains meta population
Sustainable ranches maintain large, connected, habitat areas for many species
Grazing for ecological benefits

Connected landscapes

Sustainable ranches
Rancher values and goals can contribute
“I keep the oaks because I want it to look like a ranch not a farm.”
Conclusion I: ranching and grazing can contribute valuable social-ecological services

conserve landscape and create habitat
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• Rangeland social-ecological services
• “Grassroots” : Bottom up conservation
  • Continue rangeland SES services
• EX: California Rangeland Conservation Coalition
  • Sustainable ranches
  • Access to rangelands
“Bottom up” Agro-environmental schemes

“Grassroots” programs: come from the stakeholders, not government, voluntary
Build networks (between people, across scales) for game, grazing, control burning, land conservation, political influence

Use and build social capital to create and support natural capital

Thanks to M. Fernández-Giménez for figure
Use the SE services of ranching to build a conservation coalition
Outline

- Rangeland social-ecological services
- “Grassroots” : Bottom up conservation
  - Build coalition on rangeland SES services
- EXAMPLE: California Rangeland Conservation Coalition
  - Sustainable ranches
  - Access to rangelands
California Rangeland Conservation Coalition (CRCC)

- Started by ranchers
- Large meetings, tours, education, negotiate with government, fund research
Threats

• negative public image
• land conversion/fragmentation
• policy for government land favors other uses
Building networks

Working Together to Keep Ranchers Ranching

California Rangeland Conservation Coalition...Working to Keep Ranchers Ranching.

The Rangeland Resolution describes these privately-owned rangelands and the Coalition's focus.

Partner Stories
Click here for stories of our Signatories “our partners” who have contributed in one way or another to furthering our mission of conserving rangelands.

Benefits of Rangeland
By joining forces for the common goal of protecting CA's rangelands, we can make the biggest impact on the sustainability of California's landscapes.

News & Events
Read the news and events of interest from the Coalition and our Signatory partners and others.
CRCC Mission

Bringing together ranchers, environmentalists and government entities to conserve and enhance the ecological values and economic viability of California’s working rangelands.
Build on the existing ranch culture for SE services

- Most want to be good stewards
- Want to enjoy their properties and work
- Enjoy relative autonomy, innovating
- Enjoy the environment
- Value producing food
- Invest in ecosystem
Educate

Educating the Public About the Benefits of Ranching

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Typical California ranch grazing relies on multiple land ownerships (Sulak 2007)
CCRC “Rangeland Resolution”

If you sign you agree: rancher management good for wildlife and land

Why sign: grazing needed by agencies and NGOs, land needed by ranchers
California Rangeland Resolution

The undersigned recognize the critical importance of California’s privately owned rangelands, particularly that significant portion that encircles the Central Valley and includes the adjacent grasslands and oak woodlands, including the Sierra foothills and the interior coast ranges. These lands support important ecosystems and are the foundation for the ranching industry that owns them.

WHEREAS, these rangelands include a rich and varied landscape of grasslands, oak woodlands, vernal pools, riparian areas and wetlands, which support numerous imperiled species, many native plants once common in the Central Valley, and are home to the highest diversity and density of wintering raptors anywhere in North America;

WHEREAS, these rangelands are often located in California’s fastest-growing counties and are at significant risk of conversion to development and other uses;

WHEREAS, these rangelands, and the species that rely on these habitats, largely persist today due to the positive and experienced grazing and other land stewardship practices of the ranchers that have owned and managed these lands and are committed to a healthy future for their working landscapes;

WHEREAS, these rangelands are a critical foundation of the economic and social fabric of California’s ranching industry and rural communities, and will only continue to provide this important working landscape for California’s plants, fish and wildlife if private rangelands remain in ranching;

THEREFORE, we declare that it is our goal to collaboratively work together to protect and enhance the rangeland landscape that encircles California’s Central Valley and includes adjacent grasslands and oak woodlands by:

- Keeping common species common on private working landscapes;
- Working to recover imperiled species and enhancing habitat on rangelands while seeking to minimize regulations on private lands and streamline processes;

  - Supporting the long-term viability of the ranching industry and its culture by providing economic, social and other incentives and by reducing burdens to proactive stewardship on private ranchlands;

- Increasing private, state and federal funding, technical expertise and other assistance to continue and expand the ranching community’s beneficial land stewardship practices that benefit sensitive species and are fully compatible with normal ranching practices;
- Encouraging voluntary, collaborative and locally-led conservation that has proven to be very effective in maintaining and enhancing working landscapes;
- Educating the public about the benefits of grazing and ranching in these rangelands.
California Rangeland Resolution Signatories

Agricultural - Natural Resources Trust of Contra Costa County
Alameda County Board of Supervisors
Alameda Co. Resource Conservation District
Amador Resource Conservation District
American Farmland Trust
American Land Conservancy
Audubon California
Bureau of Land Management
Butte County Resource Conservation District
Butte Environmental Council
Calaveras Co. Resource Conservation District
California Association of Resource Conservation Districts
California Cattlemen's Association
California CattleWomen's Association
California Chapter of the International Soil and Water Conservation Society
California Climate and Agriculture Network
California Council of Land Trusts
California Deer Association
California Department of Conservation
California Dept of Fish and Game
California Dept of Food and Agriculture
California Dept of Forestry and Fire Protection
California Farm Bureau Federation
California Grazing Lands Coalition
California Invasive Plant Council
California Native Grasslands Association
California Native Plant Society
California Open Lands
California Rangeland Trust
California Resources Agency
California Wildlife Foundation/California Oaks
California Wool Growers Association
Cal-Pac Section Society For Range Management
Central Coast Rangeland Coalition
Central Sierra Region of Resource Conservation Districts
Central Valley Bird Club
Central Valley Land Trust Council
Chimineas Ranch Foundation
City of Livermore
Coarsegold Resource Conservation District
Committee for Green Foothills
Community Alliance with Family Farmers
Contra Costa Resource Conservation District
Contra Costa County Board of Supervisors
Defenders of Wildlife
Ducks Unlimited
East Bay Regional Park District
El Dorado Resource Conservation District
Endangered Species Coalition
Environmental Defense
Friends of Swainson's Hawk
Glenn County Resource Conservation District
Hollister Ranch
Humboldt State University Rangeland Resources Institute for Ecological Health
Jumping Frog Research Institute
Land Conservancy of San Luis Obispo
Land Trust for Santa Barbara County
Lassen Land & Trails Trust
Marin Agricultural Land Trust
Marin County Resource Conservation District
Mariposa Co. Resource Conservation District
Middle Mountain Foundation
Napa County Board of Supervisors
National Wild Turkey Federation
National Cattlemen's Beef Association
Natural Resources Conservation Service
Nevada County Board of Supervisors
Nevada Co. Resource Conservation District
Nevada County Land Trust
Northern California Regional Land Trust
Placer County Resource Conservation District
Placer Land Trust
Planning and Conservation League
Rocky Mountain Elk Foundation
Sacramento River Watershed Program
Sacramento Valley Conservancy
Santa Barbara County Farm Bureau
San Joaquin Et Al
San Joaquin Raptor/Wildlife Rescue Center
San Joaquin Valley Conservancy
San Luis Obispo County Board of Supervisors
Sierra Foothills Audubon Society
Sierra Nevada Conservancy
Solano Land Trust
Sonoma County Board of Supervisors
State Water Resources Control Board
Sustainable Conservation
Sutter County Resource Conservation District
Tehama County Resource Conservation District
The Nature Conservancy
Trust for Public Land
Tuleyome
Tuolumne Co. Resource Conservation District
University of California
UC California Rangeland Research and Information Center
Upper Salinas-Las Tablas Resource Conservation District
US Fish and Wildlife Service
US Forest Service
VernalPools.org
Western Shasta Resource Conservation District
Wildlife Conservation Board
WildPlaces
Yolo County Board of Supervisors
Yolo County Resource Conservation District
Xerces Society for Invertebrate Conservation

July 30, 2010
Field tour: 实地考察
Demonstrate

Working Together for Wetland Conservation: Carey Ranch, Modoc County
The Carey Ranch provides valuable habitat to many species of resident and migratory game and no-game wildlife. With the assistance of partners, a 3-year wet meadow and riparian enhancement project improved wildlife habitat, forage available for livestock grazing and overall ranch management. Click here to read the story.

Finding Common Ground: Bird enthusiast and rancher shares conservation goals
The simple fact is that the only practical way we will retain sufficient habitat for the rangeland wildlife of California is through the maintenance of viable cattle ranching operations! A Sierra Club member shares his passion for birds and appreciation of the ranching community.

Grazing in the Bay Area: Fields Livestock, Alameda County
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. Hear how this ranching family improving public lands. Click here to read the story.

Guardians of the Range: A Linkage Between Bees and Beef
In 2009, a group of California Rangeland Conservation Coalition signatories teamed up with scientists to begin the first ever study on the health of honey bees in the West. Scientific and policy outcomes from this research are presented here.
We Work to Conserve and Enhance our California Rangelands

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CRCC map of conservation priorities: voluntary participation to stop fragmentation
Grazing and rancher management should continue on conserved private land

Stop land conversion using payments and incentives
Grassroots rancher groups: integrated and innovative

- **Goal:** Sustainable ranches and adequate rangeland (and avoid regulation)

- **Educate and demonstrate benefits of grazing**
  - Government
  - Public
  - Each other

- **Stabilize rangeland landscape**
  - Increase income (PES)
  - Limit conversion
  - Transfer to next generation
Protecting Our Resources

Through the Malpai Borderlands Group, we have protected 75,000 acres of private land through **conservation easements**, which will protect it as natural wildlife habitat and productive ranch land by preventing subdivision and development. We work actively with ranchers and landowners to develop these conservation easements. You may read more about this process by following the link to "Conservation Easements" located in the navigational panel to the left under "Land Protection".

Our group also invented the concept of "**Grassbanking**", by which neighboring ranchers who were experiencing serious drought could rest their ranches from grazing by moving their herds to the Gray Ranch under reciprocal conservation agreements. To learn more about this innovative concept, follow the link labeled "Grassbanking" located in the navigational panel under the heading "Land Protection".
Conclusions
• Many valuable social ecological services from rangelands depend on maintaining ranches and grazing lands.
Valuable “social-ecological services” are produced from the interaction of pastoralists and the environment.
Sustaining SE Services: Grassroots groups can integrate across properties, scales, stakeholders

Landscape: Intact ranches

Ranch: Economically viable

Pasture: Manage for desired ecological outcomes
Thank you!

Gracias!
Mutual benefits from rancher stewardship and values

Rancher benefits
- Natural beauty
- Living on property
- Wildlife and recreation
- Legacy value: heirs
- Production value

Public benefits
- Natural beauty
- Existence and viewshed
- Wildlife and recreation
- Legacy value: future generations
- Local ranch products

(Huntsinger et al 2010)