

California Rangeland Stewardship Research Update— Statewide Rancher Surveys & Interviews



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Rangeland Management and...

**Livestock performance, water quality,
soil health, vegetation dynamics, habitat
quality, & sensitive species conservation.**



More Recently...

Social-ecological aspects of ranching

- **Goal setting**
- **Decision-making**
- **Adaptation strategies**



Rangeland Watershed Laboratory
<http://rangelandwatersheds.ucdavis.edu>

Adaptive Rangeland Decision-Making

Rancher mail survey

- Spring 2011
- 1700 producer members of CA Cattleman's Association
- 509 surveys returned

Semi-structured rancher interviews and field surveys

- Spring 2013-Fall 2014
- 102 ranching families across CA



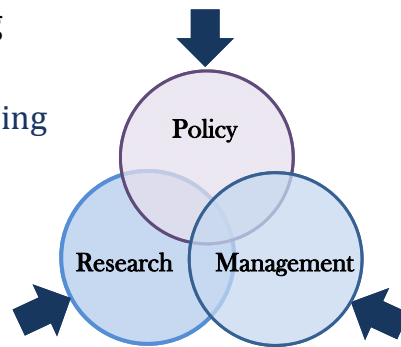
Sustaining Working Rangelands

Management of rangelands has become increasingly complex

- Economically and ecologically complex
- Growing societal demand for sustainable food systems
- Expanding expectations for conservation practices


Ongoing dialogue on sustaining working rangelands

- Critical need to include the ranching community
 - Perceptions
 - Experiential knowledge




Today's Roadmap: Adaptive Decision-Making

- Ranch and Rancher Demographics
- Information Resources
- Management Goals and Practices
- Grazing Management Strategies
- Concerns for the Future



Adaptive Rangeland Decision-Making

Diversity and complexity of ranching operations.



Number of responses per county

- 0
- 1 - 9
- 10 - 29
- 30 - 43

	Mean	Median	Max
Total size ¹ (ac)	23,240	2400	5,090,000
Private owned ¹ (ac)	2,660	620	40,000
Private leased ¹ (ac)	3,230	250	100,000
Public leased ¹ (ac)	17,300	0	5,000,000
Irrigated ¹ (ac)	360	2	12,000
Total livestock ¹	643	200	22,000
Cow/calf pairs ¹	288	145	8,000
Stockers ²	295	0	15,000
Sheep ²	181	0	8,200

¹n = 494
²n = 492

Roche et al. In Review.

Adaptive Rangeland Decision-Making

Demographics

- Median age: 62 (range of 25-93)
- 70% ≥ 3rd generation ranching
- 20% 1st generation ranching

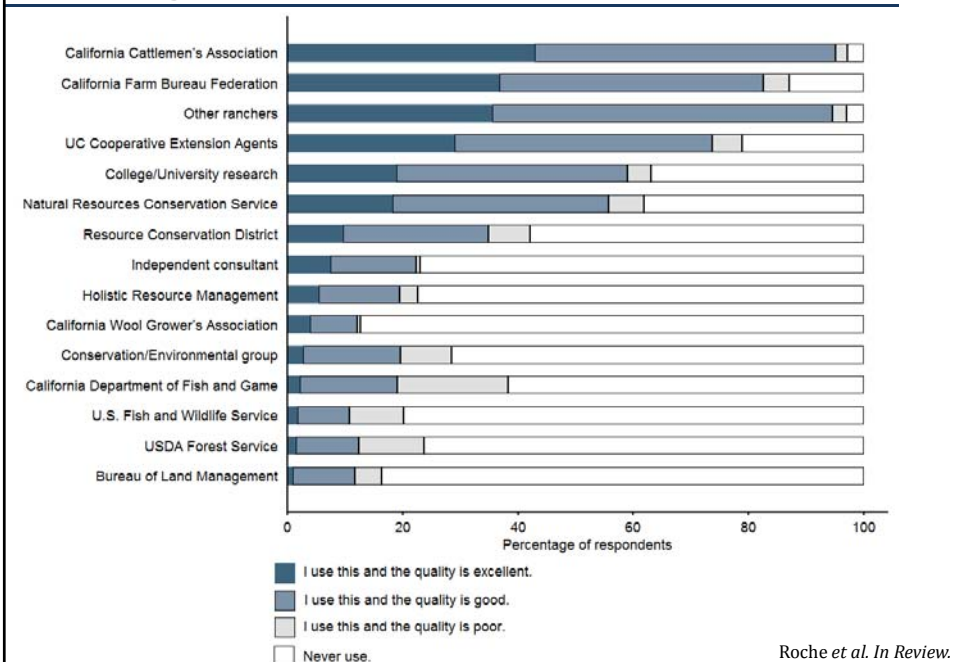


Ranch Economics

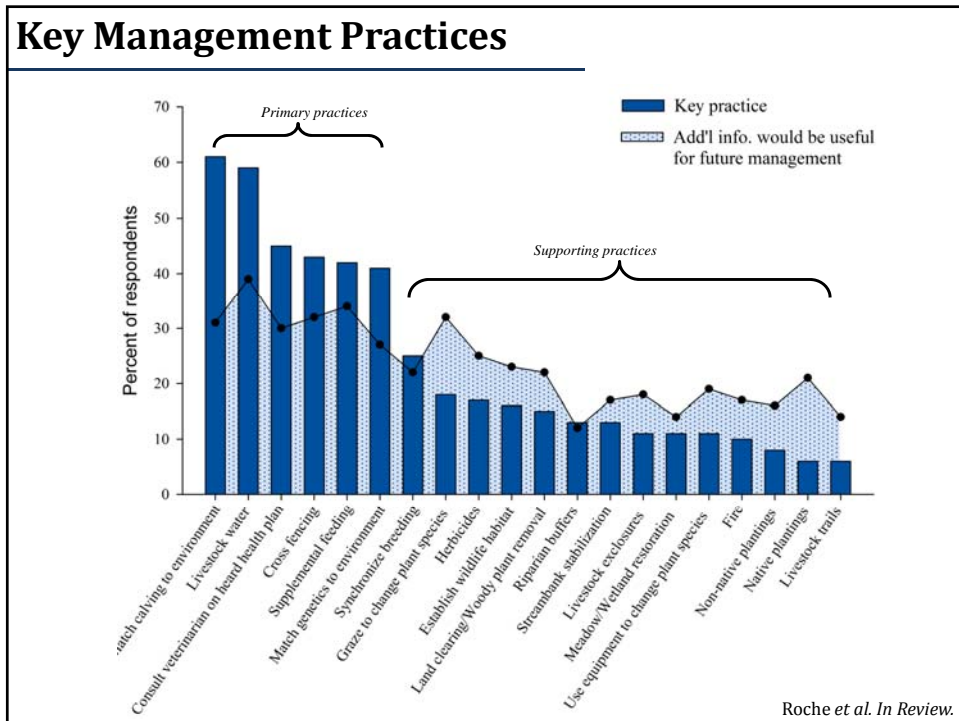
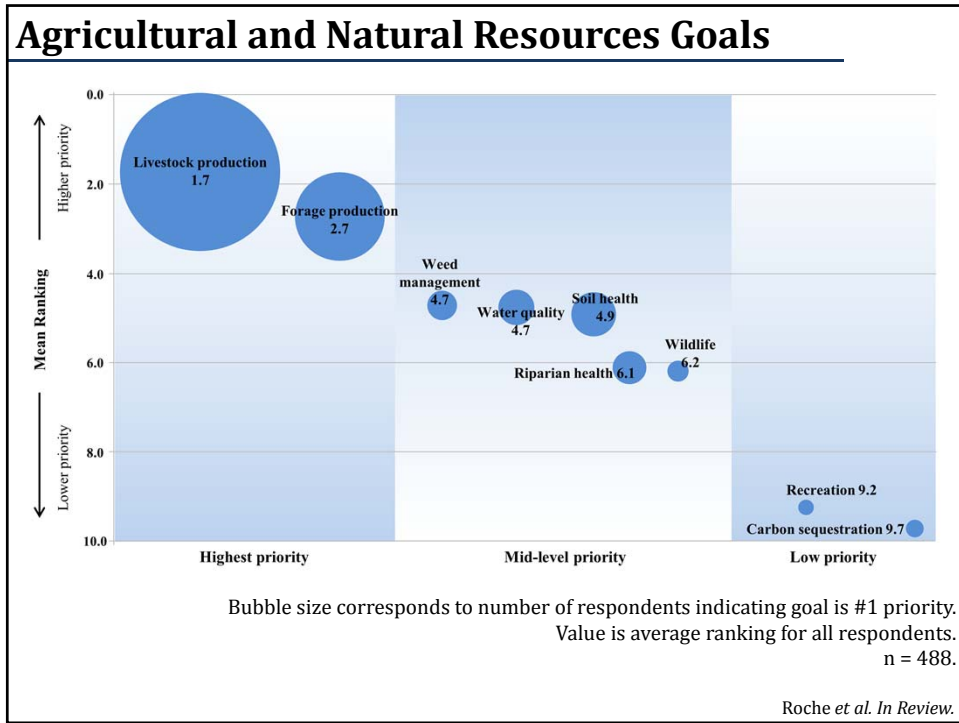
- 80% have off-ranch employment
- 33% have other agricultural production
- 65% consider ranching a critical source of income
- 45% have a succession plan in place (26% in progress)

Roche et al. In Review.

Ranching Information Resources



Roche et al. In Review.



Conservation Programs Participation

- Williamson Act most critical conservation program for ranchers (>75%).
- ~40% of ranchers are actively involved or have plans to enroll in NRCS EQIP.
- ~35% of ranchers have or plan to enter into a conservation easement (~10% currently participate).
- Ranches with larger amounts of land, orientation toward future (*multigenerational, succession plan in place*), and access to conservation information are more likely to participate in conservation programs (Lubell *et al.* 2013).



Characterizing On-Ranch Grazing Strategies

Identify distinct classes of grazing strategies based on practices employed

- Number of pastures
- Number of herds
- Livestock density
- Timing of rest & grazing

Strategies ~ Analogous to fingerprints

- Each is unique, but share identifiable patterns (classes)



GRAZING PRACTICES ON PRIVATE LAND THAT IS NOT IRRIGATED

The next questions will show your general approach to GRAZING the LARGEST area of PRIVATE land (wooded or forested) that is NOT IRRIGATED. We recognize that grazing changes from year to year. Please answer for typical years.

The NUMBER OF PASTURES (fenced sections) on the largest area of PRIVATE land is typically: (check one)

1 2-5 6-10 More than 10

The NUMBER OF HERDS on the largest area of PRIVATE land is typically: (check one)

1 2-5 6-10 More than 10

In most pastures, the DURATION OF GRAZING in the largest area of PRIVATE land is typically: (check one)

Continuous in most pastures through the year Moderate in most pastures- lasting for a few weeks at a time

Continuous through the growing season in most pastures, but not yearling Short in most pastures- lasting for a few days at a time

Long, in most pastures- lasting for periods of 1-3 months but not the entire growing season Other (please list) _____

In most pastures, the GRAZING SEASON on the largest area of PRIVATE land is typically: (check one)

All seasons Only in the middle of the growing season

The dormant season Only late in the growing season

The entire growing season Intermittent through the growing season

Only early in the growing season Other (please list) _____

In most pastures, the STOCK DENSITY on the largest area of PRIVATE land is typically: (check one)

0-1 ac/animal unit 1-10 ac/animal unit 10-20 ac/animal unit

20-30 ac/animal unit >30 ac/animal unit

In most pastures, REST from grazing on the largest area of PRIVATE land is typically: (check one)

No rest All seasons The dormant season

Only early in the growing season Only the middle of the growing season Only late in the growing season

Intermittently in the growing season Other (please list) _____

Roche *et al.* In Review.

Characterizing On-Ranch Grazing Strategies

3 classes of on-ranch grazing strategies emerged (n = 473).

Strategy	% Ranchers	No. Herds	No. Pastures	Grazing Duration	Livestock Density (ac/AU)	Timing of Rest
Extensive Rotation	46	1 to 5	2 to >10	Weeks	<5 to 11	Growing season
Season Long Continuous	35	1 to 5	2 to 5	Months	6 to 11	Dormant season
Year Long Continuous	19	1 to 5	2 to 5	Year	11 to 20	None

Roche et al. In Review.

Characterizing On-Ranch Grazing Strategies

Possible underlying variables driving grazing strategy preference.

Operation and operator demographics

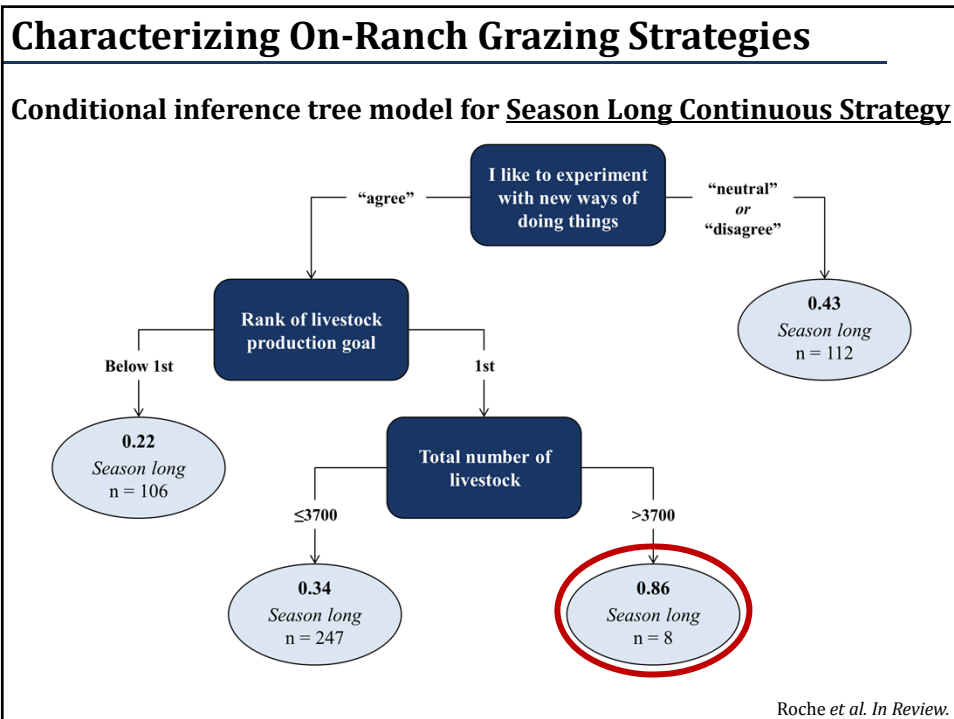
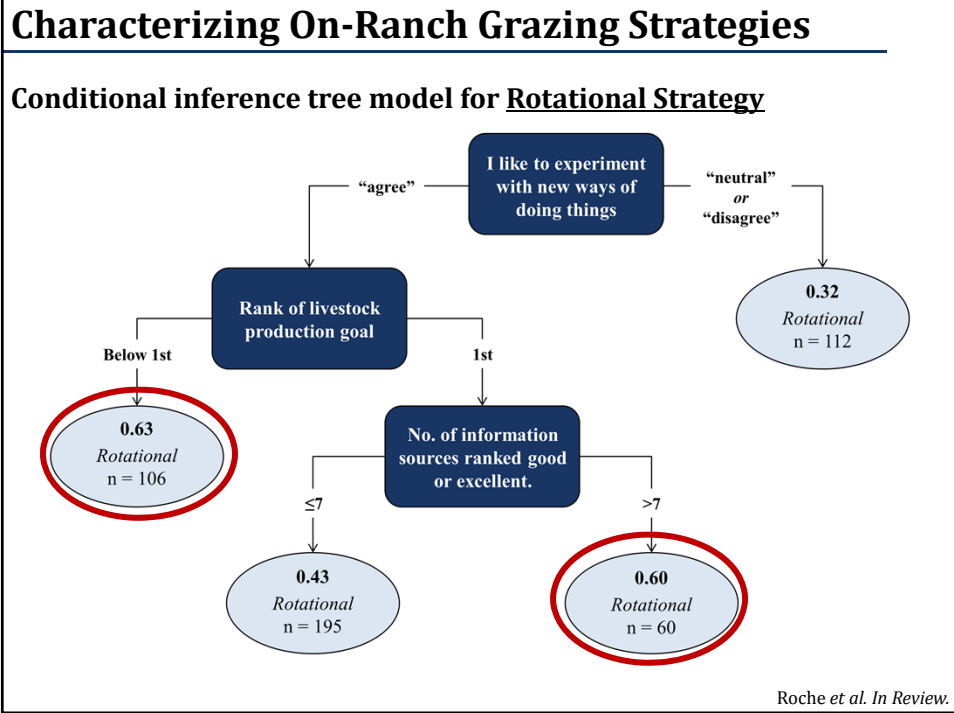
- USEPA Level III Ecoregion
- Dependence on ranch as a source of income
- Total number of livestock
- Number of generations ranching
- Operation includes publicly leased land

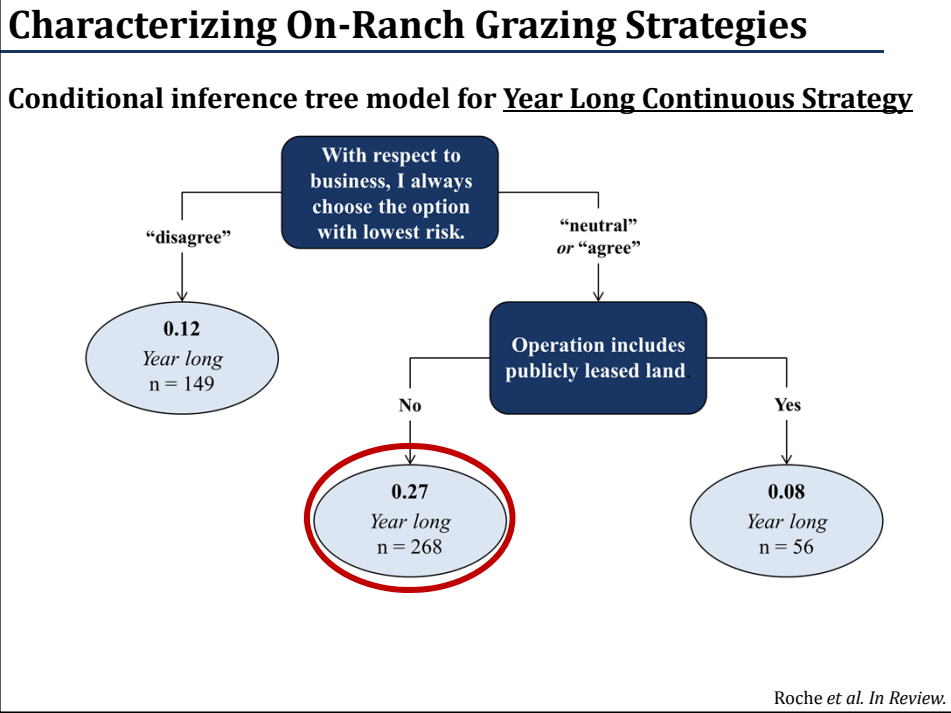
Information sources and social networking

- Educational level
- Number of good or excellent information sources
- Opinion leadership
- Information sharing with other ranchers

Operator attitudes and values

- Views on experimenting with new strategies/practices
- Views on economic viability and environmental protection
- Views on risk taking
- Rank of livestock production goal



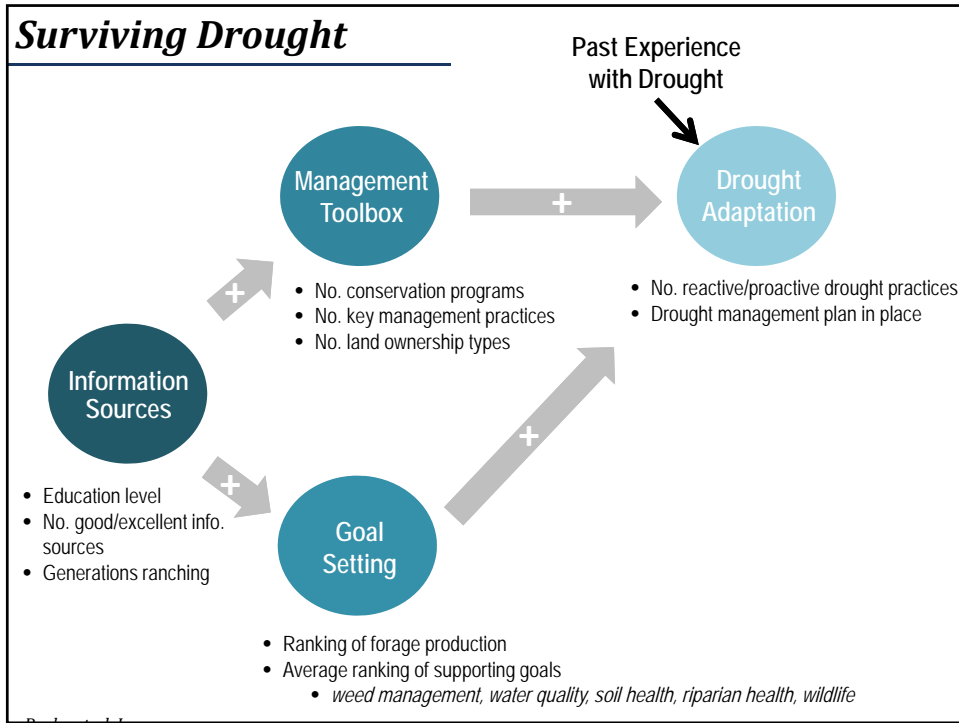


Characterizing On-Ranch Grazing Strategies

Mean values of ranches assigned to each class (n = 473).

Strategy	% Ranchers	No. Livestock	Private Acres	Total Acres (private + public)
Extensive Rotation	46	630	7,500	19,500
Season Long Continuous	35	950	6,000	43,500
Year Long Continuous	19	220	3,100	3,900

Roche et al. In Review.



Farmer and Rancher Voices from the Drought

A chronicle of oral stories of farming and ranching families.

<https://soundcloud.com/groups/farmer-and-rancher-voices-from-the-drought>

Farmer and Rancher Voices from the Drought

The worst drought in 500 years is devastating California's farming and ranching families. This project seeks to capture their stories through their own voices.

Inspired by Letters from the Dust Bowl, researchers and farm advisors affiliated with the University of California are chronicling the oral stories of farming and ranching families. The hope is to share the best management practices while generating awareness of the impacts of this drought.

Join

- UCDavisPlants Bud Sloan (3 hours)
- UCDavisPlants Fred Chamberlin (4 hours)
- UCDavisPlants Tom Crocker, Pt. 2 (3 hours)
- UCDavisPlants Tom Crocker (3 hours)

“Biggest concerns for the future of your operation?”



- 49% Government regulations/environmental policy (>90% of interviewees)
- 43% Economic viability
- 21% Succession planning
- 21% Water/rainfall/weather—Security of water supply

Roche et al. In Review.

Sustaining Working Rangelands

Management flexibility

- Diversity in ranch structure, management goals, and adaptive decision-making.
- Large toolbox and diversity of response options.
- No single policy or management panacea.

Collaborative, trust-based partnerships

- Build on shared economic and ecological goals.
- Negotiating potential differences between groups and addressing individual concerns of regulation.



Collaborators and Partners

Collaborators: Tracy Schohr, Justin Derner, Mark Lubell, Bethany Cutts, Emily Kachergis, Rick Standiford, Lynn Huntsinger, Mel George, Toby O'Geen, Valerie Eviner, Ken Tate.

UCCE Partners: Sheila Barry, Theresa Becchetti, Josh Davy, Morgan Doran, Julie Fenzel, John Harper, Roger Ingram, Royce Larsen, David Lewis, David Lile, Fadzayi Mashiri, Glenn Nader, Scott Oneto, Steve Orloff, Jeff Stackhouse.



Stakeholder
Advisory Groups



<http://leslie-roche.weebly.com>
<http://rangelandwatersheds.ucdavis.edu>

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