

Drought: Ranchers' Perspective and Management Strategies

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U.S. Drought Monitor California

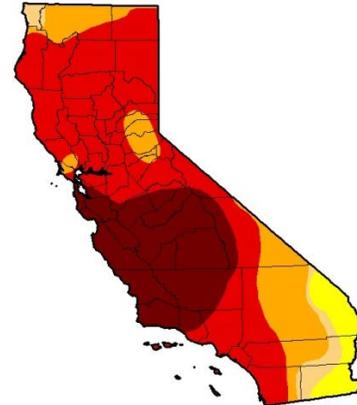
Issue

California ranching is an economically important sector of California agriculture. In 2012, California cattle and calve production grossed \$3.30 billion in sales (USDA-CAS, 2012). As California ranching is largely dependent on rain-fed systems as opposed to groundwater or stored water, it is very vulnerable to drought. Despite a variety of adaptation strategies employed by ranchers, most say that the severe water shortages and accompanying lack of forage that droughts bring would severely impact their operations. A severe statewide drought would also exacerbate the effects of earlier regional droughts that ranchers are already contending with.

While drought is nothing new to ranchers, consecutive drought seasons produce an increased burden on ranchers already struggling to adapt. The combined knowledge and efforts of ranchers and researchers are required to help ranchers set goals and develop management tools for adaptation strategies for drought impact management.

Policy Implications

In order to adapt to drought, ranchers require flexibility and options. State and federal resource conservation and drought assistance programs are essential to maintain flexibility and options. Adaptation strategies that have been successfully used by ranchers in past drought years are invaluable sources of information for researchers, policy makers, and ranchers with fewer resources with which to work. By understanding what works—and what tools and resources are required to produce positive outcomes—we can gain a



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	94.56	90.82	73.83	26.21
Last Week 2/18/2014	0.00	100.00	94.54	90.82	68.30	14.62
3 Months Ago 11/26/2013	2.61	97.39	94.15	82.53	27.59	0.00
Start of Calendar Year 1/26/2013	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year 10/1/2013	2.63	97.37	95.95	84.12	11.36	0.00
One Year Ago 2/26/2013	0.02	99.98	47.13	26.96	0.00	0.00

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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Fig. 1: Broad-scale California drought conditions during the 2014 growing season.

better understanding about the effects of drought—both short term and long term—on California’s ranchers. Therefore it is critical that assistance programs integrate these strategies, tools, and resources into educational materials meant to assist ranchers struggling to adapt to drought.

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Research Findings

In 2011, 507 ranchers were asked: “If another drought were to begin this year, how severely would this impact the economic viability of your operation?”

Of 507 California ranchers surveyed, more than three-quarters (N=443) indicated an impact either ‘as severe as’ or ‘worse than’ past droughts. A range of proactive and reactive adaptive strategies are used by California ranchers to manage drought impacts.

Rancher experience and knowledge are two important factors that influence ranch goal setting and drought management strategies. Ranchers with more access to experience and knowledge were better able to set and prioritize goals, and tended to have a larger ‘management toolbox’ of strategies and practices from which to draw. These factors have positive effects on development and implementation of drought adaptation strategies, including having a drought plan.

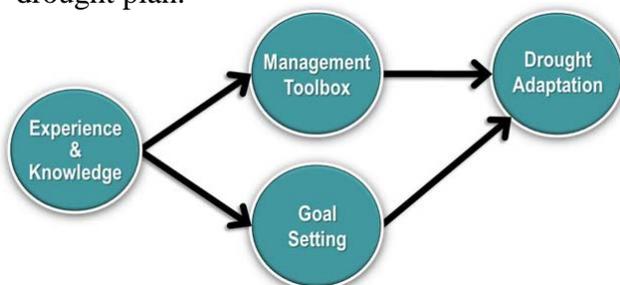


Fig. 2: The impact of experience and knowledge on drought adaptation strategies

By developing tools and resources to assist ranchers in developing effective drought adaptation plans, we help to ensure the economic viability of an important sector of California agriculture, as well as helping to ensure rancher livelihoods.

Further Reading and Resources

This policy brief is drawn from work on *Managing for Drought* by the Rangeland Watershed Laboratory, UC Davis. Further work, and links to publications may be found at: <http://rangelandwatersheds.ucdavis.edu/main/drought.html>

USDA Farm Service Agency—Disaster Assistance Programs
<http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=landing>

USDA Natural Resources Conservation Service—Environmental Quality Incentives Program
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/>

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Impacted More Severely than Expected by Last Drought	% (n=473)
Lost grazing capacity	77
Reduced winter forage availability	62
Lost profit	55
Lower calf weaning weights	44
Reduced reproduction rates	23
Shortage of livestock drinking water	20

Fig. 3: Impacts on economic viability due to last drought episode

Strategies to Manage for Drought Impacts		%
Proactive	Employ conservative stocking rates	34
	system	23
	Incorporate both cow-calf and stockers for flexibility	21
	Grass bank/Stockpile forage	12
	Use 1-3 month weather predictions to adjust stopcking	11
	Add other livestock types for flexibility	3
Reactive	Reduce herd size	70
	Purchase feed	69
	Apply for government assistance programs	39
	Wean early	39
	Rent additional pasture	26
	Move livestock to another location	24
	Earn off-ranch income	23
	Sell retained yearlings	22
	Place livestock in a feedlot	8
	Allow livestock condition to decline; maintain herd size	7
Add alternative on-ranch enterprise	4	

Fig. 4: Proactive and reactive strategies for managing drought impacts