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Drought Decision Support Tool for Ranchers

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Introduction

There's no "right way" to plan for an unpredictable natural disaster like drought. The goal of the drought decision support tool is to provide a starting point that fits your needs: use it as a worksheet for yourself, as a way to start conversations with your family and management team, or to think about a few questions you may not have considered in the past.

Purpose of plan: Creating a drought management plan with both proactive/reactive strategies does three key things: 1) sets deadlines–or "critical dates"–for making important decisions; 2) helps prioritize objective (rather than emotional) decision-making during a time when many difficult decisions must be made; and 3) pairs proactive and reactive strategies to help you avoid sunk costs[1]. Just as your budget is a tool for personal finance, your drought plan is a tool for your ranches' business strategy.

Flexibility*:*

Drought management strategies provide FLEXIBILITY in two primary ways:

1) flexibility in forage demand (the numbers and class of grazing livestock), and;

2) flexibility in supply (the ability to conserve or supplement forage supply).

For example: demand flexibility might include adding stockers in a good forage year or selling older cows during a drought. Supply flexibility might include stockpiling forage during good years/seasons to save it for dry years/seasons.

What data are you already collecting?

- ☐ Production records (i.e., details of key events)
- ☐ Production calendar (i.e., timing of key events)
- ☐ Precipitation data/outlook
- ☐ Forage calendar

[1] Sunk costs can occur when you've invested in a specific proactive tool (like conserving forage for pregnant females) but decide to implement a reactive tool (like culling pregnant cows) that does not realize the benefit of this investment.

United States Department of Agriculture, University of California, Siskiyou, Placer, Nevada, Sutter, and Yuba Counties Cooperating

Do you already have a written drought plan? ☐ Yes ☐ No

Does anyone else need to be involved in establishing this plan? Or given a copy?

_____
_____

What outcome would make this plan a success?

_____
_____

What proactive practices are you currently using?

- ☐ Incorporate feeders/stockers
- ☐ Multispecies grazing
- ☐ Stockpile forage
- ☐ Conservative stocking
- ☐ ID animals that could be sold
- ☐ Forage insurance
- ☐ Incorporate pasture rest

Other:

_____
_____

What drought impacts are you most concerned about?

- ☐ Reduced forage production
- ☐ Reduced stock water availability/quality
- ☐ Increase in losses from poisonous plants
- ☐ Increase in invasive weeds
- ☐ Increase in wildfire severity
- ☐ Tree and/or brush mortality
- ☐ Reduction in irrigation water (ground or surface)
- ☐ Reduction in reproductive rates
- ☐ Decrease in weaning weights
- ☐ Increased herd health problems
- ☐ Increased expenses
- ☐ Reduced revenues

Other drought impacts of concern:

_____

_____

Have your current proactive practices helped mitigate your most concerning drought impacts? ☐ Yes ☐ No ☐ NA

_____

_____

_____

Planning Calendar

Writing out a forage/production calendar in advance creates opportunities to develop, evaluate and adjust your drought management plan, which is key for making difficult decisions in a timely manner. We also know that *reduced forage availability* and *increased expenses* are the two biggest drought impacts- planning for forage availability helps address both by identifying what portions of calendar will be short on feed in advance, so that management practices with least undesired consequences can be adopted.

Operation Name: _____ Current Date: _____

12-month Projections

Month	# of Head	Livestock Class	Stage of Production • Maintenance • Gestation • Lactation • Growth	Forage Source Annual range • Perennial range • Irrigated pasture • Mtn meadow • Other:	Forage Projection* • Adequate / inadequate • Percent of "normal" forage	Land Type / Ownership** • Public or private? • Owned or leased?	Limiting Factor(s) • Forage quantity • Forage Quality • Stock water	Potential Action: will forage be short this month? • Yes/Now • Potential options? Consider economics →	Economic Considerations (see spreadsheets) What impact will this decision have on revenue and expenses? Other sources of funding (savings, FSA payments, loan, etc.)
1	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____					
2	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____					
3	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____	_____ _____ _____ _____					

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4									
5									
6									
7									
8									

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9									
10									
11									
12									

* Other considerations for Forage Source:

- Do you currently produce hay? Can you keep more of what you produce?
- What does it cost for you to put up your own hay? Can you buy hay cheaper?
- If irrigation water is limited, are you better off cutting hay or grazing pasture?

** Other considerations for Land Type/Ownership:

- Will you be able to turn out on your public lands grazing allotment, or will your grazing season be shortened?

- Can you take non-use for resource protection?
- What is the likelihood of having to gather/ship early?
- If forage amount and/or quality is limited, is it worth the cost to ship? Will it pay to haul water if stock water is your limiting factor?

Avoiding sunk costs: pairing proactive and reactive strategies

Supply flex ⟷ *Demand flex*

Proactive strategies:						
Stockpile forage at end of growing season	Conservative stocking rate	Incorporate pasture rest into grazing system	Forage insurance (both)	Incorporate feeders or stockers	Identify animals that could be sold	Multi-species grazing
Reactive Strategies to Consider:						
☐ Provide supplemental protein ☐ Haul stock water ☐ Keep more hay grown on ranch (or graze hay fields)	☐ Provide supplemental feed ☐ Haul stock water ☐ Cull females ☐ Rent additional pasture	☐ Provide supplemental feed ☐ Haul stock water ☐ Cull females	☐ Provide supplemental feed ☐ Provide full feed (i.e., feed only hay) ☐ Haul stock water	☐ Sell feeders or stockers	☐ Develop priority list of animals to be sold ☐ Wean early	☐ Cull females of species least suited to forage resources

Other supply flex options: *change irrigation practices to produce more forage.*

Other demand flex options: *place in feedlot*

Based on the above forage projections, what are your preferred strategies?

_____

_____

_____

Economic Analysis: *Use the spreadsheets provided to complete an economic analysis of your preferred strategies for your operation*

What will your preferred strategies cost (increased expenses or decreased revenues)?

_____

_____

What will your preferred strategies save (decreased expenses or increased revenues)?

_____

_____

Based on this analysis, what are the most economically beneficial strategies for your operation?

_____

_____

What are your critical dates for implementing your selected strategy(ies)?

_____

_____

_____

When will you reevaluate this plan? _____

Drought recovery and reflection:

What is your drought recovery plan?

- ☐ Rebuild operation (the same as it was before drought)
- ☐ Modify operation structure
- ☐ Retire and/or end career in ranching
- ☐ Help transition someone else into ownership of ranch
- ☐ Other: _____

Have the proactive practices you implemented helped mitigate your most concerning drought impacts? ☐ Yes ☐ No

_____

_____

_____