Managing Drought Risk on the Ranch

Tonya Haigh
National Drought Mitigation Center
University of Nebraska-Lincoln
Why Plan?
Ranchers benefit from having a drought plan

- Daybreak Ranch
- Reed-Hamilton Ranch
- Tippets-Myers Ranch
- Shamrock Ranch
- Adams Ranch
- Alexander Ranch
- Welch Ranch
- Johnson Ranch
WHAT’S IN A DROUGHT PLAN?
Plan is built on understanding of ranch’s...
Inventory and Monitor – Know what you’re working with

droughtatlas.unl.edu
Monitoring Tools
Vegetation Drought Response Index (VegDRI):

Vegetation Drought Response Index
Complete: Oklahoma

May 4, 2015

Vegetation Condition
- Extreme Drought
- Severe Drought
- Moderate Drought
- Pre-Drought
- Near Normal
- Unusually Moist
- Very Moist
- Extremely Moist
- Out of Season
- Water

vegdri.unl.edu
Building Resilience

- Maximize health of resources
- Build flexibility into operation
  - “We build enough in the good years that we can stand a two-year drought....In the good years we build lots of reserve. In the drought years we take off…”
- Ongoing monitoring
Developing a Drought Plan

- Trigger Information
- Critical Dates
- Decisions
- Options & Strategies
Write it down!

“I think it’s real important to have that discipline, and writing it out is probably as good a way as any to get that discipline.”

CRITICAL DATES

AVERAGE ANNUAL RAINFALL: 21 inches/year.
CRITICAL DATES- April 1, June 15, August 15, & Nov 1

April 1
- End of the winter dormant season and the beginning of the growing season for warm season grasses
- < 4” of moisture during the winter dormant season (killing frost or Nov 1 till April 1) No prescribed burns should be conducted.
- Plan to increase the length of rest periods earlier than usual.

June 15
- About half of the forage is produced by June 15
- 75%(15.75”) of the annual average rainfall is received between Nov 1 & June 15
- If the rainfall is < 80% (12.60”) of the 75% (15.75”) then the stocking rate should be decreased 30% by weight. (Finish culling herd C)
- If the rainfall is < 60% (6.30”) of the 75% (15.75”) then the stocking rate should be decreased 40-50% by weight (Cull herd B deep)
- The 3 weeks following June 15th is very critical. By July 15 the destocking should be completed.
- Rest periods should be as long as possible by June 1 if any indicator of a drought is present.
- Graze periods should be as long as possible to allow the other paddocks to rest for as long as possible.

August 15
- About 90% of the annual forage has been produced. Warm season grasses are preparing for next year growing season. Rest between now & frost will benefit next year’s grass production.
- Length of grazing season-Based on the rainfall in July & August
- If rainfall is < 70% (1.50”) of the average 5” during July & August end herd C grazing by Sept 1 (Cull Deep)

November 1
- End of the growing season and the beginning of the winter drought (drought season)
- < 80% (16.80”) of the 21” average annual precipitation would indicate the beginning of a drought for the next growing season unless the winter is exceptionally wet.
Managing Drought Risk on the Ranch

Drought is a normal part of climate...it will happen again. Fortunately, there are things you can do before, during, and after drought to reduce your risk. Ranchers are increasingly implementing new ways to better prepare for and respond to drought.

The information, strategies and resources on this site are designed to provide livestock producers in the Great Plains region with information on how to incorporate management strategies to reduce the threat drought poses to livestock and forage operations.

Managing Drought Risk on the Ranch: Great Plains Examples

South Dakota
Daybreak Ranch (Central)

Nebraska
Tippets-Myers Ranch (Western Sandhills)
Reed Hamilton Ranch (Sandhills)
Shamrock Ranch (Southwestern)

Kansas
Alexander Ranch (South Central)

Colorado
Welch Ranch (Southern)
Texas
Johnson Ranch (West Central)

How to use this site

Drought Conditions
U.S. Drought Monitor
Water Year Precipitation (Oct. 1st to present)
What To Do After Drought

This section contains information about steps you should consider after a drought.

Start Here After a Drought

Grass Recovery after Drought
The end of a prolonged severe drought will be memorable. When drought ends, vegetation recovery should become a primary management objective.

Grass Recovery

Management Priorities after Drought
Restoring range health and meeting production goals are both priorities after a drought that require careful planning.

Management Priorities

Financial Considerations after Drought
After a drought period is over is a good time to reflect and assess the performance of your response to drought conditions.

Financial Options

Related Pages

Recovering after Drought - Lessons from Shamrock Ranch
Sample Drought Plans

These sample drought plans have been contributed by ranchers, consultants, and advisors throughout the Great Plains. They range from very simple to quite detailed. While they do not all follow the planning methods suggested here, they may help you decide what sort of plan is needed for your ranch operation.

A key point to remember with any planning process is the old saying, "garbage in - garbage out." The better job you do collecting information about your operation and evaluating your options before, during, and after drought, the better the results of your plan will be.

Sample Plans

South Dakota
Central South Dakota - Daybreak Ranch

Nebraska
Southwest Nebraska - Shamrock Ranch
Western Nebraska Sandhills - Tippets-Myers Ranch
Nebraska Sandhills - Reed Hamilton Ranch

Kansas
South-Central Kansas - Alexander Ranch
North-Central Kansas - Adams Ranch

Colorado
Southern Colorado Case Study - Welch Ranch

Texas

Content: Sample Plans
Central South Dakota - Daybreak Ranch
Nebraska Sandhills - Reed Hamilton Ranch
Nebraska Sandhills - Tippets-Myers Ranch
Southwest Nebraska - Shamrock Ranch
North Central Kansas - Adams Ranch
South Central Kansas - Alexander Ranch
Southern Colorado - Welch Ranch
West Texas - Johnson Ranch

Related Pages
Steps to Writing a Drought Plan:
1. Form Planning Team
2. Set Goals/Strategic Objectives
3. Inventory
4. Identify Critical Dates and Targets
5. Develop Monitoring Plan
6. Develop Strategies
7. Implement and Monitor Plan
Sample Drought Plan - South Central Kansas

Goals/Strategic Objectives

The declaration of purpose for the Alexander Ranch is to manage all integrated resources in order to maximize the production of protein, shape a harmonious existence with nature and maintain economic viability.

The strategic plan and goals for the Alexander Ranch include:

1. Regenerating the range while utilizing the optimum percent of forage grown.
2. Improve the quality and quantity of the water cycle, mineral cycle, and energy flow.
3. Maximize the forage utilization and flexibility.
4. “Ancora Imparo” (I am still learning) Continue the management education process.

Operation

Seasonal custom grazing with cows and calves, no haying, no tractor

Inventory

- Annual Rainfall - 18.22 inches per year
- Native mixed-grass prairie

Critical Dates
Managing Drought Risk on the Ranch
A Planning Guide for Great Plains Ranchers

University of Nebraska - Lincoln
National Drought Mitigation Center
Available Online at: www.drought.unl.edu/ranchplan

http://drought.unl.edu/ranchplan
**Worksheet 4: Critical Dates and Target Conditions**

Critical dates are timely monitoring points in annual management cycles. Current and predicted forage resources are the primary focus of critical dates. Each critical date should have an action plan that clearly states target points for initiating the plan.

Target points may be based on carrying capacity of current forage or a percentage of average precipitation, i.e., 75%

See "Identify Critical Dates and Targets" at http://www.drought.unl.edu/ranchplan for suggested critical dates by region.

On your critical date → Monitor and compare to "target points" → Take appropriate action (action plan)

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<th>CRITICAL DATE</th>
<th>TARGET CONDITION</th>
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**Worksheet 7: Evaluate Management Strategies During Drought**

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<th>Drought Strategies</th>
<th>Is It Feasible?</th>
<th>Will It Have An Impact?</th>
<th>Will Benefits Outweigh Costs?</th>
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http://drought.unl.edu/ranchplan
National Drought Mitigation Center

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learn more at http://drought.gov and http://drought.unl.edu

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by National Drought Mitigation Center
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The National Integrated Drought Information System's Engaging Preparedness Communities Working Group hosted this drought...

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http://drought.unl.edu/ranchplan

Planning for a Drought - Ted Alexander
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4 months ago • 29 views
Ted Alexander, owner of Alexander Ranch in south-central Kansas, describes his ranch operation and the ways that...

National Drought Mitigation Center uploaded and posted 4 months ago

http://drought.unl.edu/ranchplan

The FIRST issue is deciding: “What is the challenge or decision to be made?”
• Challenges might include questions about soil, or strategy or timing.
• What are my production needs?
• How do I manage through a drought?
• What is a fair price to pay for water?

Economic Factors to Weigh in Making Decisions during Drought, Matt Stockton, UNL
by National Drought Mitigation Center
4 months ago • 3 views
Matt Stockton, Agricultural Economist at the West Central Research and Extension Center in North Platte, Nebraska...

NDMC on YouTube
Looking Ahead: Managing Drought and Recovery on the Ranch

May 21, 2015
10:30 a.m.—3 p.m.
Beaver County Fairgrounds
Beaver, OK

This workshop will feature information for ranchers who are dealing with long-term choices associated with drought, as well as drought recovery.

The workshop is free and open to the public.

Morning

- Managing Drought Risk on the Ranch—Tonya Haigh, National Drought Mitigation Center
- Drought in the High Plains: Current Status and Outlook - Gary McManus, Oklahoma Climatological Survey
- The role of Pasture, Rangeland, and Forage Insurance in a Drought Plan—Representative, USDA Risk Management Agency

Lunch Speaker

- Thinking Outside of the Box: Fire, Grazing, and Rangeland Health—Sam Fuhlendorf, Oklahoma State University

Afternoon

- Managing Regrowth and Drought Recovery - Curtis Bensch, Oklahoma Panhandle State University
- Managing Cattle with Limited Forage Resources - Britt Hicks, Oklahoma State University
- Producer Panel
Thank you!

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http://www.drought.unl.edu/ranchplan