

Types of Risks

Larry D. White and C. Wayne Hanselka
Professors and Extension Range Specialists, The Texas A&M University System



There is risk associated with managing any agricultural enterprise. Risk is defined as the chance of injury, damage or loss, often expressed as degrees of probability. Range ecosystems are especially complex, which, when combined with variable weather and markets, increases the risks associated with range management. Other factors involved are the goals and decision-making skills of the individual landowner. For a rangeland enterprise to be financially and ecologically sustainable, landowners must know the risks associated with various management decisions, and make those decisions wisely.

Goals of Land Ownership

A recent survey of agricultural landowners in Texas found that their primary goals are: to provide their children with a healthy rural environment and experience (9.9 percent); to maintain a working ranch (29.1 percent); to maintain the land as an inheritance for their children (30.0 percent); to conserve and protect natural resources (12.0 percent); and to provide the primary source of income for the family (10.5 percent) (Huett 1999).

Those whose goals are to generate income and have a working ranch depend most on livestock for family income (41.4 percent and 21.7 percent, respectively). The risk management strategies appropriate for a property depend on the landowner's age, goals, and other sources of income.

Landowners also must be concerned with protecting natural resources and being good stewards of the land. This is an issue that all Americans care about, and it will affect the economic viability of rural areas. Proper range management depends on the ability of the landowner to choose the right things to do and then adjust those practices, when necessary, to deal with problems and take advantage of opportunities.

Types of Risk

There are climatic, biological, financial, political and other risks that must be managed (Table 1). Some kinds of risk are always present – the risk of livestock disease or drought, for example. Other risks, such as those associated with the political climate or financial markets, may be more difficult to assess and plan for. There is no doubt that ranchers will need to improve their skills,

know what their options are, and understand how to predict the outcome of their actions. They will also benefit from learning about outside investment alternatives.

Table 1: Major risks associated with rangeland and livestock production in the United States (Holechek et al. 1998).

Risk Category	Example
Climatic risk	Drought, severe winter
Biological risk	Livestock disease, predation, grasshopper infestation
Financial risk	Rising interest rates, rising production costs, falling cattle prices, falling land values
Political risk	Rising taxes, increased regulation, higher grazing fees on public lands, elimination of subsidies, increased protection for endangered species, land use restrictions
Other	Fire, theft, vandalism

Traditional ranch management tends to emphasize specific resources, enterprises and/or managerial functions, while overlooking some opportunities. Even rangeland preserves must be managed to promote biodiversity and maintain the lands in their natural state.

Managing Risks on Rangeland

- **Climatic.**
Rainfall distribution and amount directly affect management decisions. One of the best tools for managing climatic risk is a historical record of rainfall amounts

and distribution on your land. Monitor rainfall and keep careful records to help in your planning. Analyze these records to understand the seasonal/annual probability of receiving different amounts of rain.

- **Biological.**

Most range management practices are appropriate under some conditions but not others. Brush control, for example, does not always have the desired result. Much depends on the landowner's expectations, the characteristics of the land, the weather conditions, the way the land was managed before and after treatment, the particular brush control method used, etc. Each management option and situation should be carefully studied before a specific practice is adopted. Calculate the cumulative risks associated with each series of management decisions (see L-5373). Success depends on understanding ecological processes and knowing what tradeoffs may need to be made.

- **Financial.**

Financial risks are associated with every management decision. Costs and returns vary constantly, as does the planning horizon for evaluating alternatives. Perhaps the most important thing for landowners to remember is that their lands are capable of producing only so much. To have a sustainable operation, you must not allow your overhead debt to exceed your net income, or your use of resources to exceed harvestable production, even in bad years. Also, when deciding whether or not a practice or an investment would be cost effective over time, remember that your income will vary each year.

- **Political.**

The political reality is that the public wants the environment to be safe and healthy, and landowners are expected to be good stewards of their lands. Consider that before making management decisions. Responsible resource stewardship and consideration for others can prevent many problems and reduce the potential for regulations that might affect your operation. Be involved in the political process.

General Risk Management Strategies

Good managers consider both the present and the future, knowing that a decision is irresponsible if it puts them at significant financial risk or threatens the sustainability of resources, either in the current year or in years to come. Strategic planning is important because we cannot accurately forecast the future. Use strategic planning to guide your

decision making. A strategic plan includes contingency provisions, and these are just as important as the specifications for things that are known. Make better use of scientific information and new approaches to business management. Investigate off-ranch investments and off-ranch employment. Find ways to avoid, reduce or manage risks so that your rangeland operation is sustainable.

Other publications in this series:

- L-5368, Making Better Decisions
- L-5371, Common Grazing Management Mistakes
- L-5375, Common Brush and Weed Management Mistakes
- L-5373, Will You Succeed as a Rangeland Manager?
- L-5377, Forage Quality and Quantity
- L-5374, Rangeland Health and Sustainability
- L-5370, Drought
- L-5369, Toxic Plants
- L-5376, Seeding Rangeland

For further information:

Holechek, J. L., R. D. Pieper and C. H. Herbel. 1998. Range management: principles and practices. New Jersey:Prentice Hall.

Huett, B. 1999. Is the Texas Agricultural Extension Service succeeding at educating and satisfying Texas agricultural producers? M.S. Thesis, Department of Rangeland Ecology and Management, Texas A&M University.

Troxel, T. and L. D. White. 1990. A survey evaluation of ranchers and Extension personnel who participated in total ranch management workshops. *The Professional Animal Scientist*, 12:257-266.

Thurrow, T. L. and C. A. Taylor, Jr. 1999. Viewpoint: the role of drought in range management. *Journal of Range Management*, 52:413-419.

White, L. D., T. R. Troxel, J. G. Pena and D. E. Guynn. 1988. Total ranch management-meeting ranch goals. *Rangelands*, 10:3-6.

For additional range management information see: <http://texnat.tamu.edu>

For additional risk management information see: <http://trmep.tamu.edu>

Support for this publication series was provided by the Texas Agricultural Extension Service risk management initiative.



Produced by AgriLife Communications and Marketing, The Texas A&M University System
Texas AgriLife Extension publications can be found on the Web at: <http://AgriLifebookstore.org>

Educational programs of the Texas AgriLife Extension Service are open to all people without regard to race, color, sex, disability, religion, age, or national origin.