Types of Risks

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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).

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Example</th>
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</thead>
<tbody>
<tr>
<td>Climatic risk</td>
<td>Drought, severe winter</td>
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<tr>
<td>Biological risk</td>
<td>Livestock disease, predation, grasshopper infestation</td>
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<tr>
<td>Financial risk</td>
<td>Rising interest rates, rising production costs, falling cattle prices, falling land values</td>
</tr>
<tr>
<td>Political risk</td>
<td>Rising taxes, increased regulation, higher grazing fees on public lands, elimination of subsidies, increased protection for endangered species, land use restrictions</td>
</tr>
<tr>
<td>Other</td>
<td>Fire, theft, vandalism</td>
</tr>
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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 exam-
ple, does not always have the desired result. Much
depends on the landowner’s expectations, the character-
istics of the land, the weather conditions, the way the
land was managed before and after treatment, the partic-
ular 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 managment decisions
(see L-5373). Success depends on understanding ecologi-
cal 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, remem-
ber that your income will vary each year.

• Political.
The political reality is that the public wants the environ-
ment to be safe and healthy, and landowners are expect-
ed 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 reg-
ulations 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 accurate-
ly forecast the future. Use strategic planning to guide your
decision making. A strategic plan includes contingency pro-
visions, 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 employ-
ment. 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:
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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
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