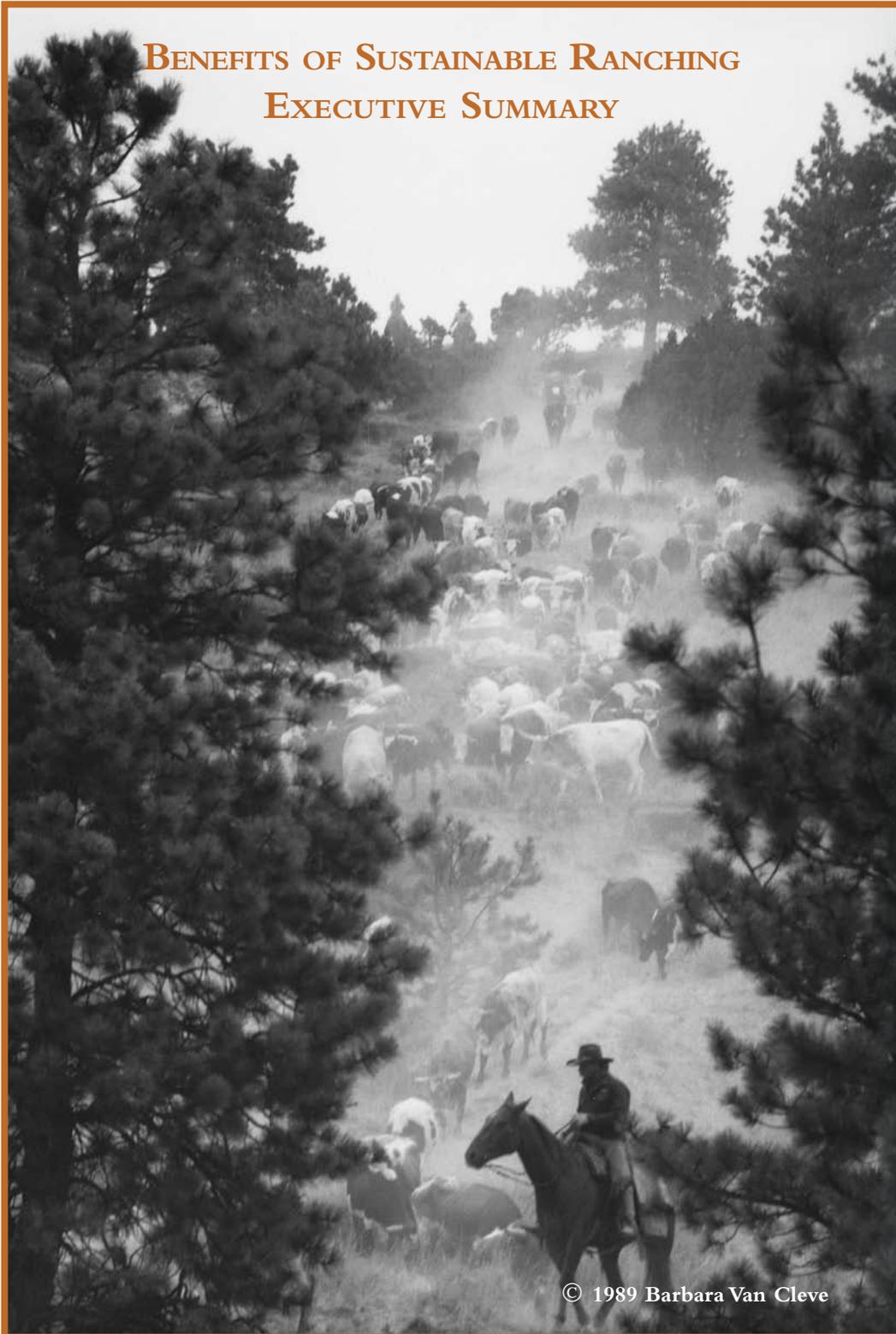




CORPORATION FOR THE NORTHERN ROCKIES

**BENEFITS OF SUSTAINABLE RANCHING  
EXECUTIVE SUMMARY**



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**CNR PARTNERS:**

**Montana State University, Department of Land Resources & Environmental Sciences  
Land EKG**

**Survey Analysis: Economist Steve Caldwell**



# CORPORATION FOR THE NORTHERN ROCKIES BENEFITS OF SUSTAINABLE RANCHING

## Executive Summary

By Steve Caldwell, Economist

A 22 percent increase in profitability. Healthier rangelands and riparian areas. More time with family. These are just a few of the benefits of sustainable management reported by ranchers practicing sustainable techniques on their operations in the Northern Rockies.

In the spring of 2001 the Corporation for the Northern Rockies (CNR) surveyed 38 ranchers practicing sustainable management. The purpose of the survey was to investigate the financial, environmental and quality of life effects of sustainable practices. CNR collaborated with Land EKG, a Bozeman, Montana ranch management consulting firm, and Montana State University's Department of Plant and Soil Sciences on the survey questions and potential participants. The survey asked 95 questions on economic performance, land management practices, animal and land health issues, environmental monitoring results and quality of life factors. Questionnaires were mailed to 74 ranchers. Thirty-eight ranchers replied, reflecting a 51 percent return rate.

The sizes of the operations included in the survey ranged from less than 200 acres to more than 50,000 acres, with the average around 12,000 acres. Almost all of the respondents were over 36 years old, with about two-thirds over 46 years of age. On average, the surveyed ranchers have been managing their land sustainably for 12 years.

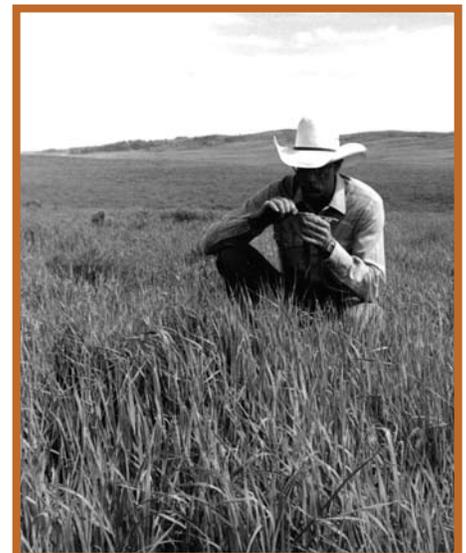
**Ranchers reported an average increase in profitability of over 22%!**

Respondents defined "sustainable" practices in a variety of ways. A practice's level of sustainability depended upon the context of the needs and goals of the individual operation. In other words, certain practices that may have been sustainable for one operation (such as haying) may not have been considered sustainable elsewhere. The general pattern within the results showed that the concept of sustainable management provided managers with a "fresh set of eyes" to examine a wide range of management practices, and to make informed decisions regarding the most appropriate practices given the specific environmental conditions and goals of each operation.

Nearly 70 percent of the respondents reported a net profit in 2000, with 75 percent reporting increases in profitability since adopting sustainable practices. For the 75 percent, the average increase in profitability was over 22 percent.

### Seven factors increased profitability:

1. Adding profitable enterprises & eliminating unprofitable enterprises
2. Lowering operating costs by reducing inputs and equipment needs
3. Changing calving time to spring instead of mid winter
4. Increasing stocking rates because of healthier rangelands
5. Implementing financial planning
6. Establishing goals for the landscape, ranch operation and quality of life
7. Implementing a resource monitoring program and adjusting management based on monitoring data



Since adopting sustainable practices, about half of the respondents eliminated certain non-essential enterprises or supplemental businesses, and now focus more on their core business of ranching. Many ranchers eliminated or substantially reduced unprofitable enterprises such as haying or farming of row crops and grains. Some ranchers also diversified their operations by adding new enterprises such as guest facilities and fee hunting, fishing and photography.



For nearly all of the respondents, stocking rates have increased, overall unit costs have gone down, or both. Over 80 percent of the survey participants used gross margin calculations to make management decisions, and a similar percentage considered the time value of money in their economic evaluations. Of the 80 percent who calculated their unit costs (the cost to carry an animal for one year), 94 percent reported lower unit costs in a range of 15 to 25 percent since adopting sustainable practices. Eighty-nine percent increased stocking rates. However, 55 percent reported some negative results from over stocking.

Unit costs dropped because many respondents eliminated farming of crops and haying--choosing to purchase hay. This in turn reduced their need for expensive farming equipment and the fuel to run the equipment. Respondents also substantially reduced their reliance on synthetic herbicides, pesticides and fertilizers. Instead, they use livestock to control undesirable weeds and shrubs. Other expenses such as supplemental feed costs also declined.

Calving seasons have also changed, with 80 percent reporting later calving. Advantages of later calving included improved breed up, higher live birth and survival rates, and reduced feed costs. Respondents also saved money on labor and veterinary costs. Most of the respondents also rely less on fly sprays, hormones, antibiotics and growth stimulants.

The adoption of sustainable management practices has increased certain expenses, such as fencing, water developments, education and training, and advertising and marketing. Respondents cited that fencing costs, in particular, increased from 10 to 40 percent depending upon the operation.

All respondents use some form of low-stress herding techniques, and almost all were using time-controlled grazing. Of the 87 percent who use livestock to trample out brush or other undesirable plants, or to heal gullies or eroding stream banks, 100 percent reported positive results.

Goal setting, planning, training and resource monitoring are other key success factors. Over sixty percent of respondents have goals for their operation and quality of life. Over eighty percent follow a grazing plan and nearly that many have a drought plan that includes a critical date for activating the plan.

Respondents also reported a much greater emphasis on financial planning. Seventy-four percent have created, and follow, a financial plan and budget. Many participants also have begun their estate planning.



Left side of stream shows the effects of conventional grazing practices (wide & shallow with no riparian vegetation.) Right side shows improvements after 2 years of sustainable practices (narrowing & deepening of stream & beginning recovery of riparian vegetation.)

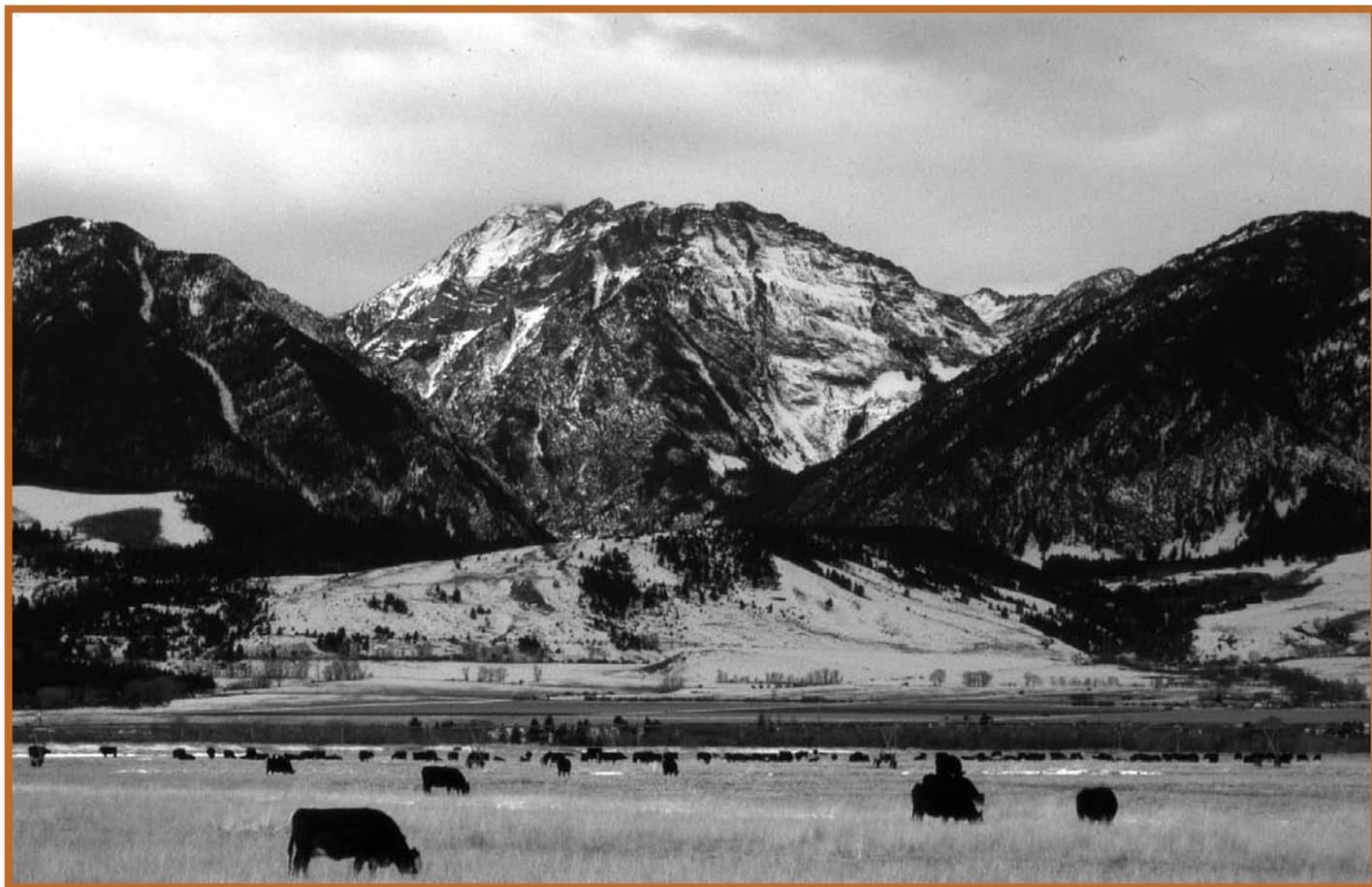


Two-thirds of respondents invest in training to increase their proficiency in grazing management, low-stress herding techniques, financial management and monitoring. About two thirds of the respondents have formal resource monitoring programs in place. On average, the respondents reported slight increases in per-acre yields, plant diversity, new seedling success, litter cover, water infiltration into the soil, and numbers and diversity of wildlife. There were overall slight decreases in soil capping and percent of bare ground. Eighty-two percent of the respondents adjust their management based on monitoring data.

About 75 percent consider wildlife an asset to their operations, and two-thirds incorporate formal management practices for wildlife on their property. Respondents created or preserved wetlands, consistently leave forage, manage hunting, provide water sources and protect riparian areas to benefit fish and wildlife.

Respondents also reported a real improvement in their quality of life since practicing sustainable management. Eighty-seven percent now take regular days off each month. They also take yearly vacations that average 10 days. Many also reported better working relationship with family members, co-workers and employees because of cooperative goal setting and planning and increased communication.

**The study documents that sustainable ranching practices are good for the land, wildlife and a ranchers profitability and quality of life**



# STUDY STATISTICAL RESULTS

## Notes:

Percentages (except where noted) are the percentages of respondents for each alternative

“Average” denotes the mean (arithmetic average) value

“Median” denotes the central value in the range of responses

“Range” represents the minimum and maximum response values

“Histogram” output provides the number of responses for each value

Percentage totals may not add to 100 percent due to rounding

## Total number of surveys returned - 38

### Average age of managers/owners was:

12-17	0.0%
18-25	0.0%
26-35	2.6%
36-45	34.2%
46-55	34.2%
Over 55	28.9%



### Surveyed managers/owners were:

Male	94.7%
Female	5.3%

### Number of years the owner/manager has been managing his/her operation sustainably:

Average - 12      Median - 14      Range – 1-25

### Businesses were classified as:

Farm	0.0%
Ranch	75.7%
Both	24.3%

### Total land under management was:

500 acres or less	5.3%
500-2000 acres	15.8%
2000-6000 acres	18.4%
6000-12,000 acres	10.5%
12,000-25,000 acres	23.7%
25,000-50,000 acres	15.8%
More than 50,000 acres	10.5%



**Percentages of land classified as deeded, private lease, state lease and federal lease:**

	<b>% Deeded</b>	<b>% Private Lease</b>	<b>% State Lease</b>	<b>% Federal Lease</b>
Average	65.7	31.8	10.1	33.2
Median	69.5	28.5	7	32
Range	5-100	0-90	1-30	0-88

**Gross ranch/farm sales and receipts for 2000 were:**

Less than \$25,000	5.7%
\$25,000 to \$49,999	2.9%
\$50,000 to \$99,999	14.3%
\$100,000 to \$174,999	20.0%
\$175,000 to \$249,999	11.4%
\$250,000 to \$349,999	2.9%
\$350,000 to \$500,000	8.6%
Over \$500,000	34.3%



**Gross ranch/farm expenses for 2000 were:**

Average - \$247,116    Median - \$184,000    Range - \$712-1,200,000

**Numbers of families living on the surveyed farms/ranches were:**

Average - 2                      Median - 2                      Range - 1-11

**Numbers of people living on the surveyed farms/ranches were:**

Average - 7                      Median - 5                      Range - 1-31

**Numbers of permanent employees on the surveyed farms/ranches were:**

Average - 2                      Median - 1                      Range - 0-14

**Numbers of people having an ownership interest in the surveyed farms/ranches were:**

Average - 5                      Median - 3                      Range - 1-28

**Numbers of years that surveyed managers/owners have been managing any land were:**

Average - 25                      Median - 25                      Range - 8-52

**Numbers of years that surveyed managers/owners have been managing their land were:**

Average - 21                      Median - 20                      Range - 2-52

**55.3% percent of surveyed operations had land previously managed by the family of the current owner/manager.**

**Duration of family management (years) was:**

Average - 65    Median - 75    Range - 3-128



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