

Presentation Coursebook

**Sustainable Ranch Management through Monitoring
and Business Planning: A Workshop**



Sponsored by Western Sustainable Agriculture Research and Education (WSARE)

Thursday, February 10, 2011

Billings Hotel and Convention Center – Explorer Room

*A Sustainable Rangelands Roundtable Workshop conducted at the Society for Range
Management Annual Meeting*

Sustainable Ranch Management through Monitoring and Business Planning: A Workshop

This session is designed to share with conservation professionals, extension personnel and land managers tools and techniques for combining social, ecological and economic monitoring with standard business planning methods for sustainable ranch management. The workshop will discuss how selected social, ecological, and economic indicators of sustainability can be used to monitor ecological conditions as well as the socio-economic components of a ranch business plan. The business planning process and the protocols needed to gather necessary monitoring data will be presented. Speakers will provide an overview of sustainability principles at the ranch level, emphasizing integration of economic, social, and economic information provided by indicators. Applications on federal allotments, as well as within the NRCS conservation program and planning context for private lands will be addressed. A section will deal specifically with collection of traditional monitoring data for soils, water, plant, animals, productive capacities, economics, and relevant social, legal, and institutional elements. A framework for evaluation of rangeland ecosystem services in the context of alternative income sources for ranchers and land managers also will be presented. The Wyoming Business Council process for developing a ranch business plan will be featured. By the end of this workshop, participants should be able to assist ranchers in developing a business plan, including monitoring necessary to support sound decision-making for financial and natural resource related aspects of the business.

For additional information on rangeland sustainability, please visit the Sustainable Rangelands Roundtable on Facebook, Linked In, or on our website at <http://sustainable.rangelands.org>.

Ranch Sustainability Assessment: Monitoring and Business Planning WORKSHOP EVALUATION QUESTIONNAIRE

INSTRUCTIONS

Response to this survey is voluntary. Please do not put your name on this form. Results will be used to evaluate this workshop and your assessment of what you learned. Only aggregate data will be reported. Please circle your responses. Rate aspects of the workshop on a 1 to 5 scale:

- 1 = "Strongly Agree," or the highest, most positive impression
 - 2 = "Agree"
 - 3 = "Neither Agree nor Disagree," or an adequate impression
 - 4 = "Disagree"
 - 5 = "Strongly Disagree," or the lowest, most negative impression
-

WORKSHOP CONTENT (Circle your response to each item.)

For each topic please indicate whether your knowledge has improved?

- | | |
|---|-----------|
| 1. Rangeland sustainability. | 1 2 3 4 5 |
| 2. Goals of sustainable ranch management assessment project. | 1 2 3 4 5 |
| 3. NRCS conservation planning and sustainable rangeland management assessment. | 1 2 3 4 5 |
| 4. NRCS financial and technical assistance for rangeland sustainability. | 1 2 3 4 5 |
| 5. Joint cooperative monitoring, federal grazing allotments and rangeland sustainability. | 1 2 3 4 5 |
| 6. Monitoring of soil and water indicators for rangeland sustainability. | 1 2 3 4 5 |
| 7. Monitoring of plant and animal indicators for rangeland sustainability. | 1 2 3 4 5 |
| 8. Monitoring of rangeland productive capacity indicators for rangeland sustainability. | 1 2 3 4 5 |
| 9. Evaluation of sustainable rangeland ecosystem services production potential. | 1 2 3 4 5 |
| 10. Monitoring social and economic indicators for sustainable rangeland management. | 1 2 3 4 5 |
| 11. Monitoring legal, educational, and institutional indicators for sustainable rangeland management. | 1 2 3 4 5 |
| 12. Sustainable ranching business planning concepts and methods. | 1 2 3 4 5 |
| 13. The business planning process for sustainable rangeland management. | 1 2 3 4 5 |

WORKSHOP DESIGN (Circle your response to each item.)

- | | |
|--|-----------|
| 12. I was well informed about the objectives of this workshop. | 1 2 3 4 5 |
| 13. This workshop lived up to my expectations. | 1 2 3 4 5 |
| 14. The content is relevant to my job. | 1 2 3 4 5 |
| 15. The workshop stimulated my thinking and learning. | 1 2 3 4 5 |
| 16. The examples provided in this workshop were sufficient. | 1 2 3 4 5 |
| 17. The difficulty level of this workshop was appropriate. | 1 2 3 4 5 |
| 18. The pace of this workshop was appropriate. | 1 2 3 4 5 |

WORKSHOP INSTRUCTORS (Circle your response to each item.)

- | | |
|--|-----------|
| 19. The instructors were well prepared. | 1 2 3 4 5 |
| 20. The instructors were responsive and helpful. | 1 2 3 4 5 |

WORKSHOP RESULTS (Circle your response to each item.)

- | | |
|---|-----------|
| 21. The workshop accomplished its objectives. | 1 2 3 4 5 |
| 22. I will be able to use what I learned in this workshop. | 1 2 3 4 5 |
| 23. The workshop was a good way for me to learn this content. | 1 2 3 4 5 |

WORKSHOP FEEDBACK (Check all that apply.)

24. How would you improve this workshop?
- Provide better information before the workshop.
 - Clarify the workshop objectives.
 - Reduce the content covered.
 - Increase the content covered.
 - Update the content covered.
 - Improve the instructional methods.
 - Make workshop activities more stimulating.
 - Improve workshop organization.
 - Make the workshop less difficult.
 - Make the workshop more difficult.
 - Slow down the pace.
 - Speed up the pace.
 - Allot more time.
 - Shorten the time.
 - Other _____

25. What did you find most valuable about this workshop?

27. What did you find least valuable about this workshop?

28. Do you have any other comments?

DEMOGRAPHICS

29. For whom do you work?

- A. Federal agency
- B. State agency
- C. Local agency
- D. Tribal government
- E. Academia/Extension Service
- F. Private
- G. Other _____

30. How long have you worked for that organization (circle)? <1 year 1-5 years 5-10 years >10 years

31. What is your highest educational level (circle)? BS/BA MS/MA PhD Other

Please note that we will contact you via the email address provided in your workshop registration within 6 to 12 months to see whether you have been able to use information provided in this workshop to assist you in your work or education.

Sustainable Ranch Management through Monitoring and Business Planning: A Workshop

Thursday, February 10, 2011

Workshop Agenda (coursebook section number tabs correspond to bold numbers below):

1. 8:00-8:10 Registration, Coffee and Welcome – *John Tanaka, University of Wyoming*
2. 8:10-8:20 SRR Overview – *Kristie Maczko, Sustainable Rangelands Roundtable, University of Wyoming*
3. 8:20-8:35 SRR Sustainable Ranch Management Assessment Project: Concepts, Goals, and Objectives – *Dick Loper, Wyoming State Grazing Board and Stan Hamilton, SRR Steering Committee (retired Director, Idaho Department of Lands)*
4. 8:35-9:00 NRCS Conservation Planning and Use of Monitoring and Business Planning Information – *Gene Fults and Chuck Stanley, NRCS*
5. 9:00-9:30 USDA NRCS Conservation Program Financial and Technical Assistance to Support Producers in Conservation, Assessment and Business Planning – *Mark Parson, NRCS Resource Conservationist and Dennis Thompson, NRCS National Grazing Lands Ecologist*
6. 9:30-10:00 Use of Monitoring and Business Planning in the Context of Joint Cooperative Monitoring and Federal Grazing Allotments – *Doug Powell, BLM and Annette Joseph, USFS*

BREAK

7. 10:20-11:40 SRR Ecological Assessment Indicators: selection and monitoring techniques – *Dr. Mike Smith, University of Wyoming and Dr. John Mitchell, USDA Forest Service (retired)*
8. 11:40-12:00 SRR Rangeland Ecosystem Services Assessment Framework – *Dr. John Tanaka, University of Wyoming*

LUNCH

9. 13:20-14:00 SRR Socio-Economic Assessment Indicators – *Dr. John Tanaka, University of Wyoming*
10. 14:00-14:15 SRR Legal, Educational and Institutional Assessment Indicators -- *Dr. John Mitchell, USDA Forest Service and Stan Hamilton, SRR Steering Committee (retired Director, Idaho Department of Lands)*
11. 14:15-15:00 Business Planning Concepts and Methods – How does it work? – *Cindy Garretson-Weibel, Wyoming Business Council*

BREAK

12. 15:20-16:50 The Business Planning Process and Incorporation of Monitoring Information – *Cindy Garretson-Weibel, Wyoming Business Council*
13. 16:50-17:00 Questions and Discussion - *led by John Tanaka, University of Wyoming*



Sustainable Rangelands Roundtable
Social, Ecological, and Economic Indicators for Ranch Assessment

Kristie Maczko, PhD

<http://Sustainable.Rangelands.org>



Sustainable Rangelands Roundtable

- o Is a collaborative partnership process with a 10 year history
- o Over 100 participants from more than 50 organizations including rangeland scientists, land managers, ecologists, economists, sociologists, environmental advocates, federal and state agency representatives, producer groups and producers



Sustainable Rangelands Roundtable

Mission Statement: The Sustainable Rangelands Roundtable promotes social, economic, and environmental sustainability of rangelands through the development and widespread use of criteria & indicators for rangeland assessments, and by providing a forum for dialogue on the sustainability of rangelands.

Areas of Emphasis for SRR


- o **Advocacy & Promotion:** Advocate and Promote Rangelands Sustainability Paradigms and Practices for Assessment and Management
- o **Integrated Rangeland Assessment:** Facilitate development of a multi-agency integrated assessment of status and trends of ecological, social and economic rangeland sustainability measures to track maintenance of rangeland ecosystem services
- o **Integrated Rangeland Research:** Promote Integrated Ecological, Economic, and Social Rangeland Sustainability Research
- o **Communication & Coordination:** Communicate & coordinate efforts to further rangeland conservation and sustainability assessment

The Original Task

- o Identify a suite of social, ecological and economic indicators to accurately assess rangeland sustainability at multiple scales
- o Ensure that all participant perspectives were considered throughout the process

Rangeland Sustainability

- o Integrates social and economic aspects of human well-being with ecosystem integrity, and environmental limits and capacities.
- o Reflects shifting social values and economic development geared toward resource conservation.



Sustainability Suggests

- o Both current and future generations can obtain their desired mix of goods and services from rangelands.
- o Ecological, social, and economic elements of rangeland management decisions will be considered with equal importance.
- o The mix of goods and services desired by society from rangelands is varied and ever-changing.

Threats to Natural Resource Sustainability


Critical issues impacting natural resources including rangelands are:

- Fragmentation
- Invasive species
- Loss of open space
- Fire

Sustainable Rangeland Roundtable Timeline

- o 2001 - SRR began
- o 2003 - First Approximation Report on Criteria and Indicators for Sustainable Rangelands released
- o 2005 – Noble Foundation Implementation Workshop
- o 2006 – Progress Report , Agency Head Conference and Rangeland Ecosystem Services Workshop
- o 2007 – Ranch Sustainability Assessment Effort Began
- o 2008 – Oregon Multi-Agency Pilot Project (MAPP) and Rangeland Ecosystem Services Booklet Completed
- o 2009 – Conceptual Model published in the *Journal of Society & Natural Resources*

SRR Criteria and Indicators



Encompass social values, economic benefits, and ecological factors

- ❖ **Criteria** - statements about conditions or processes that are goals of sustainability
- ❖ **Indicators** - measure human well-being, the economy, and rangeland resource conditions

SRR Criteria


- Conservation and Maintenance of Soil and Water Resources
- Conservation and Maintenance of Plant and Animal Resources
- Maintenance of Productive Capacity
- Maintenance and Enhancement of Multiple Economic & Social Benefits to Current & Future Generations
- Legal, Institutional, and Economic Framework for Rangeland Conservation and Sustainable Management

Soil and Water - Indicator 4

- Area and % of rangeland with significant change in extent of bare ground
 - Methods and procedures are not standardized
 - Lack adequate sampling designs for regional to national aggregation
 - Bare ground can be measured using existing remote sensing data bases but inaccuracies are likely
 - Experimenting with hyperspectral data

Plants and Animals - Indicator 17

- o Extent and condition of riparian systems



USDI-BLM, in cooperation with Utah State University, maintains an aquatic invertebrate database of 20,000 samples collected at more than 7,000 sites. EPA also has a national water quality database, STORET, that may be publicly accessed.

Productivity Capacity - Indicator 24

- o Number of domestic livestock on rangeland

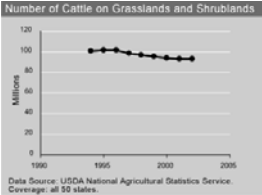
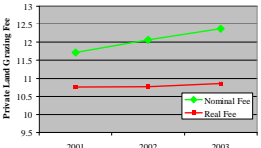


Figure on left is from *The State of the Nation's Ecosystems*, updated in 2003 by The H. John Heinz Center for Science, Economics and the Environment, <http://www.heinzctr.org/ecosystems/grass/cattle.shtml>.

Data Source: USDA National Agricultural Statistics Service. Coverage: all 50 states.

Social and Economic - Indicator 27

- o The value of forage harvested from rangeland by livestock




Private land grazing fees showing nominal fees and those adjusted for inflation using the index for prices paid for feed from the NASS report (1990-1992=100).



Program

- Goals and Objectives of Ranch Sustainability Assessment
- Ranch Assessment in an Agency Context
 - NRCS
 - FS
 - BLM
- Ranch Assessment Ecological Indicators
- Ranch Assessment Socio-economic Indicators
- Assessing Rangeland Goods and Services
- Ranch Business Planning
- Questions and Discussion


<http://Sustainable.Rangelands.org>



SRR Sustainable Ranch Management Assessment Project: Concepts, Goals and Objectives


Dick Loper, Wyoming State Grazing Board
Stan Hamilton, SRR Steering Committee (Retired Director, Idaho Department of Lands)

John Tanaka, University of Wyoming



Project Concepts

- Sustainable ranch management
- Business planning married to ecological, social, and economic monitoring




Goals

- Encourage interested ranchers to develop
 - Business plans and
 - Resource monitoring and
 - Management plans
 - To assess whether or not a ranch business is sustainable over the long term




Ranch Business Planning

- Wyoming Business Council – *Sustaining Western Rural Landscapes, Lifestyles, and Livelihoods*
- Key concepts:
 - Family objectives
 - Personal and family values and goals
 - Business values and goals
 - Human and business resources
 - Inventories




Financial and Ecological Monitoring

- Profitability related to land, lifestyle, and business
- Manage changes that occur, evaluate the results, and revise activities




Monitoring

- What depends on:
 - Regulatory requirements
 - Resource issues
 - Ranch goals and objectives
 - Action items




Objectives

- Urge family ranches to develop a business plan that promotes the long term economic sustainability of their ranch.
- Use science based indicators and field protocols to measure changes in the social, economic, and ecological aspects of the ranch business.
- Encourage BLM, the USFS, and state land departments to work with ranchers to develop joint monitoring programs on federal allotments.




Objectives

- Urge universities to develop outreach educational programs and technical and financial assistance for business planning and monitoring programs for ranch businesses.
- Encourage ranchers to obtain detailed guidance and assistance as necessary to support the business planning and the monitoring processes from organizations such as NRCS, state, and local agencies, universities, non-profit organizations, and private consultants (lawyers, accountants, and range consultants).



Today's Session

- View from NRCS, BLM and USFS
- Ecological Indicators
- Economic and Social Indicators
- Legal, Institutional Indicators
- Business Planning




Guide Book

- Won't cover it all
- Chapter 2 – set of assessment questions
- Chapter 5, pages 34-37
 - Narrative example tying ranch business planning with monitoring and use of information to make decisions


**NRCS Conservation Planning
and Use of Monitoring and
Business Planning
Information**

*Gene Felts & Chuck Stanley
NRCS Rangeland Management Specialists
West & Central National Technology Support Centers*



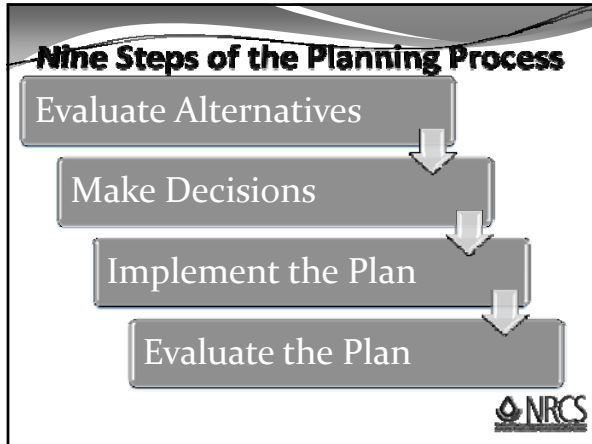
What Are We Trying to Address?

- *Resource Concerns- Landscape?*
- *Rancher Concerns – Personal?*
- *Rancher Objectives – Sustainability?*
- *NRCS Programs are geared to address concerns and objectives based on a Conservation Plan*



Nine Steps of the Planning Process

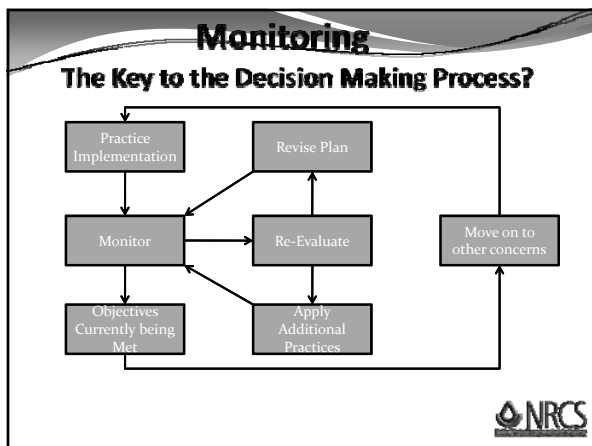


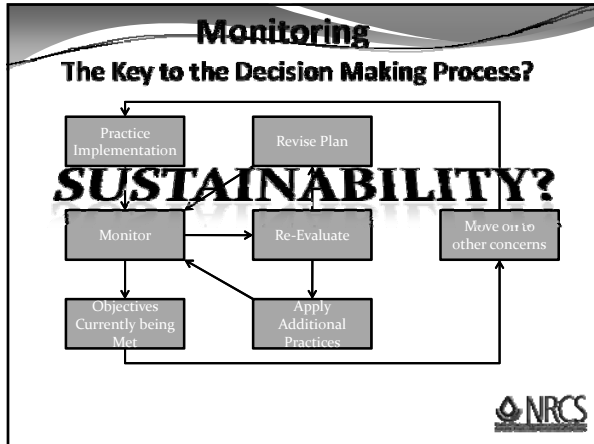


Evaluate the Plan

- *How to determine if practices meet objectives*
- *Provide follow-up assistance?*
- *Rancher collect necessary data?*
- **MONITORING**

The NRCS logo is at the bottom right.





United States Department of Agriculture
Natural Resources Conservation Service

**NRCS Conservation Planning and Use of
Monitoring and Business Planning Information**

NRCS-West National Technology Support Center
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GLCI Rangeland Management Specialist
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Preparing For Change

Objectives change; terms change; problems change; management changes; partners change; emphasis changes; key areas change; protocols change; death, divorce, disability change; ecosystem goods and services change; location where goods and services are produced change.

<p>Inventory answers</p> <ul style="list-style-type: none"> • What is it? • Where is it? • How much is there? 	<p>Monitoring answers</p> <ul style="list-style-type: none"> • What changed? • Where did it change? • How much did it change?
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To find answers about change one needs a plan

- PLAN - Refers to any method of thinking out acts and purposes before hand. Acts are the practices or combination of practices. Purposes are the goals and objectives.
- (528) Prescribed Grazing Plans and Specification will include:
 - Monitoring plan with appropriate records to assess whether the grazing strategy is resulting in a positive or upward trend and is meeting objectives. Identify the key areas and key plants that the manager should evaluate in making grazing management decisions.

Setting GOALS leads to OBJECTIVES and then ACTION tasks lead to OUTCOMES.

- Goals
 - Develop a more desirable scenario
 - A goal is an end while an action strategy is a means for achieving a goal.
- Objectives
 - Attributes, Responsibilities, Timelines, and Quantities
- Action Items
 - Brainstorm some action strategies
 - Action to start an activity
 - Action to continue an activity
 - Action to increase an activity
 - Action to stop an activity

Possible Goals

- Identify problems and opportunities to determine if management purpose and objectives are realistic. Confirm good management.
- Understand what others think is the problem
 - “I am interested in learning more”
 - Become the ‘friendly’ expert on all aspects
- Profit
 - Better reproduction , market weights, or herd health
 - Increased productivity of land or animals
 - Lower cost (reduce winter feeding costs)
 - Better use of resources , extend grazing season
- Plant health, resiliency, and reduced risk
- Better land and soil management (long- or short-term)
- Reveal potential problems early
- Evaluate alternatives for management

Monitor Objectives

- The **attributes** of the objectives(s) monitored must:
 - Be present on the area selected. Be achievable within a useful time frame. Be measurable. Be worthy of the management needed to meet them and the monitoring needed to assess them.
- **Component** – should be the ecological process that needs maintenance or improvement. (PFC, IIRH, PCS)
- **Accomplishment** – increase willows, decrease bare ground, decrease thatch build-up, eliminate invasive weeds
- **Change** – Benchmark to go from. Quality to go toward.
- **Location** – Change will occur on the whole ranch? On a particular pasture? Or a critical area in a pasture?
- **Timeframe** –
 - Short-term is 7 days to 1 year
 - Mid-term is 3-5 years
 - Long-term is dependent on the capacity of the site

Monitoring Objectives should be SMART

- **Specific** – Describe what will be accomplished, focusing on limiting factors, and identifying the range of acceptable change from the present to the proposed condition.
- **Measurable** – The change between present and proposed condition must be quantifiable and measurable.
- **Achievable** – Can be achieved within a designated time period and in accord with resource capability.
- **Related/Relevant** – Related to the land use plan goals and relevant to current management practices. They must be worthy of the cost of the management needed to achieve them and the monitoring needed to track them.
- **Trackable** – They must be trackable over time and include a definite timeframe and location for achievement.

Monitoring

The Romans used the word thousands of years ago to mean reminder of the past and teacher of the future.
 Latin word = English meaning

- Admonitor = reminder, teacher
- Ad = compared with
- Monita = warning, prophecy

Present Definition - Monitoring is the orderly collection, analysis, and interpretation of resource information and data that is used to make short-term and long-term management decisions

Sustainable Ecosystem Indicators

- Effectively monitoring a System requires one to think in multiple scales and to consider effects of scale in the analysis of composition, structure, and function.
- Ecosystems are functionally and geographically interacting and nested. They are multi-scale systems. The SRR indicators simplify, quantify, standardize, and communicate changes in the rangeland system of goods and services.
- Productive capacity is a function most commonly monitored. However, the sustaining ecological drivers for productivity are Ecological Integrity (Indicator # 1,2,4 -10,14 -16,18, 23) and Biodiversity (Indicator # 3,11- 15, 17- 20, 24, 25).

Ecosystem Integrity and Biodiversity

- Non-linear dynamics of management and disturbance events and processes listed in the State and Transition Model of an Ecological Site Description are useful for determining present ecosystem integrity and to set goals for future scenario.
- Biological diversity has three aspects: Compositional diversity; Structural diversity; Functional diversity. (key species and key area).
- Productivity has four aspects: Capacity to sustain a supply of goods or services in the long run; Capacity to produce organic material; Rate at which organic material is produced per unit of area; Ability to recruit new members by reproduction.

Site Information Recorded For All Monitoring Activities.

- **Pasture Name.** Need an map of entire property with all names or numbers clearly listed.
- **Study Site.** specific site where monitoring data or photographs are collected. Be as specific as possible so that others can easily relocate the site in later years.
- **Date.**
- **Observer.**
- **Objectives.** (More specific than the goals)
- **Monitoring Method(s).** List the method(s) by which monitoring information is collected.
- **Date Study Established.** Record the date the first information was collected for this site. This facilitates tracking trend information across several years.
- **Access.** Optional. Describe the easiest way to drive or ride to the study site vicinity.

Key Areas

- **Represent** specific concerns and mutual resources
- **Possess** specifics relative to management objectives
- **Is located** where the ecological situation is well understood and you have baseline information with analysis
- **It may** be a Critical Area because it may be more sensitive to disturbance and processes than typical
- **Area** that provides a significant amount, but not necessarily the greatest amount, of available forage in the pasture
- **Have** the potential to respond quickly to changes in management (that can be measured)
- **Be able** to help answer key monitoring questions
- **Best** if selected by a team
- **Should** not be compounded with other activities
- **Must** not be too static.

Key Area Homogeneity

- **No site is absolutely homogenous**
- **Homogeneity is dependant on the size of monitoring plots (use aerial photos)**
- **Have clearly defined rejection criteria**
 - Should not include any obvious change in the expression of the life forms of the dominate plants and vegetation
 - Dominate plant species in each vegetation layer should be consistently distributed across the plot
 - Should not encompass any abrupt changes or obvious gradients in slope, aspect, parent materials, soil depth, soil moisture, or texture
 - Avoid water sources, trails, corrals, historic salt grounds and other concentration areas, shade, and stay away from roadsides or other disturbances.
 - Consider the season of use and class of animal because diet preferences change by season, kind, and class of animal.

Key Plant Species

- Where is it in the Ecological Site Description's State and Transition Model?
- Is it sufficiently abundant to respond to management?
- Are the physiological and ecological requirements understood as it differs from site to site?
- Is it directly related to vegetation management objectives? (right place, right time, right numbers)
- Is it necessary for natural functions?

Key Plant Species data analysis (multi-scale)

- Utilization of key forage species, unlike overall utilization levels in a pasture, is an indication only of livestock grazing pressure, and is not necessarily related to other resource uses or values.
- Attainment of specific use levels is nearly impossible on a year-to-year basis due to variation in climate. Instead, utilization should be a target across 5 to10-year time periods.
- Management changes may be needed if utilization guidelines are exceeded on over 30% of the pasture for two consecutive years or in any two years out of five.

Smith L.etal (2005) PRINCIPLES OF OBTAINING AND INTERPRETING UTILIZATION DATA ON SOUTHWEST RANGELAND

Monitoring Responsibilities

- Who set up the monitoring site and when?
- Who will monitor the short term triggers and when?
- Who will monitor the end of season indicators and when?
- Who will use and interpret the data and observations?
- Who will make the observations of wildlife use?
- Who will take photos?
- Who will be contacted if monitoring data indicates problems?
- Who will do quality assurance and quality control?
- Who will record climate?
- Who will monitor the budget?

Setting Timelines (temporal scale)

- Monitor when the soil, water, plant or animal indicators are likely to change due to ecological drivers. Monitoring for sustainability is always long-term. However, the frequency of monitoring may range from continuous, frequently during one season, once seasonally, annually, or once every 5-10 years. Some monitoring is based on annual plant phenology:

GRASSES	FORBS	SHRUBS
Start Growth	Start Growth	Initiate Leaf Growth
Boot Stage	Pre-flower	Fully-formed Leaf
Start Flower	Start Flower	Start Flower
Peak Flower	Peak Flower	Peak Flower
Seed Ripe	Seed Ripe	Seed Ripe
Seed Dissemination	Seed Dissemination	Seed Dissemination
Cured	Cured	Leaf Fall
Regrowth	Regrowth	Dormant

Monitoring Protocols and Methods

- Condition
- Cover
- Frequency/Density
- Invasive/Rare Species
- Plant Production
- Species Composition
- Species Richness
- Soils
- Vertical Structure/Obstruction
- Utilization/Residual
- Stream Channel Attributes
- www.Landscapetoolbox.org


Knowing When You Get There

- If you plan for one year, plant rice; if you plan for 10 years, plant trees; but if you plan for 100 years, educate the people." Chinese proverb
- How to display your monitoring data?
- Nothing is permanent including the location and source of ecosystem services.
- Reference Condition specifics.
- Indicators are only useful in the context of a fundamental understanding of how the system works. Indicators cannot substitute for this understanding.

United States Department of Agriculture Natural Resources Conservation Service

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Ranch Sustainability Assessment for Business Planning
“Incorporation of Business Planning and Assessment into NRCS Conservation Programs”

Society for Range Management Annual Meeting – Billings, MT


February 10, 2011

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 EQIP Program Specialist
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1

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Objectives

- Build on NRCS support
- Basic overview of NRCS programs
- Review of statute requirements
- What are:
 - Conservation practices?
 - Resource concerns?
 - Payment schedules?
- Putting it all together!
- Questions?




2

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What do you think?

- NRCS Programs *do not* provide financial payments that support conservation activities on ranch operations
- NRCS Programs *can & do* provide financial payments that support conservation activities on ranch operation
- Something “in between”?



3

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USDA Program Assistance

- Key to your answer to this question may be a good understanding of USDA program statute and policy.
- Typical programs:

EQIP	CSP	EWP	AWEP
WHIP	WRP	MRBI	CIG
AMA	FRPP	CCPI	GRP

4

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Environmental Quality Incentives Program (EQIP)

Program Statutory Purpose

“Provide flexible assistance to producers to install and maintain conservation practices that sustain food and fiber production while enhancing soil, water, and related natural resources, including grazing land, forestland, wetland, wildlife, conserving energy; and

5

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Environmental Quality Incentives Program (EQIP)

..assisting producers to make beneficial, cost effective changes to production systems (including conservation practices related to organic production), grazing management, fuels management, forest management, nutrient management associated with livestock, pest or irrigation management, or other practices on agricultural and forested land;”

6


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Environmental Quality Incentives Program (EQIP)

What does this purpose & statute mean?
 NRCS is authorized to:

- Provide technical assistance
- Provide financial assistance to:
 - Implement conservation practices which address an identified natural resource concern.
 - Develop conservation plans.




7

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Environmental Quality Incentives Program (EQIP)

Payment means financial assistance provided to the participant based on the estimated costs incurred in performing or implementing conservation practices, including costs for: planning, design, materials, equipment, installation, labor, maintenance, management, or training, as well as the estimated income foregone by the producer for designated conservation practices.



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Environmental Quality Incentives Program (EQIP)

What is a conservation practice?
<http://www.nrcs.usda.gov/technical/efotg>



Access eFOTG

eFOTG State Locator - Click on

VT NH MA RI CT NJ MD DE DC

Pacific Basin Caribbean Area

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Environmental Quality Incentives Program (EQIP)

EQIP statute provides NRCS authority to provide payments and EQIP rule defines payment as:

"Payment means financial assistance provided to the participant based on the estimated costs incurred in performing or implementing conservation practices, including costs for: planning, design, materials, equipment, installation, labor, maintenance, management, or training, as well as the estimated income foregone by the producer for designated conservation practices."

These estimated costs are documented in "Payment Schedules".

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Practice	Code	Unit	Quantity	Unit Cost	Total Cost	Payment Rate	Payment
Conservation Plan	1000	1	1	1000	1000	100%	1000
...

← **Payment Schedule (Blue Box)**
 "Payment Rate" entered into FA Programs contracting software & posted to web

← **Payment Rate (Green Box)**
 FA Program Manager applies a "Payment Percent" to the cost data to develop the "Payment Rate" (FA Programs & Contracting World)

← **Cost Data (Grey Box)** Itemized list of all costs to the land user to implement the practice scenario – "Program Neutral" (Technology Specialist World)

Payment Schedule Worksheet

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Typical Implementation Scenario

323 acre field, wheat/fallow rotation, relatively steep slopes with sheet & rill and concentrated flow erosion Level terraces

An earth embankment, a channel, or a combination ridge and channel constructed across the slope.

Geographic Area: Statewide

Unit for Cost Estimate: Foot

Practice Life (Years): 10

Discount Rate (%/Year): 5%

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Payment Schedule Cost Categories

3. **Labor:** The time and wage rate for hiring individuals or self labor needed to implement the practice or activity.

□ **Example:**
 Fence (382): 65% of installed Materials Cost = .65 X \$4.61/Foot = \$3.00/Foot

Labor cost can also include the cost for hiring a consultant to provide a service.

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Payment Schedule Cost Categories

4. **Mobilization:** The cost of moving equipment, materials and labor to and from the installed practice site. It may also include site access costs such as a temporary road, bridge, or trail.

5. **Operation & Maintenance:** Operation includes the administration, management, and performance of actions needed to keep the completed practice/activity safe and functioning as intended.

□ **Example:** Filter Strip (393): Inspect, remove settled sediment, control invasive species and noxious weeds, re-seed to maintain plant cover and density. Estimated to be 5% of installation costs = .05 X \$75/Acre = \$3.75/Ac/Yr

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Payment Schedule Cost Categories

6. **Acquisition of Technical Knowledge:** Includes typical expenditures by the producer to obtain direct technical assistance for services obtained from sources other than NRCS.

Cost category provides many potential opportunities to support implementation of conservation practices.

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Payment Schedule Cost Categories


Examples:

- Feed Management (592):** Hire a dairy feed nutritionist, \$.05/Day/AU X 365 Days = \$18.25/AU/Year
- Prescribed Grazing (528):** Grazing management software acquisition and training \$500/200AU = \$2.50/AU
- Pest Management (595):** Hire certified pesticide advisor, \$2.00/Acre

This cost category has many opportunities!

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Payment Schedule Cost Categories

7. **Foregone Income:** The net income lost by taking land taken out of production or a change in land use. Foregone income may be a one-time cost during the installation year or an annual cost occurring each year after the installation year. However, even though Foregone Income may occur over many years, it is documented as a one-year annual cost in the payment schedule process:

Total Installation Cost =
 Implementation Costs + 1 Year "Annual Costs"

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Payment Schedule Cost Categories

The last two payment schedule cost categories are:

- 8. Risk, and
- 9. Administrative-Permit Costs

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Put it all together!

NRCS programs provide technical and financial assistance to help producers implement conservation practices which address natural resource concerns.

1. Identify resource concerns
2. Conservation practices
3. Payment Schedules
4. Program application/implementation
5. You can help!



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More Information?

- NRCS National Website:
www.nrcs.usda.gov/programs/
- NRCS State & Local Offices:
<http://offices.sc.egov.usda.gov/>




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Thank You!


Mark Parson
 EQIP Program Specialist
mark.parson@wdc.usda.gov
 (202) 720-1840

Questions?




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**Bureau of Land Management
U.S. Forest Service
Perspectives on Ranch Level
Assessments Using SRR
Indicators**




SRR Ranch Assessments

- The careful collection and use of monitoring information about social, economic and ecological aspects of a ranch operation provides the information needed to make sound decisions



Agency Data Needs

- Agencies always need more data
- Ranchers can provide information that wouldn't be available from other sources
- Joint Cooperative Monitoring Agreements
- Inclusive public process



Limitations on the Use of Data Provided by Outside Sources

- Data provided can be inaccurate or even biased
- No approval of data in advance
- Must be filed timely – the agency must have the opportunity to review the data
- Must include metadata – what was collected, how, when, and where it was collected



Cooperation and Communication

- This is the most significant factor in agency acceptance and use of data
- If this occurs in advance of data collection everyone benefits



Value of Working Together

- The data and the ability to use the data is improved
- Working toward common goals is more important than the data itself



Resource Monitoring

- Ranchers and agency rangeland management specialists are constantly faced with new issues that require data
- Upland data – soil, vegetation, wildlife
- Riparian data – water, riparian, fish



Agency Effectiveness is Influenced by the Uses on Adjacent Land

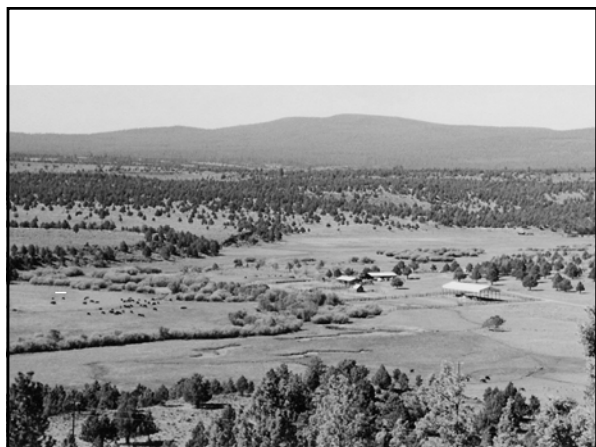
- Benefits from keeping our neighboring lands in open space and natural plant communities
- Even more important when you look at land ownership patterns which are often closely intermingled with private lands



Wildlife Habitat







Business Planning

- Primary benefit is stronger more sustainable ranches
- The agencies shouldn't have personal financial information
- The value of the grazing permit to the overall operation

Summary

- Actions that help maintain open space and natural plant communities on adjacent lands, benefit public lands
- Better information gained through these SRR Ranch Assessments helps maintain those compatible uses
- Any information provided on public land could be used in decision making and help defend those decisions.



How Agencies Use the Data

- Information supplements agency data
- Information on socio/economic impacts
- Improved NEPA analysis produces better management and better conditions
- More defensible decisions



SRR Ecological Assessment Indicators: Selection and Monitoring Techniques

Dr. Mike Smith
University of Wyoming
Dr. John Mitchell
USDA Forest Service

Ranch Assessment Indicators

- **Soils** - Bare soil cover, Soil aggregate stability
- **Water** - Surface water frequency, Volume
- **Plants** - Key species, Invasives
- **Fire** – Wildfire, Prescribed fires
- **Riparian** Areas - Extent and condition
- **Animals** - Population estimates of wildlife/fish/feral species important to the rancher
- **Productive capacity** - Forage utilization, Pounds of domestic meat produced, Pounds of harvestable materials produced

Why these indicators?

- Resource base and off-take
- Long term trends, short term annual use
- Harvest of products levels
- Impacts of use



Soils - Cover, Aggregate Stability

- Fundamental resource sustaining plant growth and habitat for organisms



SOIL -General Approach

- Pertinent to watershed values, runoff, erosion, infiltration
- Plants
- Easy to measure

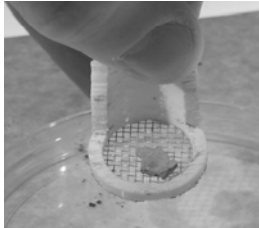
SOIL-Specific methods

- Ground Cover- line point intercept



SOIL-Specific Methods

- Aggregate stability- test kit developed by ARS Jornada Experiment Station



SOILS- Assessment

- Ground Cover is expected to address the exposure of the surface to the action of raindrops or overland flow.
- Aggregate stability addresses the ability of the soil surface to resist the impact of raindrops or over land flow.
- For these purposes, increase in cover or stability is expected from better management.

Surface Water Availability

- Water is vital to livestock and most wildlife production and aquatic habitat values



Water - General Approach

- The availability, frequency of occurrence, distribution, and volumes of water regulate plant growth, habitat values and most activities on a ranch.
- Records from the past, current conditions, and future expectations are documented and assessed.

Water – Specific Methods

- Frequency or duration of surface water (TIME)
 - season and length of time that reliable water is available
 - water rights, storage capacity, flow rates, and locations
 - Aquatic values sustained

Water – Specific Methods

- Volume of water available (AMOUNT)
 - adequate storage (depth, volume, etc.) in existing stock ponds and tanks
 - adequate flow from a well and/or storage capacity
 - enough water, sufficiently distributed, to assist in attaining adequate grazing distribution

Water - Assessment

- For a ranch, the amount, quality, reliability, and distribution of water for livestock use and wildlife is paramount for optimizing values.
- Aquatic resources such as a fishery are valuable for recreation or enterprises.



Plant indicators - Cover of Key Species, Invasives

- Plants are the primary production system and the resource that sustains most economic activities on ranches.
- Invasive species disrupt natural ecosystems, often reduce productivity, and are expensive to manage.

Plant indicators- General Approach

- For most monitoring objectives, measuring ground cover of key species or life forms provides adequate indication of trends in important resource values.
- Invasive plant species are more appropriately mapped and areal extent determined to facilitate rapid treatment of emergent infestations.

Plant indicators - Specific Method

- Ground Cover- line point intercept



Plant Indicators - Specific Method

- Invasive species - Mapping of locations of individual small infestations and circumference of larger infestations
- Global positioning satellite technology facilitates locating and acreage of these infestations



Plant indicators - Assessment

- Cover of key species would generally be expected to maintain or increase in abundance. Decreases would indicate that management needs changing. Utilization levels or season of use may be correlated.
- New spot infestations of invasives should be treated to limit further spread. Existing larger infestations are lower priority but must also be treated.

Wildfire and Prescribed fires

- Many ecosystems require fire for maintenance of normal function and composition.
- Other systems, such as those invaded by cheatgrass, may have crossed thresholds of composition, and have accelerated fire return intervals that limit our ability to restore the rangeland to native species.

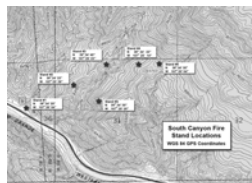
Wildfire and Prescribed fires - General approach

- Mapping fire extent and frequency provides an indication of the need for fire management.



Wildfire and Prescribed Fires - Specific Method

- Global positioning satellite technology facilitates locating boundaries and acreage of areas burned.



Wildfire and Prescribed Fires - Assessment

- In systems where wildfire is prevalent or prescribed burning is practiced, mapping fire extent and frequency will provide indications of the need for better fire control or for prescribed burns.



Riparian Areas - Extent and Condition

- Riparian area condition is indicative of the past efficacy of grazing animal management.
- Riparian condition affects many wildlife and aquatic habitat values.



Riparian Areas Extent and Condition - General Approach

- The Properly functioning condition procedure can be used to provide a preliminary assessment of condition.
- Composition of wetland obligate grasses, sedges and shrubs that are either tolerant of water or require large amounts of water to thrive are appropriate indicators of trend in condition.

Riparian Areas Extent and Condition -
Specific method

- The (Winward) greenline technique provides percent cover of plant community types along the edge of streamside vegetation and a rating of their value for streambank protection.
- The occurrence of various plant community types at intervals along transects following the edge of the vegetation nearest the water in the stream is recorded.



Riparian Areas Extent and Condition -
Assessment

- Stream bank condition and some aquatic values are inferred from the amount of the bank that has no vegetation or inappropriate vegetation.
- Increases in obligate aquatic plant species and the amount of bare bank are indicative of improvement in grazing management.



Animal Indicators - Population Estimates

- Wildlife, fish, or feral species important on the ranch may be indicative variously of economic opportunities, potential damage issues, or of ecosystem health.
- Hunting or fishing provides economic opportunity.
- Exotic, invasive wildlife species frequently cause damage but some as well could be hunted.

Animal Indicators - General Approach

- The purpose of this indicator is to follow trends in specific key species population levels (abundance) of species (upland game birds, song birds, large ungulates, game fish), with population measured in terms of general trends.
- The various methods all yield estimates of key species populations, or trends, with varying degrees of accuracy of the information.

Animal indicators - Specific methods

- For preliminary information about key species of animals, fish, and birds, consult state fish and game department.
- Conduct your own counts using game trail cameras and/or direct observation if you can identify species on spotlight or daytime transects as appropriate.
- Hire a professional fish and game consultant to estimate key species populations.

Animal Indicators - Assessment

- Objectives are generally to maintain or increase population levels of beneficial species and reduce particularly the invasive exotics like hogs.
- Those with trophy game management operations may be interested in sex/age ratios and trophy status of individuals.
- Potentially endangered species may be managed to selected population levels (CCAA).

Productive Capacity-Forage Utilization, Pounds/Numbers of Product

- Productive capacity indicators are areas of key consideration in designing a monitoring program and crafting business plan goals, since these elements may be closely tied to economic return.
- They relate to forage productivity, forage species trends, and the efficacy of the grazing management strategy in fostering livestock or wildlife production and other ecosystem services.

Forage Utilization

- Utilization is an annual use measure used to trigger animal movements, correlate with trend measures, assure soil protection, or assure adequate forage/cover for wildlife.
- Measurements may address percents of forage used, residual post grazing biomass, or animal use days.



Forage Utilization Methods

- Landscape Appearance Method estimates percent utilization classes; harvest of paired plots or before/after plot harvest measure percent disappearance
- Stubble height, other measures of residual forage, ie. plot harvest, Robel pole
- Animal use days, numbers and duration in each pasture

Pounds of Red Meat or Other Product



- A diversified operation might produce meat animals (cattle, sheep, goats, bison), hunting or other recreational opportunity.
- Record the amount produced and sold using appropriate currencies, ie. pounds of commodity meats, numbers of purebred animals, hunter/recreation days, number of trophy hunts depending on how the product is offered/priced.

Assessing the Indicators as a Complete Suite; Does Integration Change Interpretation?

- Optimization of resource use may require tradeoffs in outputs of goods and services.
- Monitoring objectives may be different or contrary in a multiple use format to those when single use management is the goal.
- The suite of indicators viewed together should be more effective.

SRR Rangeland Ecosystem Services Assessment Framework

John A. Tanaka



What are Ecosystem Services from Rangelands


- * Goods and services derived from rangelands
- * Link between the biophysical world and the social systems humans use
- * Basic premise – if humans don't value it in some way, not an ecosystem service
- * Can basic human value be converted to monetary value

Types of EGS

- * Biological
- * Hydrological
- * Atmospheric
- * Others
- * Tangible
- * Intangible

Ecosystem Goods


* Extraction and processing – Tangible



The first icon shows a cow in a field. The second icon shows a windmill in a landscape. The third icon shows a cow standing.

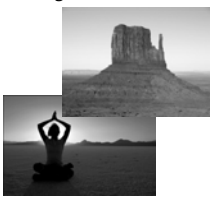
Ecosystem Services

Direct Experiences - Tangible



The first icon shows a person sitting on a beach. The second icon is a cartoon illustration of a cow.

Indirect Opportunities - Intangible



The first icon shows a desert landscape with a rock formation. The second icon shows a person meditating in a lotus position.

Biological EGS

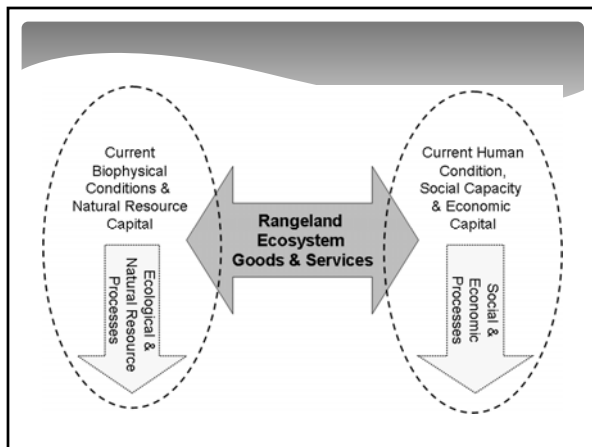
- * Domestic livestock
- * Wildlife
- * Forage for livestock
- * Forage for wildlife
- * Food for humans
- * Fish
- * Huntable or Catchable fish and wildlife
- * Biofuels
- * Fiber
- * Biochemicals
- * Genetic material

Hydrological/Atmospheric EGS

- * Drinking water
- * Floods for channel and riparian area rejuvenation
- * Water for economic benefit
- * Water bodies for recreation and tourism
- * Minimizes chemicals and particulates
- * Contributes to clean air
- * Hydrologic, Solar, and Wind energy potential
- * Flood mitigation

Miscellaneous EGS

- * Views and scenes
- * Cultural or Spiritual resources
- * Scientifically significant sites
- * Historical/Archaeological sites
- * Recreation and tourism sites
- * Ornamental resources
- * Ceremonial resources



How to Determine Whether the Ranch can Profit from Production

- * Ranch planning
- * Assess biological, hydrological, atmospheric, and other physical resources (supply)
- * Describe the market potential (demand)
- * Evaluate ranch resources (time, labor, facilities, etc.)
- * Consider interactions with other activities
- * Develop an enterprise, partial, and/or whole ranch budget

Partial Budgets

Positive Impacts	Negative Impacts
Added Returns	Added Costs
Reduced Costs	Reduced Benefits
Total Positive	Total Negative

Enterprise Budgets

- * Sources of income
- * Expenses for production
- * Allocation of gross income to fixed costs
- * Expected profit from this enterprise

Partial Budgeting

- * For relatively small changes
- * Within an existing enterprise

- * Change calving season
- * Buy a new truck or piece of equipment
- * Build a fence (new or repair old)
- * Lease additional property for spring grazing

Enterprise vs. Ranch Budgets

<ul style="list-style-type: none">* Enterprise* Each product analyzed individually* Other enterprises supply inputs (or buy outputs)* Costs of production* Should I be in this product line?	<ul style="list-style-type: none">* Whole Ranch* All products analyzed together* Inputs purchased and outputs sold at market prices* Total profit* Should the ranch stay in business?
--	---

How to Determine the Potential Benefits and Costs

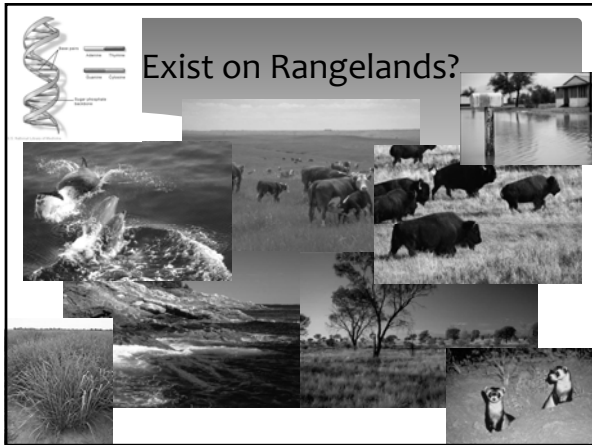
- * Determine whether capitalizing on a particular EGS is worth the effort
- * Consider how it fits in the operation
- * Consider whether there is a market for the EGS

- * Set of questions to ponder

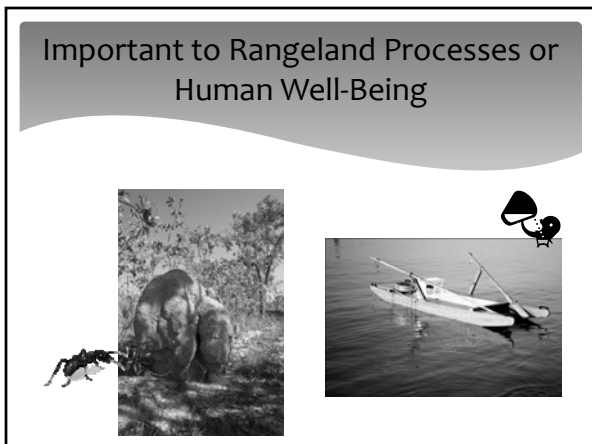
Questions to Evaluate

- * Must Haves
- * Wants
 - * High Importance
 - * Moderate Importance
 - * Low Importance
- * Consequences

Exist on Rangelands?



Important to Rangeland Processes or Human Well-Being



Must Haves

- * Does the EGS exist on or is derived from rangelands?
- * Is the EGS important to rangeland ecosystem processes and/or human well-being?

- * If answers are "Yes" to both, continue

Wants – High Importance

- * Does the EGS provide a basic human need? Is it important to society?
- * What is the current level of demand for the EGS?
- * How responsive is the EGS to management?

Wants – Moderate Importance

- * How easily is the EGS measured?
- * How important is the EGS over local, regional, and national spatial scales?
- * How important is the EGS over different temporal scales?
- * How resilient is the EGS?
- * How much does human activity impact the EGS?
- * How important are rangelands to this EGS?
- * How unique is the EGS to rangelands?

Wants – Low Importance

* For this EGS, are there no potential substitutes

Consequences

* Is the EGS impacted by local, state, or federal regulations?

Example


	Livestock	Biofuels
Exist on Rangeland	Yes	Yes
Important for Process or Well-Being	Yes	Yes
Basic Human Need	High	Medium
Level of Demand	High	Low-Med
Responsive to Management	High	High
Easily Measured	High	High
Importance over Spatial Scales	Local – High Regional – Med National – Low	Local – High Regional – Med National – Med
Importance over Temporal Scales	Medium	Medium
Importance of Rangelands to this EGS	Medium	Low
Uniqueness of EGS to Rangelands	Medium	Low

Questions


- * Main point is to evaluate each potential EGS for potential
- * While one EGS may be in vogue, will your rangelands support it
- * Have the discussion before going further with your analysis

Conclusions

- * Variety of ecosystem goods and services from rangelands
- * Not all are created equal
- * Not all can be profited from
- * Opportunities abound, but so do pitfalls




**SRR Socio-Economic
Assessment Indicators**
John A. Tanaka
University of Wyoming



Social and Economic Indicators

- Introduction: Why these indicators?
- Indicators
- Assessing the indicators



Why These Indicators?

- Social and Economic
- 2 legs of the 3 legged stool
- Economic – Staying in business
- Social – Wanting to stay in business

Ranch-Level Indicators

- Cost of livestock production
- Itemized income and expenses
- Visitor use information for appropriate enterprises

Social Indicators

- The ranch-level indicators are all economic
- Social is determined in the ranch planning process
- Family
- Workers
- Relationship to public

Economic Indicators

- Related to livestock production
- Related to benefits from other ecosystem services
- Related to creating new enterprises

Cost of Livestock Production

- Unit cost of production
- Programs such as Standardized Production Analysis (SPA)
- Variable inputs and costs
- Fixed inputs and costs
- Seeking those items that can be reduced or used more efficiently
- Lower cost of production reduces breakeven price

Example

- Identify all costs of producing cattle
 - Variable costs
 - Fixed costs
 - Charge ranch-produced inputs (i.e., hay) at market value
- Variable costs change with each cow
- Fixed costs/cow are inverse to number of cows

- Find break-even price

Confounding Factors

- Herd size varies
- Production varies
- Changes in production or management practices
- Not every year is the same
- Continuous monitoring of changes and new break-even prices

Itemized Income/Expenses

- Enterprise budgeting for each product
- Can help in allocating fixed costs

Enterprise Budgets

- Sources of Income
- Sources of Variable Costs
- Allocate gross margin to fixed costs

Modified Income Statement

- Answer the question of “How much does the ranch family have to live on”

Visitor Use Information

- If ranch is in hunting or fishing leases or other recreational activities
- If ranch is used by people for any activity
- Identify enterprises that may have profit potential
- Monitor how much use occurs each year for each recreational use

Summary – Economic Indicators

- Need to monitor every enterprise
- Need to determine the family (ranch) goals for each enterprise
- Is it profit maximization, opportunity to educate public, just like doing it, or what?
- Monitoring over time may provide information on needed changes (stop doing that enterprise, expand others, modify how things are done)

**LEGAL, EDUCATIONAL, and
INSTITUTIONAL INDICATORS**

John E. Mitchell
and
Stanley F. Hamilton

SRR Legal-Institutional Indicators

- ❖ Land Law and Property Rights
- ❖ Institutions and Organizations
- ❖ Economic Policies and Practices
- ❖ Public Information and Participation
- ❖ Professional Education/Technical Assistance

SRR Legal-Institutional Indicators (cont.)

- ❖ Land Management
- ❖ Land Planning, Assessment, Policy Review
- ❖ Protection of Special Values
- ❖ Measuring and Monitoring
- ❖ Research and Development

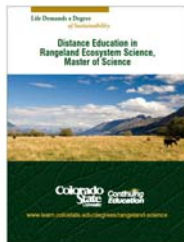
Ranch-Related Indicators

- ❖ Continuing Education, Technical Assistance
- ❖ Protection of Special Values
- ❖ Institutions and Organizations



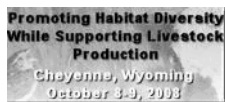
Continuing Education and Technical Assistance

- ❖ On-line training
 - More prevalent
 - Broadband needed
 - Have education goals



Continuing Education and Technical Assistance

- ❖ SRM training – Center for Professional Education and Development



Understanding and improving applications for wildlife habitat management in sagebrush ecosystems.



Ecological Site Descriptions
as a management tool

Protection of Special Values

- ❖ Wildlife and fish
- ❖ "Sense of place"
- ❖ Buildings and sites with exceptional value
- ❖ Community and Religious values



Bozett Place, Latah county, Idaho



WS Ranch, Carron County, New Mexico

Institutions and Organizations

- ❖ Do organizations and institutions support ranch business goals at the local level?
- ❖ Which ones to participate in or engage?

- County
- State, University
- Federal Agencies
- NGO



Conclusions

- ❖ Legal, Educational, Institutional aspects of business planning are important.
- ❖ Selecting indicators and monitoring is not easy.
- ❖ Possible mechanisms
 - Annual ranch/family meeting
 - Files to hold information
 - The business plan, itself
 - Values, goals, strengths, weaknesses, threats



Business Planning Concepts & Methods

SRM Meeting - Cindy Garretson-Weibel 2/2011



Business Planning Can Enhance Sustainability by Providing You With a Roadmap You Can Use in Operating Your Ranch



Sustainability of Agriculture

- Planning Can Help Overcome Challenges
 - Profitability (or lack thereof)
 - Aging population



Profitability

- Rancher's share of the food dollar

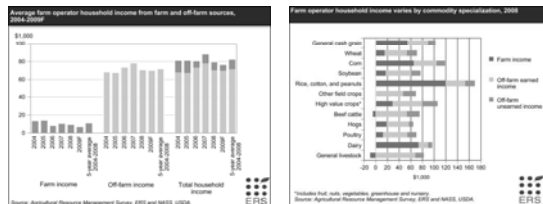
1910 = \$.40

2009 = \$.11 (steak)





U.S. Farm & Ranch Income





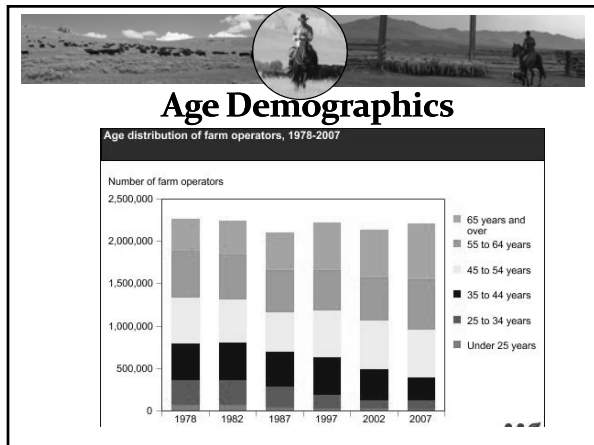
Aging Population

- The majority of agricultural operators are between 45 and 64, but the fastest growing group is those 65 years and older.

Source 2007 Census of Agriculture







Sustainability of Agriculture

- Planning Can Help Create New Opportunities
 - Increase Financial Options
 - Improve Resource Utilization
 - Bring Family Members Back



Increasing Financial Options

- Help Increase Income
 - Current operation may be viable, but more income is desired to meet objectives, and more income is possible from existing resources
- Help Distribute Cash Flow
 - Bring cash returns to the land unit's operation at various times throughout the year vs. once or twice
 - Multiple products and/or services can be timed to accomplish this objective
- Help Reduce Financial Risk



Improving Resource Utilization

- Labor resources
- Facilities and equipment
- Natural and cultural resources



Keeping the Family on the Ranch



- Often not enough income from existing operations to support more than one family
- Planning can help identify new opportunities to support multiple families



Key to Proper Planning is Communication





Roll play



Planning (But Not in a Vacuum) Is Important

- to Overcome:
 - The Lack of Profitability
 - Aging Population
- to Create New Opportunities
 - Increase Financial Options
 - Improve Resource Utilization
 - Bring Family Members Back
- and Ensure Sustainability





Break



Business Planning Process



The First Step in Planning: Assessing Your Operation

- Communicate, Communicate, Communicate



Getting Started: Assessment

- Look at existing enterprise
- Identify values and goals



Assessing Your Ranching Operation

- Explore personal and family values
- Develop personal, family and operational goals
- Evaluate skills and traits for each family member
- Inventory all resources associated with the farm or ranch
- Develop a SWOT analysis



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Personal and Family Values

- Fundamental core of one's life
- Standards and convictions
- What is important to you, what interests you or concerns you



Personal and Family Values

Examples

- Fundamental beliefs
 - Honesty, integrity, religious beliefs
- What's important to you
 - Open spaces, viewing wildlife
 - Working with your family
 - Money?
 - Heritage



Personal & Family Values

- Are your values in line with those of the entire family?
 - Communicate your values



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Goals

*“If You Don’t Know Where You’re Going,
You’ll Probably End Up Somewhere Else.”*



Goal Setting

- SMART Goals
 - Specific
 - Measurable
 - Attainable
 - Relevant
 - Time-bound
- ❖ Written Goals
- ❖ Prioritize Goals
- ❖ Shared Goals



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Assessing Skills and Traits

- Personal Traits and Characteristics
- Lifestyle and Family Traits
- Family Financial Management
- Business Skills & Traits
- Natural Resource Characteristics
- Community Characteristics



Skills & Traits

- Balance goals and values of everyone with an interest in the enterprise
- Don't assume you know other people's goals or values



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Resource Inventory

- Human Resources
- Financial Resources
- Marketing Resources
- Land, Soil, Plant, Water Resources
- Livestock
- Facilities
- Equipment/Machinery
- Wildlife Resources (consumptive and non-consumptive)
- Fishery Resources
- Cultural Resources
- Recreation Resources
- Community Resources



Monitoring

- Incorporating monitoring into the business planning process can be an important management tool



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Enterprise Feasibility

- Assess
 - Strengths
 - Weaknesses
 - Opportunities
 - Threats



SWOT Analysis

	POSITIVE	NEGATIVE
INTERNAL	Strengths <ul style="list-style-type: none"> • Good land stewards • Value open space • Know cattle operation well • Willing to set family goals • Want to raise kids on ranch 	Weaknesses <ul style="list-style-type: none"> • Not enough \$ to support all family members returning • Lack of marketing knowledge • Doesn't know where to get help
EXTERNAL	Opportunities <ul style="list-style-type: none"> • Premium being paid for "natural" • Could market timber • Interest in local foods 	Threats <ul style="list-style-type: none"> • Potential reduction in grazing AUMs • Drought conditions • Small population in community



Summary: Steps to Sustainability

- Assess
- Determine Feasibility
- Then Implement

- **Communicate, Communicate, Communicate**



Components of a Business Plan



What is a Business Plan

- A **business plan** is a formal statement of business goals, the reasons why they are believed attainable, and the plan for reaching those goals. It may also contain background information about the team attempting to reach those goals. (Wikipedia)
- It is not just your financial statements
- Cindy's definition: A communication tool to enhance your success and ensure your survival



Business Plan Components

- Executive Summary
- Overview of the Industry and the Business
- Market Analysis
- Market Plan
- Management Team
- Financial Plan
- Break-even Analysis



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- Appendix



Executive Summary

- An overview of the plan
 - Business idea
 - Market opportunities
- Answers “who, what, where, when and how”



The Industry and the Business

The industry:

- Industry trends
- Market size, growth trends
- New products, developments, markets
- Customers

The business:

- Business structure
- How the business fits into the industry



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Market Analysis & Market Plan

- 4 Ps of Marketing
 - Product
 - Placement/distribution
 - Price
 - Promotion



Marketing Claims

- Source & Age Verification
- Natural, Organic
- Grass-fed
- NHTC
- Humane Treatment





Market Distribution

Regional/local food programs can lead to sustainability

- Direct marketing
- Community supported ag (CSA) programs
- Farmers' markets





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Management Team

- Family members
- Key employees
- Others
 - Accountant
 - Attorney
 - Consultants





Business Plan Components

- Executive Summary
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Financial Plan

- Financial statements
 - Profit and loss projections
 - Cash flow projections
 - Pro-forma balance sheets



Break - even Analysis

- The point at which total costs equals net sales
 - Fixed costs
 - Variable costs
- Quick way to look at whether realistic to make change



Appendix

- Resumes
- Job descriptions
- Maps
- Permits



Summary Benefits of Planning & Communicating



Benefits of Planning & Communicating

- 1
- 2
- 3
- 4
- 5
- 6



Resource Tools Available

- Sustaining Western Rural Landscapes, Lifestyles and Livelihoods *Agricultural Enterprise Diversification Resource Guide*
- Team of professionals
 - NRCS, Cooperative Extension, Ag Marketing
 - Small Business Development Center





Questions?



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Business Planning Concepts and Methods

By Cindy Garretson-Weibel

Introduction

The existing resources available to a ranch will often provide the basis for enhancing existing agricultural operations and for adding a potential new business enterprise to increase profit and long-term sustainability. Whether the ranching operation is based solely on livestock, or combined with hunting or recreation, for example, its potential for profit and sustainability of the ranching operation are dependent on the quality of the land resources, as well as the human resources available.

Sometimes a simple change in resource management may make the existing operation more efficient, precluding the need to diversify. In one situation, a change in grazing management may increase livestock weaning weights, thus increasing profitability. In another, changing the calving season from late winter to early summer may reduce annual hay demand and decrease expenditures. Before embarking on an alternative business enterprise, it is important to closely evaluate the existing operation, then analyze income potential and resource requirements for any alternative enterprise.

Once the assessment process is complete, it is advisable to develop a business plan, especially if additional funding sources will be required. The business plan provides a framework for collecting and recording important information that is pertinent to the ranching operation.

Assessing the Agricultural Operation

Before making any changes to the existing agricultural operation, it is important to closely evaluate the current ranch, and income potential from other resources associated with the agricultural operation.

Assessing the potential of the entire ranch resources means gathering and organizing a great deal of information about the ranching operation. These assessments may be perceived as cumbersome and time consuming at first glance, but they can help pinpoint weaknesses in the existing operation and identify new opportunities that will help sustain the ranch.

Many producers who were contacted during this project have utilized a holistic approach to managing their operation and attribute it to their success. This includes evaluating the human resource at the core of the operation, including individual values, goals, knowledge, skills, interests, and abilities. It expands to include all of the other resources of the farm or ranch. These tools include:

1. Explore personal and family values;
2. Develop personal, family, and ag operation goals;
3. Evaluate personal business skills and traits for each family member, their lifestyle, and financial management expertise;
4. Evaluate personal natural resources and local community knowledge;
5. Inventory all resources associated with the farm or ranch;
6. Compile the information generated in steps 1-5 to develop an overall analysis of the strengths, weaknesses, opportunities, and threats (SWOT) facing the existing enterprise and the operation as a whole.

The enterprise goals, assessments, resources inventory, and summary SWOT analysis of the existing enterprise are crucial evaluation tools that can will become, in essence, the encyclopedia of the ranch.

Personal and Family Values

Personal values are the fundamental core of a person's life. They are what are most important to each of us. For some, it includes honesty, integrity, and perseverance. For others, it may be open spaces, the opportunity to view wildlife on your land, working side by side with your children, or having dinner together every night.

Examining family values involves understanding one's own values, communicating those values to

others in the family, and recognizing the values that others in the family communicate to you. The entire family should compare values then identify which values are shared by all. Values important to everyone provide a focal point for setting family goals and developing a family mission statement.

What are some of the divergent values, the ones that are unique to each individual? Widely divergent family values may make operation of the ranch difficult, if the family members can't find common ground to help them establish uniform direction.

Once everyone involved has completed a value chart, the values can be discussed, prioritized and compared for compatibility. Then a value system for the ranching operation can be created that harmonizes with the values of the owners, family, employees, and other key members of that operation. It is important that everyone who is involved in the ranch be included, because shared values that can be directed toward the business give it focus and a core energy that drives the system. These values form a basis for setting goals for the business. Tangible and measurable desired outcomes from the ranching operation will protect and nurture shared values.

Goal Setting

Goals, particularly written goals with deadlines and costs for attaining them, are very powerful tools in shaping and controlling one's future. They provide a framework for decision-making by providing focus.

Many agricultural operators who were questioned during this project indicated that goal setting and regular review of their goals are critical to their business. It gives direction to the current business operations and enables them to track their children's future plans. For example, consider the case of the teenager who currently provides an important source of labor to the family ranch business, but who has no intention of returning to the ranch after college. This creates several potential problems for the family. One is the loss of expertise specific to that ranch that must be replaced by an outside labor source. This new person then needs time to become familiar with the operation. It could mean that a component of the ranching operation might have to be eliminated or replaced. Other issues could be the loss of family tradition or that no potential heirs want to continue the operation of the business.

Consider, perhaps, the ranch where the youngest generation provides labor, the middle generation makes the management decisions and the oldest controls the finances. If they don't have some common goals, stress and possible failure of the ranch may be the end result. Situations such as these illustrate the importance of considering goals from both the practical and holistic perspectives.

Practical goals are **SMART** goals. They should include the following characteristics:

- **Specific** - include details such as dollar amounts, dates, and resources
- **Measurable** - provide quantity or capacity by which progress and final achievement can be monitored and evaluated
- **Attainable** - capable of being obtained
- **Relevant** - related to the matter at hand
- **Time-bound** – providing a realistic deadline

Goals should be compatible with all aspects of one's life. A holistic approach to goal setting means that a person does not strive to achieve one goal at the expense of others.

Written goals have a greater chance of being accomplished. A 1979 study of Harvard students revealed that 83 percent of those surveyed had no goals; 14 percent had unwritten goals and they earned three times more than those with no goals. The remaining 3 percent had written goals and earned nine times more than those with no goals!

Oftentimes, there are never enough resources to achieve all goals at one time. A person needs to prioritize goals, which may require making trade-offs. Prioritizing goals to fit limited resources may require that long-term goals be broken down into short-term goals. Once high priority goals are accomplished, the remaining resources can be distributed to lower-priority goals.

Goals that are mutual or shared with other members of the team (family, employees, partners, or other members of the unit or organization) will be easier to achieve. Once goals are identified, The

following suggestions can assist in making the goals achievable:

- *Assign costs to achieving goals.* To improve chances of successfully achieving one's goals, it is wise to determine the financial cost of resources required for achieving each goal.
- *Identify barriers to achieving goals.* List obstacles that you or your family might encounter during the process to achieve goals. Consider ways to overcome the barriers. It is also important to think about how to keep yourself, other family members, and employees motivated to achieve goals, especially long-term goals.
- *Monitor progress.* A person can monitor progress toward achieving one's goals by using physical, financial, and personal indicators. Monitoring provides feedback so that a person can make adjustments and refine his or her goals to get closer to achieving the expected results.
- *Revise the goals.* If the plans for achieving your goals aren't working or the goals themselves just aren't giving the expected outcome, it may be necessary to revise the goals. This may be necessary due to the passage of time, changes in the economy, or changes in family life.
- *Display your goals.* Once goals are written, they should be displayed in a place where all members of the family, business, or team can see them.

Assessing Skills and Traits

Assessing individual skills and traits is critical for anyone examining the effectiveness of their ranching operation. It helps establish a baseline of resources and expertise that might help explain any deficiencies in the existing operation and help identify strengths that lend to changes in the operation. There are two general categories that characterize a person – personality traits and technical or functional skills. They distinguish one person in a ranching operation from another.

We have identified a set of six personal assessments that is useful to individuals interested in evaluating their current ranching operation and potential diversification opportunities:

1. *Personal Traits and Characteristics* - This worksheet is designed to help one to think about one's traits (attitudes, habits, motivation) and skills that are relevant to starting and running a business;
 - Identify weaknesses in personal skills. A person can take the appropriate actions to increase his or her skills and knowledge.
 - Identify strengths in personal skills. A person will know the characteristics required to be successful in a new business enterprise.
 - Identify personal traits that are distinguishing characteristics of a particular person. These personal traits can be compared to the personal traits of successful entrepreneurs.
2. *Lifestyle and Family Traits* - Every member of the family will be affected by the decisions made in the operation, whether they are directly involved in it or not. It is important to know the expectations of each person and to discuss the similarities and differences in perceptions and expectations. This worksheet will give you and your family an opportunity to:
 - Identify the attitude and level of support toward the idea of starting a new enterprise.
 - Identify areas of current or potential conflicts within the family system that may undermine the enterprise and/or the family.
 - Identify level of family unity and strength.
3. *Family Financial Management* - The purpose of assessing family financial management is to give a family an opportunity to review basic financial practices or habits and determine financial plans. Family financial practices signal whether or not a family may be at risk for financial problems. The first step toward financial control is identifying problem areas.
4. *Business Skills and Traits*- This assessment encourages a person to consider his or her skills and traits that are important in starting and running a business:
 - Identify weaknesses in business skills. A person can take the appropriate actions to increase his or her skills and knowledge.
 - Identify strengths in business skills. A person benefits by recognizing his or her areas of strength that will make it more possible to have a successful business enterprise.

- Identify certain business traits that are distinguishing characteristics of a particular person. These business traits can be compared to traits of successful entrepreneurs.
5. *Natural Resources Characteristics* - This assessment will help identify the land manager's awareness of the role of natural resources in their current operations and which natural resources have potential to be ranch commodities through providing additional income.
 6. *Community Characteristics* - This assessment of your knowledge of your community encourages a person to consider his or her position in the community as well as aspects about the community that are or may be critical to the success of a diversified operation.
 - Identify your knowledge of community resources.
 - Identify your involvement and participation in local government.
 - Identify your knowledge of resources that are available in starting or enhancing your business.

All of the people associated with the ranching operation should complete each assessment. This will identify internal strengths, weaknesses, and levels of proficiency in certain important traits, skills, or abilities. This information can be used for developing a plan that takes advantage of strengths and opportunities necessary for operating a successful enterprise.

Resource Inventory

The resource inventory is the fourth component of the foundation for making decisions about the target land unit. The resources of the planning unit are inventoried so that problems and opportunities are identified and current resource conditions are established for existing enterprises. Related offsite conditions are also inventoried. For example, some wildlife species are highly mobile, so it's important to know which of their requirements are met on your land and which components are being provided by your neighbors. Offsite conditions may also indicate opportunities for a potential diversified enterprise or for establishing a partnership that could result in a new agricultural opportunity.

Once this data has been collected for the ranch, it should be analyzed to determine if current conditions are preventing the producer and his or her family from achieving their personal goals. This information will also serve as the basis for assessing the feasibility of existing agricultural operations and for evaluating the feasibility of potential new enterprises for the land unit.

A map or series of maps/overlays, of the target land unit is an essential component of the resource inventory. It provides not only a clear picture of resource locations and potential sites for diversification, but also of the interactions between the multitude of resources found on any given land unit.

A series of forms has been developed to assist you in conducting a comprehensive resource inventory. These forms have been designed to capture data for existing enterprises, and information that could be useful in considering new, alternative agricultural enterprises. For example, which pastures have a noticeable abundance of wildflowers and when do they bloom? The time requirement to record this additional information is minimal, yet this data will be invaluable for assisting you in examining a potential new enterprise. If you are not yet sure about diversification, this information can be easily maintained in a file for future reference.

1. *Human Resources*- list skills, interests, etc. of each family member and employee, as well as outside resources.
 - Record the skills, interests, education, and special training of each family member and employee; record the preferred current and future activities, both on and off the ranch; how much labor is available to the operation from each person and when it is available.
 - Record tasks necessary for the existing ranch operation
 - Record key resource people, outside of the family unit and employees who are or could be important to the agricultural operations.
 - Identify potential employees (outside of the current family unit and employees) that could provide other skills or additional labor required for existing or potential new enterprises.

2. *Financial Resources* - record assets and liabilities for current enterprises of the target farm or ranch unit.
3. *Marketing Resources*
 - Record the products marketed, the location and type of market, time of marketing, distance to the market, cost to market, and contact information for that market.
 - Identify media market entities, such as TV, radio, newspaper, Internet, and magazines.
 - Record their target audience, size of their audience, their target service area, and contact information for media venue.
4. *Land Resources*
 - Consists of an inventory of all land resources, both deeded and leased.
 - Record the types and amounts of rangeland, pasture, crops, forest, and other lands (e.g. headquarters, leased areas, holding pens, etc.)
 - Record the locations of any right-of-ways, easements, or deed restrictions and the terms for their use.
5. *Soil Resources*
 - Record predominant soil types, production potential, and erosion conditions for each field and pasture. This will indicate where treatment is needed and if there are opportunities for producing other crops.
6. *Plant Resources*
 - Record the existing plant communities within each field or pasture and the amount of forage they provide.
 - Record the desired or potential plant communities within each of those same fields/pastures, and what the potential amount of forage would be.
 - Record any unique plant species or wildflowers found within each field or pasture, and the time of year they are conspicuous or in bloom. This may augment a potential diversified enterprise.
7. *Water Resources*
 - Information recorded for ponds/reservoirs, wells, and streams will provide cumulative water availability, capacities, allocations, and dependability for the land unit.
8. *Livestock* – use a separate form for each class of livestock: cattle, sheep, horses, etc.
 - Record production information (number of head and value, number of sales/culls and income, number purchased annually and cost).
 - Record feed and forage requirements for each type of livestock.
 - Record management requirements for each type of livestock (time of year, labor demand, and who does it).
9. *Facilities*
 - Record type, dimensions, age, condition, and expected life span of all building present on the land unit, and irrigation structures, fences, and roads.
 - Record the type, location, age, condition, and expected life span of other facilities on the land unit, such as dumps, bone yards, fuel dispensing sites, and loading corrals.
10. *Equipment/Machinery*
 - Record the type, ownership, age, condition, and expected replacement dates for all machinery and equipment associated with the existing operation.
 - Record the type, justification, form of procurement, anticipated cost, and expected lifespan/time requirement of any other needed or desired equipment not currently owned, rented, or borrowed.
 - Note any equipment safety features that are needed to protect the operator or any passengers.
11. *Wildlife Resources #1 – Consumptive or harvestable wildlife*
 - Use a separate form for each species.

- Record the number of head, annual harvest, potential harvest, hunting season dates, and locations of the species (field, pasture) during hunting season.
 - Record the forage demand for each species by field or pasture.
 - Record the management requirements for each species (activity, time of year, labor demand, and who does it).
12. *Wildlife Resources #2 – Non-consumptive wildlife*
- Record photo/viewing opportunities for each species by location, time of year present, and accessibility from the nearest road/trail and ranch headquarters.
 - Record birding opportunities for each species by location, time of year present and accessibility from the nearest road/trail and ranch headquarters.
13. *Fisheries Resources #1 – Ponds and Reservoirs*
- Record location, size, depth, temperature, dependability, species present, and desired fish species for each pond and reservoir on the land unit.
14. *Fisheries Resources #2 – Streams*
- Record the name, location, length of stream in pasture, flow rates, temperature, fish species present and desired species.
15. *Cultural Resources*
- Record the type, location, distance from headquarters, and any unique features for each cultural resource on the land unit.
16. *Recreation Resources*
- Record any scenic vantage points on the land unit.
 - Record any potential picnic, camping, cabin or lodge sites.
 - Record potential trail routes for horses, bikes, hikers, and ATVs.
 - Record the locations and descriptions of unique geological features.
 - Record the locations and descriptions of other potential recreation resources.
17. *Community Resources*
- Include motels, campgrounds
 - Restaurants, convenience stores, shops
 - Churches, schools, services
 - Available supplemental workforce

Conducting a SWOT Analysis

The final phase of assessing the farm or ranch operation will entail extracting the most pertinent information from all the completed assessments and the comprehensive resource inventories. One tool that will facilitate this is a SWOT analysis.

A SWOT analysis is a tool used for strategic planning and analysis. It offers a clear and concise format that is used to identify and summarize strengths and weaknesses within a business organization, and opportunities and threats from the external environment that could impact the ranching operation. It is like a snapshot of the existing operation, along with some indicators of future possibilities and obstacles.

Going through this process can be helpful because it reveals changes that can be made and puts existing or potential problems into perspective. It allows producers to highlight the most significant internal and external factors affecting their operation, maximize the potential of the strengths and opportunities, and minimize the impact of the weaknesses and threats. The data compiled is used to identify the key strengths and opportunities regarding the existing operation. It is also used to ascertain the significant weaknesses and threats that the same farm or ranch business may face.

Steps in conducting a SWOT analysis –

1. Internal analysis of strengths and weaknesses: Producers should examine their capabilities and the capability of their business, enterprise, or organization.
 - a. Strengths: Strengths are positive aspects internal to the business. What are the advantages?

- What is done well?
- b. Weaknesses: Weaknesses are negative aspects internal to your ranching operation. What could be improved? What is done poorly or inadequately? What activities should be avoided?
2. External analysis of opportunities and threats. Identify conditions external to the business that offer opportunities or pose threats to their performance or the performance of the ranching operation.
 - a. Opportunities: Opportunities are positive aspects external to a business. Opportunities can come from such things as positive characteristics of the local community, changes in technology, markets, regulations and policies related to the business, lifestyle changes, and local events.
 - b. Threats: Threats are negative aspects external to a business. Think about obstacles that your ranch operation may face. For example, are there negative characteristics in the community or marketplace that could create obstacles?

SWOT Analysis	POSITIVE	NEGATIVE
INTERNAL	Strengths	Weaknesses
EXTERNAL	Opportunities	Threats

Elements of a Business Plan for an Agricultural Operation

Components of a Business Plan

Many different formats can be used when writing an agricultural business plan, but regardless of the format used, several key areas should be addressed: business concept and structure, market analysis and plan, management plan, financial plan, and break-even analysis. Some agricultural businesses may also require a design and development section, a manufacturing plan for products, or an operations plan for a service business. If the business plan is going to be read by potential investors or lenders, include an executive summary, proposed funding information, and appendix of supporting materials.

It is wise to seek expertise when developing a comprehensive business plan. Many resources are available to assist in this effort. The agribusiness plan includes:

- Executive Summary
- Overview of the Industry and the Business
- Market Analysis
- Market Plan
- Management Team
- Design and Development (Optional)
- Manufacturing Plan/Operations Plan (Optional)
- Financial Plan

- Break-even Analysis
- Proposed Offering (Optional)
- Appendix

Executive Summary

The Executive Summary is the overview of the plan. It is a very important part of your agribusiness plan because it answers the “who, what, where, when, and how” of the business plan. Consisting of one page, two at the most, it highlights important points that allow the investor to determine quickly if there is any interest. This is the section that should capture the reader’s attention so that the rest of the plan will be read. Prepare this section after the other sections of the business plan have been written. Remember to make this section appealing and compelling! This section should clearly and crisply highlight the following points:

- The business idea – State the purpose in twenty-five words or less.
- Market opportunity – Identify the trends and competitors’ vulnerabilities.
- Target markets – What will be sold and to whom?
- Competitive advantages – What are the innovative products/services?
- The team – Who is on the management team and what is their track record?
- The offering – What is the amount of equity or debt financing needed?

Overview of the Industry and the Business

This section should contain information about the overall industry in general. This is an overview, so it should be kept very short. It includes the business concept and how that particular business “fits” into this industry. Occasionally, businesses will not fit into the industry; so if this is the case, explain why it does not fit.

Discussion of the industry should include:

- Current status and future trends of industry.
- Briefly discuss market size, growth trends, and competitors.
- Discuss new products, developments, markets, or economic trends and factors that could affect the business.
- Briefly describe the overall customers and what benefit they receive from the product or service

Discussion of the business should include:

- A brief description of the business concept
- The legal format and structure of the business
- A description of the business and how it fits into the industry.

Market Analysis

This section presents the business you are proposing, all the products/services that will be offered, and the opportunities that will be pursued. Provide facts to convince the investor that the product/service has opportunity. The key point in the market analysis is to explain clearly and concisely why the venture will succeed.

- The product and/or service - describe in detail, including features, benefits, and applications. Features are characteristics of the product or business; and benefits are what the characteristics or features will do for the customer. Features are important; however, customers “buy” the benefits.
- Customer analysis - Customer analysis typically involves developing a customer profile. The profile includes income, age, sex, education, location, hobbies, marital status, etc. Profiling reveals customer groups by behavior habits. Behavioral habits, as they apply to purchase decisions, are the best predictors of future purchases. This includes who the potential customers are and where they are located.

- Analysis of the competition – identify the key competitors and describe their strengths and weaknesses; describe the competition’s strategic direction (pricing, promotion, and distribution), if possible.
- Competitive advantage – what advantage does your ranching operation have over the competition; what is unique or gives it the “edge” over existing competition.
- Market size and trends specific to your business and location – From the customer analysis, market segment can be determined. The market segment refers to a sub-segment of a total market, which can be identified by specific characteristics. Sometimes there are several different market segments that make up a total demand for the product or service.
- The market potential and projected sales volume - The market potential is estimated by determining the number of sales over a period of time. The numbers developed in this section are what will drive the financial projections. This number will differ from the number of people who would be able to use the product or service; the focus at this point is on the number of people who would be able to buy or pay for it.

Market Plan

The market plan is the overall marketing strategy that is developed specifically for the agribusiness once a thorough market analysis has been conducted. The market plan consists of tactics, schemes, and procedures a business uses to communicate with, and attract the attention of, the customers. This strategy differentiates the business from all other businesses that sell the same/similar products or services. It uses a mixture of the “four P’s” of marketing – price, product, place, and promotion. The market plan should describe how sales projections will be achieved and includes the following elements.

1. *Product* – What will be sold? The product of service includes many things in addition to the actual product/service. Consider such things as quality, brands, depth and breadth of product/service lines, packaging and presentation of product or services, features and benefits, or image portrayed.
2. *Placement (distribution)* – How does the product get to the customer? This is the process of moving the product from production to consumption. Distribution process might be one of the following: direct marketer; retailer; wholesaler to retailer; or wholesaler, jobber and retailer. Retailing businesses usually consider location, space, and costs. Manufacturers need to consider territories, distribution methods, and costs.
3. *Price* – What will be charged? Pricing reflects a complex relationship of product/service, customer service, expenses, and profit goals. Consider the market position and competitive pricing.
4. *Promotion* – How will the world know that this product/service exists? Promotion communicates a message, builds an image, and creates awareness.

Management Team

People invest in people. The energy and the values of the management team will make or break the business. In this section, provide a summary of the people who make up the organization. In most cases, this will be the immediate family and any essential employees. Remember to describe not only the skills and special talents of people within the business, but also people who are indirectly affiliated with the business. Members of a board of directors, professionals such as accountants, lawyers, mentors, and consultants who have taken on special projects should be mentioned as contributing team players. The character and quality of the support group can add credibility to the business. Keep in mind that in a small town, the background of the principals of a new business may play a big role in obtaining financing for the business. Detailed resumes of key persons of the business and detailed or lengthy information about other resource persons should be provided in the appendix – not in this section.

The key people discussion should include:

- How each key person fills a need

- Key management's experience
- Management compensation

Include other resources such as:

- Other investors
- Board of directors' members and experience
- Supporting professional advisors and services
- Family or close friends in similar business

Financial Plan

The financial plan eventually becomes the deciding factor to a lender. Financial statements that depict a future period are called pro-forma or projected financial statements. This section represents the best estimate of future operations for financial viability. Provide observations and qualitative comments regarding the numbers, especially if it is not obvious why certain numbers have been used. Numbers should be realistic.

If possible, industry standard should be used for explanatory footnotes are provided. Three years of projections are recommended because they provide clarity to the overall picture of the business. Find out how much detail the investor or lender wants in the plan. Investors and lenders have different requirements depending on the scope of business and amount of funds requested. The financial plan should include:

1. *Profit and Loss Projections (three years)* – These are the same as income statements. The income statements or profit and loss projections measure the costs and expenses against sales revenues over a period of time thus measuring profit performance. Profit and loss projections are tools for forecasting and budgeting. They complement the balance sheets by providing a moving picture of the business over a given period of time.
2. *Cash Flow Projections (three years)* – This is an extremely important financial planning tool for the business owner. For a start-up or growing business, the cash flow projection can mean the difference between success and failure. For an ongoing business, it can mean the difference between growth, stagnation, or decline. Cash flow analysis shows how much cash is needed, when it will be spent. Cash flows into the business as sales, receivables, and capital injection. It flows out through cash payments of various expenses. Cash flow projections will not show profit or depreciation.
3. *Pro-forma balance sheets* – These statements show how the business stands financially at a certain point in time. It is a static picture of the business showing how assets, liabilities, and net worth are distributed at a given point in time. The format is standardized to facilitate analysis, therefore, do not deviate from it. Provide pro-forma balance sheets at the time of start up, then semi-annually for the first year, and annually for the remaining two years. These may be optional depending on the requirements of the lender.

Break-even Analysis

Break-even analysis is a quick way to look at whether it is realistic to go into business and whether the costs are realistic. In simple terms, it is the point at which the total costs equal the net sales. In order to calculate break-even, separate costs into fixed and variable costs. Total cost of a project will equal the total fixed costs plus the total variable costs. Finding the variable costs can be difficult, especially for new businesses. Start-up costs may initially hide variable costs.

- Fixed costs – Those expenses that must be paid whether zero units, one unit, or many units are sold. Rent and salaries are examples of fixed costs.
- Variable costs – these costs change directly with the amount of units sold. Costs such as materials, labor, and packaging would shift depending on the amount of production. In general, if there is a direct relationship between a cost and number of units sold, consider the cost variable. If there is no relationship, then consider the cost to be a fixed cost.

Appendix

This section is reserved for any supporting documents or data that will back the agribusiness plan. Include such things as:

- Endorsements
- Letters of interest or intent from potential customers or suppliers
- Resumes and letters of character references
- Job descriptions
- Pictures and drawings to describe the idea
- Schedules
- Articles and reports
- Contingency plan: various scenarios that would describe the business given different internal and external occurrences
- Maps of business location, area, complimentary services, and traffic pattern

References

Garretson-Weibel, C., et al. (2003). Sustaining Western Rural Landscapes, Lifestyles and Livelihoods.

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Questions and Discussion Notes

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