

Meeting Notes for the Sustainable Rangelands Roundtable (SRR)
Billings, MT– July 30-31, 2002
Facilitated by Lou Romero, DeLaPorte & Associates, Inc.

Welcome Remarks – Tom Bartlett, Roundtable Host/Convener

Thank you for the level of support and participation you have shown by your attendance at this and previous meetings. During this meeting we hope to refine indicators and complete 6-point framework, prepare to have indicator work reviewed by external reviewers, and determine a temporal reference point and spatial classification of indicators.

Participant self-introductions – led by Lou Romero, Roundtable Facilitator

Welcome to the new participants. Participants introduced themselves, answering the following questions:

- Name, organization, position?
- Familiarity with subject matter?
- Familiarity with Roundtable's Progress
- Any "Burning Questions"?
- Participation both days?

Burning questions:

- How will biodiversity fare with large land use changes in prairies?
- Given global climate change, will the carbon sequestration change the economics of prairie restoration?
- Concern for producer economics; the resource needs to be sustainable for the producers to be sustainable economically.

A list of participants can be found in Appendix A.

For a summary of the following talks, please refer to Appendix B.

Importance and Potential Benefits of Sustainability Indicators – Ted Heintz

Sustainability Research for Rangelands – John Mitchell

SRR Process and Purpose – Tom Bartlett

SRR Criteria and Indicator Overview – David Pyke

Steering Committee Task Overview- Tom Bartlett

Delphi 11 Results: 19 responses: 5 moderately satisfactory, 11 highly satisfactory (3.7 average)

SRR Participant Feedback through Delphi 11 and Steering Committee Responses:

Feedback: Want to see what other groups are writing.

Response:

- We will include the chair(s) of each group on each list serve and they can decide what to forward to their own group.

Feedback: Want more interaction between Criterion groups.

Response:

- We initiated interaction sessions and noticed they continued informally in DC. If there is more need for formal meeting time, please let us know and we will set it up.

Feedback: More interaction between roundtables.

Response:

- Environmental indicators groups met before Denver and postponed the meeting set for Salt Lake until the San Diego meeting.
- The legal and institutional frameworks groups met in SLC before minerals roundtable meeting. These groups are considering an option to coordinate write-ups of these indicators.
- Kristie, Helen, and Sarah Walen (from RSF) held a conference call to discuss participation by the RSF in the interaction sessions. Unfortunately, there are not funds for social and economic and institutional groups to meet in August.

Feedback: Where are we going? What will the final product look like?

Response:

- John will be meeting with Criterion group leaders to begin finalizing outline for final report.
- Briefing in DC began informing political players concerning our process and outcomes.
- Kristie and Lori will be coming up with an Outreach plan to further this work.

Feedback: Clarification of rangeland definition.

Response:

- We are working on the definition to delineate rangelands and forests.
- We are holding a meeting in Florida in order to highlight rangelands in the East.

Feedback: We don't know exactly what the product will look like.

Response:

- It is the work of this roundtable to come up with these. It is a dynamic process.

Viability & Adaptability of Forest and Range Dependent Communities – Richard Haynes, Roundtable on Sustainable Forests (See Appendix B)

Criterion group reports on progress since DC

Productive Capacity: Dick Loper

- We have a five-page hand out with our five indicators prepared for the ESA meeting next week. The concept of obligate wildlife species is under debate as to whether to measure as functional groups vs. indicator species?
- We received the recreation indicator from the socioeconomic group, but decided not to take it on. Could not find a way to measure.
- We need to improve our communications between meetings. It is unclear what has happened since the previous meeting.

Ecological Health and Diversity: Duncan Patten

- Overlaps have been worked out between soils and water and ecological health and diversity group.
- Have a draft of write-ups for each indicator. There probably will not be a lot of changes made to this list during the meeting. Need to decide how references will be used.

Soil and Water: David Pyke

- Concentrated work needs to be done on the water indicators.
- Look at the indicators we have and decide if we can decide to combine these or use one as proxy for the others reduce to a more manageable list. Using 6-point framework.

Social and Economic Indicators: John Tanaka

- Conducted some email communication in between meetings to narrow down 41 indicators. Need to continue to pare down list.
- Need more sociologist inputs. Still in philosophical phase of indicator development.

Institutional Framework: Tom Lustig

- Too many indicators, but have not compressed the list.
- There exists a draft done using the framework and looking at verifiers.
- Can we measure this? Is there data? No direct effort to assess data has been made.

Delphi Results: Closure on Five-Point Framework & Development of Framework for Data Set/Source Evaluation – Helen Rowe and Lou Romero (See Appendix C).

The Criterion Groups spent the remainder of the afternoon on indicator work

Wednesday, July 31, 2002**Scale Working Group Report and Discussion – Paul Geissler**

- Some of the issues this group will be tackling are: interpretation, temporal and spatial grain and extent. Interpretations cannot be made beyond size of sample size or extent. Because we are working on national level indicators, aggregation may obscure regional effects and interactions that occur at local level.
- This group met at lunch yesterday (Tuesday). Best approach for the scale group will be to use case examples for assessing scale.
- Mark Brunson has a relevant article for the scale group.

Definitions of Forests and Rangelands – Paul Geissler

We have good conceptual definitions and there is general agreement on typical forests and rangelands. However to compare data and estimates, we need agreement on operational definitions. The Oregon Demonstration Project found 10% to 15% difference in the areas of rangelands and forests depending on which definitions are used. There may be 40 to 60 million acres difference in the US, depending on which definition is used.

Agreement on definitions is essential to define the area to which the criteria and indicators apply. These are very long-standing and contentious issues, because allocation of some funds depends on the area of forests. Some issues include which species are trees and which are shrubs, and how many trees are needed for a forest. There are also differences on whether we are defining a land use or land cover.

The FGDC group has had four conference calls and is preparing for a face-to-face meeting to better define the issue and develop an approach for agreeing on definitions. The first step is to summarize the history of forest and rangeland definitions. This summary will allow the group to build on experience rather than repeating past attempts. The workgroup has 18 participants representing a wide spectrum of involvement. For more information about the workgroup please visit the website at <http://www.pwrc.usgs.gov/brd/Definitions.htm>.

If the delineation between forests and rangeland is not made on the basis of biodiversity, then will it be the most accurate?

A health and diversity community types indicator looks at composition of woody plants changing over time. Criteria groups may need to have their own tight definitions, because the FGDC definitions will not be ready for the 2003 report. Don't let indicators fall through the cracks just because the definitions have not been resolved. Hold onto the indicators over time, despite this definitions dispute.

Criterion Group Assignment and Reports:

1. Continue progress using 6-point framework and data matrix.
2. Ideas: How to populate your indicators with data; how many by when?
3. Your projected readiness to "freeze" your indicator list in October – write-ups by 9/27.
4. Gaps/overlaps?

1. Continue progress using 6-point framework and data matrix.

Productive Capacity: Not rewritten into the new 6-point. Working on definitions that will make filling out the framework easier.

Ecological Health: Text is in old 6-point. Discussed data matrix today and submitted suggested changes.

Soil and Water: Text is in old 6-point. Tasks have been assigned to put all indicators in the new 6-point. Have made suggestions for the data matrix.

Economic/Social: Still refining list of indicators. Have comments on the data matrix

Legal/Institutional: Generally this gives some guidance, but will not use it point by point.

2. Ideas: How to populate your indicators with data. How many by when?

Productive Capacity: Indicator 7 on production will be in this group. Identify any data sources to define scale. Have six indicators.

Ecological Health: Dropped indicator on #15 percent cover by vegetation class because it would be impossible to get the data. This indicator is covered elsewhere. Identified potential data sets and quality issues of the sets. Analysis of data—some have good data. Now have ten indicators.

Soil and Water: Had 13 indicators, combined #29 with #28, dropping down to 12. #30 will be changed, maybe into original indicator on toxins. It is possible to populate all with data sets.

Economic/Social: Winnowing list, currently have 35 indicators. High variability of data. Some data sets would have to be developed for the indicators. Continuing to make cuts.

Legal/Institutional: Substantially changed indicators. Began with 18, compressed into five indicators. Sub-indicators remain. Translated into plain English. 60 page approximation report written by Stan needs to be edited.

3. Your projected readiness to “freeze” your indicator list in October – write-ups by 9/27.
Productive Capacity: Will freeze by August 30, 2002. Finish final draft by the end of the next meeting.

Ecological Health: Will be ready by 9/27.

Soil and Water: 12 or 11 indicators will be ready by 9/27. Waiting for ESA input.

Economic/Social: We will not add any more. May reduce. Will be ready by 9/27.

Legal/Institutional: We changed from 18 to 5 this morning. If there is radical opposition, it may change back to 18. Stan and Jason should give their input.

4. Gaps/overlaps?

Productive Capacity: We accepted the indicator on rangeland annual production from the Health and Diversity working group. A consensus has not yet been reached as to whether this indicator should be combined with our indicator 5, above-ground biomass production. One measures a rate and the other an amount. They are very similar, however.

Economic/Social: Which group will address recreation and how will this group deal with overlap on cultural resource values?

Legal/Institutional: Verifier? What does this mean? Where does it come from? It came from the Forestry Roundtable. We have not discussed verifiers in this roundtable. They are more useful when using models.

Note: “Verifiers” are used more commonly by the forestry groups. The Forest Service Local Unit C&I Development (LUCID) Project defines verifiers as sources of information for the indicators and the reference values for the indicators. For example, a LUCID indicator is soil quality, while its verifier is the volume of soil erosion by horizon.

Working Group Reports:

Outreach (Lori Hidinger):

SRR will lead a workshop next week at the ESA conference. Linda Joyce, David Pyke, Dennis Child, Tom Bartlett, and John Mitchell will be presenting. We will get feedback on indicators for Capacity, Health and Diversity and Soil and Water Criterion groups.

Aaron Harp represented SRR at the Great Lakes Symposium. He met with a group from Michigan and they are sharing ideas.

Mark Brunson reports on indicator feedback: The socioeconomic group needs a way to get feedback on indicators. It was suggested at the DC meeting that Mark Brunson might attend a conference in Sardinia. Mark approached the International Symposium for Society and Natural Resources but the organization has no structure of task groups or officers that might be used to evaluate indicators. They suggested holding a workshop at the Italy meeting of which Mike Manfredo is chair. Mark is unsure if he can effectively give the workshop and receive feedback. The participants will have the expertise to deal with socioeconomic indicators, but they might not be experienced in rangelands.

John Mitchell: Doesn't consider his travel cost that expensive. It is important to take advantage of the society meeting. Technical review will happen upon completion of the 2003 report. This is an outstanding opportunity.

Bill Fox is putting together a session for the Second Biennial International Conference on Agricultural Science and Technology (ICAST 2003).

Lori and Kristie will be drafting a communication plan to identify who to target with the 2003 report and how they will be reached most effectively.

Tom: Roundtable Network meeting met after the DC meeting with Minerals Roundtable meeting.

- Water will have its first meeting October 10.
- The session emphasized synthesis, one of RN's goals. SRR will be working with Deb Shields to produce a common outline for 2003 report.
- Ted Heintz has been involved heavily in the sustainability effort and is putting together a matrix of indicators from all three roundtables.
- Next Minerals meeting will be mid September in DC.
- Interaction groups for legal institutional and social economic – SRR and SMR share similar struggles. There is agreement to investigate ways to write up indicators cooperatively; they will meet again in San Diego. Interactions worked with RSF to try to get them involved in interactions.

There will be another workshop at the SRM annual meeting Tuesday, February 3, 2003 to obtain structured feedback. At this session there will be an intro by Tom, a brief presentation by each criterion group, then there will be structured feedback to the initial report draft completed at the Florida meeting. Will need volunteer for each group for 15-minute presentation at SRM. Decide in groups.

National Cattlemen's Beef Association Federal Lands Committee: SRR panel with Lori Hidinger, Larry Butler, Jason Campbell, Tim Reuwsaat, and Sam Albrecht. Took Q&A after an introduction of SRR by Tom Bartlett. Rangeland assessment and monitoring questions came up for them. Also, scale, at what level, how collected, how will affect my allotment? Data reporting, how can we ensure it is implemented? Panel tried to emphasize that better data will lead to better management decisions. Concerns arose over how our work will affect federal agency policies. Heard feedback afterwards that this group wants to be kept in the loop. We tried to emphasize that SRR is not setting policy.

Comments from the group:

- This was a good start and we should elicit ongoing input and dialogue with these groups.
- Jason Campbell did not feel we had to attend Public Lands Council meeting.
- Larry Bryant will represent SRR at the GLCI conference.

Timeline- Criteria Groups

Directions to the Criterion Groups: Work on a schedule this afternoon that outlines major tasks between now and July. Prepare written plan in order to have a final draft report by May 2003. *Each group wrote a timeline and much discussion ensued to clarify product expectations and deadlines (Appendix D). The Steering Committee met subsequently and drafted a comprehensive*

timeline and requested that each group adjust their timeline accordingly. See Appendix E. John Mitchell will issue a detailed outline for the 2003 report Criterion chapters.

San Diego Draft Agenda – See Appendix F.

Appendix A

Washington D.C. Participants

1. Sam Albrecht, Society for Range Management
2. Barbara Allen-Diaz, UC Berkeley
3. Tom Bartlett, Colorado State University
4. Marty Beutler, South Dakota State University
5. Ben Bobowski, National Park Service
6. Jay Bodner, Montana Stockgrowers Association
7. Steve Borchard, DOI-Bureau of Land Management
8. Mark Brunson, Utah State University
9. Larry Bryant, USDA-Forest Service
10. Larry Butler, USDA-NRCS
11. Nancy Curriden, Custer National Forest
12. Gary Evans, se4 consulting, inc.
13. Bill Fox, Texas A&M University
14. Paul Geissler, USGS
15. Bill Haglan, U.S. Fish and Wildlife Service
16. Richard Haynes, USDA-Forest Service
17. H. Theodore Heintz, Jr., U.S. Department of the Interior
18. Rod Heitschmidt, USDA-ARS
19. Jay Hestbeck, USGS Northern Prairie Wildlife Research Center
20. Lori Hiding, Ecological Society of America
21. Linn Kincannon, Idaho Conservation League
22. Dick Loper, Wyoming State Grazing Board & National Public Lands Council
23. Tom Lustig, National Wildlife Federation
24. Kristie Maczko, MATCOM for the USDA Forest Service
25. Dan McCollum, USDA-FS
26. John Mitchell, USDA Forest Service, Rocky Mountain Research Station
27. Chris Moller, Idaho State University
28. Ken Nelson, USDA-ERS
29. Toney Ott, EPA
30. Duncan Patten, Montana State University
31. David Pyke, USGS
32. Tim Reuwsaat, DOI-Bureau of Land Management
33. Tom Roberts, DOI-Bureau of Land Management
34. Lou Romero, DeLaPorte and Associates
35. Helen Rowe, Colorado State University
36. Jerry Schuman, High Plains Grasslands Research Station
37. Lou Swanson, Colorado State University
38. John Tanaka, Eastern Oregon Agricultural Research Center
39. Dennis Thompson, NRCS
40. Allen Torell, New Mexico State University
41. Paul Tueller, University of Nevada
42. Robert Washington-Allen, Oak Ridge National Laboratory
43. Bob Welling, Ridley Block, Inc., Vaughn, MT

Appendix B Talk Summaries

Importance and potential benefits of Sustainability Indicators – Ted Heintz, DOI

We like to believe that the better information we feed decision makers, the better decisions they will make. Unfortunately, many factors in daily life and other pressures determine their decisions, not simply the facts. Policy makers will argue about what actions will and will not promote sustainability. We need to be able to measure the impacts of these decisions within a feedback loop.

In order for these measures to be used, there needs to be wide support that the measures are appropriate to assess sustainability. “We are more likely to become what we can agree to measure—we need to measure what we agree to become”. If we can agree on indicators of sustainability, then we build common understanding.

In 1993, we embarked on developing the Sustainable Development Indicators, a national report that would organize existing governmental data into a body that could be used to assess national sustainability. This effort drew upon the work done on the Montreal Criteria. The concept of endowments substituted for maintaining capacity. Endowments were felt to be easily understood as the resources to be preserved. For future generations to be at least as well off as the present, the key is sustaining endowments. Underlying capacities must be maintained and must be increased if we are to grow. These capacities are closely linked to the capacities of systems, i.e. the capacity of rangeland to serve people’s wants and needs.

There is a common desire to boil down sustainability into one measure, one indicator. It is impossible to capture the complexity of sustainability into just one indicator. Through indicator sets, we can organize information in such a way that promotes ongoing conversations in relevant policy arenas.

Sustainability Research for Rangelands - John Mitchell

Until two decades ago, perceptions of rangeland sustainability focused upon range condition in relation to livestock grazing. In recent years, the Forest Service and other organizations have started considering sustainability in terms of ecological, economic, and social measures at multiple scales. When trying to incorporate multiple scales in relation to indicators of sustainability, it is important to understand hierarchy theory. Three important scale-dependent attributes of data are grain, extent, and frequency behavior. Tradeoffs among these attributes explain, in part, why it is unfeasible to aggregate site-specific data to a national level.

A number of research forums and reports concerning the sustainable management of rangelands have been published during the past decade. The Ecological Society of America’s Sustainable Biosphere Initiative called for increases in basic research on sustainability of ecological systems to help improve the management of natural resources. Two broad scale research items in the SBI are effects of changing land use patterns on ecological processes and feedbacks between ecosystem and atmospheric processes. At least two forums on interrelations between environmental quality and economic growth have been published. They emphasize the need to study linkages among physical, biological and socio-economic systems. The Society for Range

Management outlined sustainability research goals for the next century in a 1995 report calling for more work on livestock management systems, enhancing riparian systems, providing for wildlife habitat, and understanding goals of society. Lastly, scientists at the Rocky Mountain Research Station have published evaluations of the 7 criteria and 67 indicators for sustainable development of temperate and boreal forests. Many of these indicators are also important measures of rangeland sustainability. Rangeland C&I fit within the larger R&D framework for monitoring rangelands by facilitating advances in national monitoring systems, thus promoting a feedback mechanism between monitoring and assessments.

As a final point, a forum on science and technology for sustainability has been proposed. The forum believes sustainability science to be an emerging discipline with a goal of understanding the nature of interactions between nature (ecology) and society (social and economic factors). See <http://sustsci.harvard.edu/>.

SRR Process, Leadership, Funding, Logistics, Timeline and Expected Product/Report - Tom Bartlett

The Sustainable Rangelands Roundtable (SRR) is meant to be an open, positive, future focused, dynamic process that values and respects all opinions and contributions of members. Our purpose is to identify indicators for sustainable rangelands. We will publish a report on US Sustainable Rangelands in 2003. SRR gains from links with other indicator efforts, such as the Heinz Report, RSF, SMR, and others.

The Roundtable general agenda begins with an introductory session. The agenda of these meetings is meant to be flexible to fit the needs and dynamics of the group process. At the end of day two, we assess our progress, determine the topics for Delphi process, and agree on a tentative agenda for the next meeting.

SRR team: Co-Chairs: Tom Bartlett and John Mitchell
 Facilitator: Lou Romero, de LaPorte & Associates, Inc.
 Kristie Maczko: Hotel arrangements, notes, and communications
 Helen Rowe: Delphi process, web page, communications, travel reimbursements
 Al Abee, Larry Bryant, Alison Hill, and Mike Manfredo: Idea staff and coordination

In addition to the staff, SRR has a Steering Committee and various working groups.

Time line: we hope to be done by 2003 (nine meetings - four in 2001, five in 2002).
The main support is the attendance of participants. USDA-FS and CSU are matching funds; the Bureau of Land Management and USGS provide additional funding. Additional partners are needed.

Development and Evolution of the Criteria and Indicators – Development and Evolution of the Criteria and Indicators – Linda Joyce & David Pyke

To date, the Sustainable Rangeland Roundtable has developed 5 criteria that represent categories of conditions or processes by which sustainable management can be assessed these are:

1. Maintenance of Productive Capacity on Rangeland Ecosystems
2. Maintenance of Ecological Health and Diversity of Rangelands

3. Conservation and Maintenance of Soil and Water Resources
4. Maintenance and Enhancement of Multiple Economic and Social Benefits to Current and Future Generations
5. Legal, Institutional, and Economic Framework for Rangeland Conservation and Sustainable Management

These general criteria are characterized by a set of 90 indicators that can be monitored in space and over time. The indicators associated with each criterion are quantitative or qualitative variables that can be measured or described and that, when observed periodically, demonstrate trends in rangeland sustainability. These criteria and indicators will continue to evolve as the SRR advances towards an accepted set for monitoring and assessing rangeland sustainability.

Criterion Maintenance of Productive Capacity on Rangeland Ecosystems encompasses indicators that assess the capacity to provide the current and future generation with a wide variety of goods and services that will vary by society's desires at any particular time. The criterion Maintenance of Ecological Health and Diversity of Rangelands captures indicators on rangeland health where health is defined as the degree to which the integrity of the soil and the ecological processes of rangeland ecosystems are sustained. Indicators of diversity capture the dynamics of landscapes, communities, and species. The criterion Conservation and Maintenance of Soil and Water Resources encompasses indicators that describe the stability of rangeland soils and the soil's ability to capture and store water and to cycle nutrients. This criterion also captures indicators that describe trends in the amount, quality and availability of water on rangelands to provide resources and products. Both social and economic indicators describe the criterion Maintenance and Enhancement of Multiple Economic and Social Benefits to Current and Future Generations. In addition to the numerous social measures such as population, income, education, etc. that are available, five indicators are proposed to assess the impacts of rangeland condition and use on the social systems of rangeland-dependent communities. Economic indicators complement social measures by assessing changes resulting from adjustments in social, ecological, legal, and political systems. The last criterion Legal, Institutional, and Economic Framework for Rangeland Conservation and Sustainable Management includes indicators that assess the support for sustainability through these frameworks, such as property rights, public involvement in policy, and investment and taxation policies. Additionally indicators are included that capture the capacity to monitor change in sustainable management and the capacity for research and developments to improve management and delivery of goods and services.

Viability & Adaptability of Forest and Range Dependent Communities – Richard Haynes, Roundtable on Sustainable Forests

Why is this indicator important?

Indicator 46 among others reflects one of the enduring goals of land management. That is the concern that forest management sustains a flow of timber and other benefits to promote the well-being of forest industries and communities. This indicator reflects a notable evolution in thinking on the part of decision-makers, researchers, resource managers, and the public about the relation between communities and forest, as well as what constitutes sustainable forest management. Indicator 46 takes a broad view of how sustainable forest management influences social well-being that includes the expected concerns about determinants of economic well-being (often measured by jobs) as well as concerns about community well-being.

What does this indicator show?

Using county level data, a composite measure was developed that combined population density, lifestyle diversity, and economic resiliency. The ratings for the 3110 counties, boroughs, and county/city combinations were arrayed in ascending order and those with the lowest composite scores were assigned a low rating. There were 837 counties assigned a low rating designating them as areas where there are concerns about the viability and adaptability of the associated communities. These counties represent 36 percent of the area of the U.S. but they contain less than 3 percent of the U.S. population. The rest of the population is roughly divided among the 2064 counties assigned medium ratings and the 209 counties assigned high ratings. In terms of forest dependent communities, there are 742 counties that are heavily forested but only 14 percent of these counties are classified as having low viability and adaptability. Indicator 46 also addresses areas with indigenous communities. In the United States, there are 66 counties and Boroughs that have significant American Indian or Native American populations.

How does this indicator relate to sustainable development?

Indicator 46 attempts to speak to the links between land management, the flow of goods and services, and social well being of human communities. In that sense it reflects the current thinking about the relationship between the biophysical and socioeconomic components of ecosystems. It contributes to the understanding of how a set of human actions can lead to sustainable development in the sense of meeting the needs of the present without comprising the ability of future generations to meet their own needs. Attempting to define the propensity of communities to be viable and adaptable in response to changing economic conditions creates an understanding of the set of conditions that might be persist over an indefinite future.

Background report. Haynes, Richard W. 200x. Assessing the viability and adaptability of forest dependent communities in the United States. Gen. Tec. Rep.. PNW-GTR-XXXX. Portland, OR: U.S. Department of Agriculture, forest Service, Pacific Northwest Research Station. xx p.

Contact information: rhaynes@fs.fed.us, phone 503-808-2002

Questions and answers:

What criteria were used for delineating the map?

Counties with two deviations higher than average cattle density were used for higher dependence. This brought out a small group with a high number of cows that stood out.

In RSF, individuals have been assigned indicators to develop measures. In RSF productivity and biodiversity indicators are clearest and institutional and socioeconomic indicators are difficult to deal with and vague. There is little effort to deal with direct issues and questions about how to deal with dependent communities. Best we can do now is find robust proxies. Proxies can't directly measure indicators, they are used when you can't measure impacts directly, for example, roads as fragmentation.

Appendix C
6-POINT EVALUATION FRAMEWORK OF INDICATORS

After 1.5 hour spirited discussion (7-30-2002), we decided to adopt this framework to continue our indicator work.

1. **Indicator:** What is the indicator (descriptive title)?
2. **Importance:** What does it measure and why is it important to sustainability?
3. **Geographic variation:** Is the indicator meaningful in different regions?
4. **Scale:** Is the indicator meaningful at different spatial and temporal scales?
5. **Data:** Categorize the availability of data sets for this indicator:
 - A) Methods and procedures for data collecting and reporting; and data sets of useable quality exist at the regional-national level.
 - B) Standardized methods and procedures for data collecting and reporting exist at the regional-national level, but useable data set(s) do not exist at the regional-national level.
 - C) Some data set(s) exist at the regional-national level, but methods and procedures are not standardized at the regional-national level.
 - D) Conceptually feasible or initially promising, but no regional-national methods, procedures or data sets currently exist.
6. **Clarity:** Is the indicator and indicator unit understood by stakeholders?

Each Criterion Group submitted edits/concerns to the data matrix. Helen Rowe compiled these edits into Delphi 13 for further review.

Appendix D: Criterion Group Timelines

Ecological Health and Diversity Criterion Group Outline July 31, 2002

8-4	ESA Workshop
8-8	Input from ESA meeting to group
mid-August to mid-September	Revise list of indicators and indicator text based on ESA input and new 6point framework
8-29	Freeze list
9-13	Revised indicator text to Linda <ol style="list-style-type: none"> 1. Robert 3. Bob U. 4. Duncan 5. Duncan 6. Lori 7. Phil Simms 8. Rod 9. Bill Fox 11. Paul G. 12. Paul G. (Indicator 2 moved to Productive Capacity; indicator 10 dropped)
9-16 to 9-25	Review of indicator by group
9-27	Write-up of indicators to Tom for San Diego review
	REQUEST FINAL FORMAT OF DATA MATRIX AVAILABLE
10-25	Identification of data sets for each indicator and 1 st stab of data matrix for each indicator (by indicator authors listed above)
10-30 & 10-31	San Diego meeting—review of data matrices and indicator text
November	Address comments from San Diego and revise indicator text and data matrices
December	Identify what is required to get from data set identification to data analysis to data presentation Identify possible ways to present existing data (or example data)
January 12	Revised indicator text and 2 nd draft of data matrix for each indicator to Linda
January 15-16	Florida meeting—review data matrices and finalize indicator text
Feb 3	SRM workshop—Linda present?
February	Revise indicator text and data matrices based on SRM workshop input
March 12	First draft of chapter with everything we have to Linda
March 18-19	New Mexico meeting—review and refine chapter
April	Revise chapter
May 1	Final chapter to group for final comment
May 10	Comments to Linda
May 20-21	DC meeting—final chapter for 2003 report complete

**Productive Capacity Group Timeline
July 31, 2002**

Task:	Deadline:
Indicators frozen	August 30
Compilations of data sources	August 30
First Report	
Draft outline	Billings
Prep. of draft report	January 2003
First draft report	May 2003
Compilation of data	
Draft compilation	August 30, 2002
Prepared to discuss data sets	October 2002
Refine data sets	January 2003
Identify data gaps	March 2003

**Draft Schedule For Legal, Institutional, And
Economic Framework Group
July 31, 2002**

Completion Date	Task	Responsible Person
Distribute before 8/15/02; confirm in San Diego	Confirm compression of 18 indicators into 5 indicators with subparts (freeze indicators)	Entire criteria group
Complete before 9/30/02; confirm in San Diego	Develop standard format for describing and evaluating the indicators (using new six point criteria and Stan's May 2002 draft first approximation report)	Lustig to distribute draft before San Diego
Prepare before San Diego	Prepare first draft for all indicators by editing Stan's May 2002 draft report, incorporating John's paper, and conforming it to new format (basically the modified 6 point framework)	Stan
Fort Meyers	Edit report of legal, institutional, and economic framework chapter	Each member of framework group to take and edit several criteria and sub-criteria
Albuquerque	Edit report of legal, institutional, and economic framework chapter	Each member of framework group to take and edit several criteria and sub-criteria
DC	Edit report of legal, institutional, and economic framework chapter	Each member of framework group to

		take and edit several criteria and sub-criteria
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Social and Economic Criterion Proposed Schedule – July 31, 2002

Today – Finish sorting list of indicators (26)

Next week – post the revised list to the listserve with assignments

Sept. 1 – Fill in the 6-point framework for remaining indicators

Sept. 27 – Compile the draft report

October meeting – Finalize the list of indicators, develop data management protocols, bring known data sets for evaluation

November – Circulate draft report

December – Review comments from committee back in

Jan. 2003 – Draft report

March 2003 – Continual data set evaluation

June 1 – Review draft

July 1 – Comments from committee back in

July 2003 – Final draft report

Casper representative – Marty Beutler

Soil & Water Workgroup
Timeline

Deadline	Task
Sept 13	Indicators frozen; New 6-pt frame completed and distributed to workgroup for review
Sept 20	Review each indicator writeup and send comments back to listserve
Sept 25	Writeup groups revise writeups and send to Dave Pyke
Sept 27	Dave sends final indicator writeups to Helen
Sept 27	Helen will send the final Data Matrix in electronic form to group leaders on or before this date & Dave will distribute data matrix to group.
Sept 27 – Oct 18	Populate data matrix with info on potential datasets for each indicator & Distribute to listserve

Oct 29-30	San Diego Meeting; Final review other group indicators and discuss data matrices and possible datasets; Prepare for this meeting by bringing some examples of datasets if you can find them.
Oct 31 – Nov 30	Revise and finalize data matrix and sample datasets; Distribute to listserv
Dec 1 – Dec 7	Review and comment on data matrices and data sets; send comments to listserv.
Dec 7 – Dec 14	Revise data matrices and datasets; send final versions to Sherm and Dave.
Dec 14 – Jan 10	Sherm & Dave draft final chapter for Workgroup review. Submit draft to listserv
Jan 10 – Jan 14	Review and prepare to discuss draft at Florida.
Jan 14 - 15	Ft. Myers FL Meeting; Discuss and begin to edit chapter; Identify gaps in chapter; Other assignments assigned by steering committee
Feb 3-5	SRM
Feb 15	Chapter prepared for SRR internal review amongst criterion groups- Each paper will have four reviewers -- one from each criterion group.
March 1 st	SRR internal review completed. Consider and integrate feedback.
March 18-19 Albuquerque	Final version of chapters must be complete by the end of meeting.
March 19- April 11	Submit to external reviewers. (Reviewer gets 2 weeks to finish. At two weeks they get a reminder and a one-week grace period. If review not submitted by three weeks, drop reviewer.)
April 11- May 2	Incorporate changes within criterion groups; deadline for final individual chapters is Friday, May 2, 2002.
May 5-9	Create Executive Summary (Briefing Document) based upon final individual chapters. To printer on Friday, May 9
May 19	Executive Summaries received back from printer for Rollout Meeting/Briefing
June	Technical edits by journal.

Appendix E
SRR Criterion Group Timeline 2002-2003 - August 2, 2002

Deadline	Task
San Diego meeting	Full review of the indicators (not including data sets) and freeze indicators.
Jan 14-16 Florida	First draft of report chapters ready for editing by the end of meeting
Florida – Feb. 14	Internal review process – within Criterion group
Feb 3-5 SRM	
Feb 15	Chapter prepared for SRR internal review amongst criterion groups- Each paper will have four reviewers -- one from each criterion group.
March 1 st	SRR internal review completed. Consider and integrate feedback.
March 18-19 Albuquerque	Final version of chapters must be complete by the end of meeting.
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Appendix F
Sustainable Rangelands Roundtable
Preliminary Draft Agenda
San Diego, California
October 29, 30, and 31, 2002

Objectives:

1. Criterion Groups complete whole group review of all indicators within the context of the completed 6-Point Framework
2. Finalize list of potential external reviewers, including contact information
3. Finalize report outline and agree upon writing assignments
4. Continue working on data set identification and acquisition

Tuesday, October 29, 2002

8:00 am Welcome and self-introductions – **Tom Bartlett and Lou Romero**
8:20 am SRR Overview – **Tom Bartlett**
8:40 am *Working Group Activity Reports:*
Scale and Definitions Working Group Reports – **Paul Geissler**
Coordination Working Group Report – **Duncan Patten**
Outreach Working Group Report – **Lori Hidinger**
9:00 am Report on Data Matrix Delphi Results – **Helen Rowe**
9:30 am **Break**
10:00 am Description of Whole Group Indicator Review Process – **Lou Romero**
10:15 am Individuals identify indicators on which they have comments to share
11:15 am Criterion Groups meet in preparation for Whole Group Indicator Review
12:00 pm **Lunch**
1:00 pm Whole Group Indicator Review (*includes break*)
5:00 pm **Adjourn Day 1**

Wednesday, October 30, 2002

8:00 am Continue Whole Group Indicator Review Process
10:00 am **Break**
10:30 Criterion Groups meet to integrate comments from Whole Group Review; **FREEZE**
indicator list in preparation for report writing; finalize writing assignments
11:30 am Presentation and Discussion on Finalized Report Outline, including detailed
chapter outline – **John Mitchell and Lou Romero**
12:00 pm **Lunch**
1:00 pm Report on External Reviewer Delphi Results – **Helen Rowe**
1:15 pm Draft Communications Plan – **Lori Hidinger**
1:30 pm NACD Summer Meeting and Washington D.C. Roundtable Network Meeting –
Larry Bryant
1:45 pm **Break**
2:00 pm Criterion Groups meet to discuss data set acquisition and analysis
4:00 pm Report Out on Review Process and Data Situation by Criterion Group Leaders
4:30 pm Next Steps – **Lou Romero and Tom Bartlett**
5:00 pm **Adjourn Day 2**

Thursday, October 31, 2002

8:00 am Roundtable Interaction Sessions (RIS) with Sustainable Minerals Roundtable and Roundtable on Sustainable Forests for Soil and Water, Ecological Health and Diversity, SocioEconomic, and Legal and Institutional Frameworks.

12:00 pm **Lunch**

1:00 pm Meeting Rooms will be available until 5pm for Criterion Groups to continue working as desired.

5:00 pm **Adjourn**