



**South Dakota Sustainable Beef Workshop
July 8-10, 2014
Rapid City, South Dakota**

WORKSHOP REPORT

Sustainability In Action

Introduction: Combining field tours, presentations, expert panels, and discussion, this workshop brought 47 participants to South Dakota on July 8-10, 2014. The workshop was jointly convened and planned by World Wildlife Fund (WWF) and the South Dakota Grassland Coalition. The workshop was made possible with support and/or funding from Sustainable Food Laboratory, Walmart, Sam's Club, South Dakota Beef Industry Council, and the Beef Checkoff. The Keystone Center provided independent facilitation and prepared this workshop report.

Purpose: This workshop brought together a broad range of supply chain stakeholders to engage with one another in joint dialogue and information-sharing about sustainability in action, how ranchers and companies throughout the supply chain view sustainability, and challenges and needs of upstream producers and downstream users. The workshop was designed to foster relationships and collaboration, create understanding of perspectives and challenges, and encourage discussion of potential opportunities for the future, all with the vision of understanding, promoting, and verifying sustainability. By partnering with the South Dakota Grassland Coalition and focusing on various winners of Sand County's Leopold Conservation Award and National Cattlemen's Beef Association's Environmental Stewardship Award, this workshop brought attention to beef sustainability efforts in action and highlighted the challenges beef producers face in order to become more sustainable.

Objectives: The workshop provided an opportunity to:

1. Educate key supply-chain participants about current on-the-ground sustainability efforts, including multi-stakeholder initiatives.
2. Foster relationships and greater collaboration in order to achieve beef sustainability goals for all value chain participants.
3. Provide participants the opportunity to see sustainability in action and encourage uptake of sustainable management practices and monitoring and measurement techniques.
4. Create an understanding of the challenges facing farmers and ranchers and the importance of involving them in broader sustainability discussions.

Participants: 47 participants attended the workshop, representing a variety of sectors, including producers, packagers and processors, restaurant and retail, and conservation partners. Please see Appendix A for a list of participants involved in the workshop.

Workshop Agenda Overview: The workshop occurred over the course of three days. The schedule included:

- Day 1 - Evening: Welcome and opening remarks and presentations that framed the sustainability conversation
- Day 2 - Full Day: Field tours and threats to grasslands panel
- Day 3 - Morning: Supply chain perspectives panel, reflective wrap up, closing remarks, and adjournment

Summary of Workshop Presentations and Discussions

➤ **July 8, 2014**

Welcome, Best Western Ramkota Hotel, Rapid City, SD

Jim Faulstich, Chairman for South Dakota Grassland Coalition, and **Carter Roberts**, President and CEO for World Wildlife Fund (WWF) U.S., welcomed participants to the workshop, thanked them for their participation, and expressed excitement for both the workshop and the opportunity to co-host. Both organizations recognize the need to develop holistic understandings of sustainability, the need to build partnerships and work collaboratively, the importance of land managers to cattle operations, beef production, and grassland management, and the close relationship between sustainable beef management and sustainable biodiversity management. These speakers emphasized that the workshop is designed to encourage conversations about sustainability between diverse stakeholders, to facilitate building new relationships, and to promote the exchange of perspectives and experiences between stakeholders.

Framing the Conversation, Best Western Ramkota Hotel, Rapid City, SD

Two presentations were provided to frame the conversation on beef sustainability.

Barry Dunn, Dean of the College of Agriculture & Biological Sciences at South Dakota State University, gave a presentation that detailed the importance, characteristics, and definition of sustainability. The grand challenge of the twenty-first century is developing the capacity to feed 9.5 billion people in 2050, and while much of the discussion has been about how to produce the food, an equally important consideration is how to produce the food in a sustainable manner.

This is no easy task, given that sustainable beef has many of the features that characterize complex systems. For example, sustainable beef is tightly coupled, with each decision made by stakeholders – from consumers to ranching families to producers – affecting the entire supply chain. Sustainable beef is also dynamic, and changes can occur on many scales. Examples include variation in weather from year to year and changes in the real price of beef over time. Exhibiting tradeoffs, another characteristic of complex systems, is also a feature of sustainable beef – in some cases, optimal long-run behavior is different from optimal short-run behavior. Sustainable beef can also be counterintuitive – that is, decisions that are expected to cause improvements can actually hurt – and policy resistant, both of which are common features of complex systems.

In outlining a definition of sustainability, Dr. Dunn emphasized the value of triple bottom line accounting, which considers social, environmental, and financial outcomes, as a tool to improve sustainability, and offered the following definition of sustainability: Decisions we make today do not

limit the opportunities of the future. Dr. Dunn noted that some ranches and pasture food production systems operate according to triple bottom line accounting, and should be celebrated as models for sustainable agriculture. Dr. Dunn concluded by emphasizing the responsibility supply chain stakeholders have to understand sustainability, and by noting that the workshop is a tremendous opportunity to learn from one another.

Lyle Perman, Rancher, 2014 South Dakota Leopold Conservation Award Winner, gave a presentation that discussed ongoing sustainability efforts on his ranch, and underscored the relationship between beef sustainability and conservation. Lyle's ranch is particularly concerned with the impact its food production has on all inhabitants in the ecosystem, and the ranch's motto is "a healthy ecosystem makes happy people." In addition to employing sustainable practices, Lyle is also taking steps to regenerate the ecosystem that existed prior to the homestead days.

One ongoing sustainability effort on Lyle's ranch is letting as little water as possible leave the ranch. To achieve this, Lyle tries to cover all the soil on his ranch, in part through the planting of cover crops, thereby maximizing infiltration and minimizing runoff. Good grazing practices, too, also increase infiltration and reduce runoff. On Lyle's ranch, these good grazing practices include rotational grazing, moving his cattle up to 100 times per year. Some of the water that infiltrates the soil then helps replenish the dugouts throughout Lyle's ranch that provide water for the cattle and wildlife to drink. As another way to increase the efficiency of his water use, Lyle has developed springs on his ranch which are used to fill the ranch's water tanks. Moreover, when water does leave the ranch, Lyle wants it to be in better condition than when it arrived, and to achieve this he has a 3000 foot filter strip to clean water as it leaves the ranch. To illustrate the effectiveness of his water retention efforts, Lyle showed a picture of his ranch where large numbers of cattails and willows have grown due to the reappearance of springs.

Lyle's ranch's headquarters is part of a 369,000 acre watershed, and on his ranch, Lyle often has to contend with erosion. Land use changes within the watershed have resulted in more water coming off of the watershed, moving through hay land, and taking soil with it. Lyle noted that it is not uncommon to find scenes across South Dakota with lots of rocks and not a lot of grass.

In addition to rotational grazing, Lyle's ranch uses other effective cattle management practices to improve sustainability. For example, Lyle is trying to teach his cattle to eat plants that are nutritious, but are not traditionally part of their diet. Lyle also uses salt and mineral blocks to influence his cattle's grazing behaviors. For feeding in the winter, Lyle has his cattle graze corn stalk residue, a less expensive alternative to harvested forages. Lyle also tries to avoid feeding his cattle in the same location in consecutive years. This prevents the accumulation of manure, and can improve soil health. Dung beetles, too, have proved to be effective manure management tools. These insects break down cow manure, thereby increasing the amount of nutrients the soil can absorb from the manure, while reducing the amount of nutrients from the manure that are lost to the atmosphere. The dung beetles, by catalyzing the breakdown of manure, also act as a natural control for flies.

Other sustainability efforts on Lyle's ranch include working collaboratively with different partners; educating the public and the next generation about his land management practices and the importance of grassland; providing competition for plants that cattle do not eat, rather than relying only on chemicals; permitting fee hunting on the ranch; and leasing out part of the ranch to the state for big game hunting.

Biodiversity is another important element of beef sustainability, and illustrates the relationship between beef sustainability and conservation. The ranch is home to over 100 species of plants, and the Permians have recently planted some of their tillable acres back to grass and forbs in an attempt to restore the health of the ecosystem. Wildlife, too, is impacted by land use, and the large scale conversions of grassland have negatively impacted mule deer, bird, and bee populations. Efforts to preserve grassland are important not only to the beef industry, but are also important to maintain and restore plant diversity and to protect the health of wildlife populations.

Lyle summarized by emphasizing that cows are the key species – if cows are happy, then the air and water are cleaner, and the soil is healthier. Cows play a crucial role because having fewer cattle leads to less grassland, which ultimately destabilizes the entire ecosystem.

An audience member asked about negative consequences from using biological controls for plants his cattle do not consume. Lyle responded that he did not know of any negative consequences associated with this practice. Another audience member asked what Lyle would tell the average American consumer about how he raises his cattle. Lyle said that he would tell the consumer that he believes that he is producing a safe product that he is proud to put his name on, and is willing to give to anyone to consume.

➤ **July 9, 2014**

Tour of Guptill Ranch, Quinn, SD

On the drive to the ranch, **Jim Faulstich**, Chairman for South Dakota Grassland Coalition, spoke briefly about the history of grassland conversion and cattle ranching in South Dakota. He mentioned that South Dakota has lost over 150,000 head of cattle since 2006, and that cattle populations in South Dakota are at their lowest since 1949. Jim suggested that the conversion of grassland to cropland is largely responsible for this decline. Jim also noted that as land use has changed, many communities have been affected. He gave Highmore, South Dakota as one example, which, over time, has gone from a thriving cattle ranching town with a great deal of diversity to an agronomic input supply center. He concluded by noting that once the cattle are taken off the landscape in a particular area, people will also leave soon after.

Dave Neu, the National Program Director for the Leopold Conservation Award Program, also spoke on the bus, providing participants with some background information on the Leopold Conservation Award Program. The program recognizes outstanding private land owners, and has recognized between sixty and seventy experts on proper land management and conservation. The program also utilizes award recipients as a resource to educate other land managers and the public.

At Guptill Ranch, **Pat Guptill**, the recipient of the South Dakota Leopold Conservation award in 2013, provided a tour of his family's ranch, with an emphasis on the ranch's sustainability efforts. For example, the Guptills use dung beetles and chickens to help break down cattle manure, so that the soil can absorb more of the nutrients in the manure. The Guptills also practice rotational grazing, rotating the ranch's cattle, in some cases every day, and in other cases every two to four days. Additionally, the Guptills make sure that each grazing cell is sufficiently large to prevent overgrazing, trying to leave a certain amount of grass in each cell each year. This helps with the regrowth of the grass, the long-term health of the landscape, as well as with water retention. Pat noted that the behavior of the cattle changes as land management changes – for example, even on hot days his cattle will graze, rather than crowd the water

sources. Other sustainability efforts on Guptill Ranch include allowing bow hunting for deer and diversifying the kinds of animals raised on the ranch, which now, in addition to cattle, includes chickens.

The Guptills feed their cattle minimal hay and supplements, and in order to reduce the need for expensive winter feeding, the Guptills will section off entire sections of good grass in the fall so that the cattle have protein sources in the winter. Moreover, the Guptills rely on snow on the ground in the winter to help hydrate the cattle, thereby reducing the ranch's water costs.

The Guptills also have leveraged science and technology to enhance their ranch's sustainability. As part of the Conservation Stewardship Program, the Guptills have implemented photo-point monitoring in order to monitor the condition of the ranch's grazing lands. Additionally, a study on soil and grazing, conducted by South Dakota State University, has been ongoing on the Guptill's ranch.

The Guptills strongly emphasized the importance of biodiversity in their land management practices. There was, for example, a substantial amount of sweet clover on the ranch, which can help enrich soil, and can aid in water retention efforts. The Guptills also broadcast alfalfa on their ranch in order to help nourish cattle and improve conception rates during breeding. There have also been efforts to take nonnative plant life off of the landscape, so that the diverse native plant life can return. In addition to plant diversity, there was also a commitment to wildlife diversity and health on the Guptill's ranch, including wild grouse and mule deer populations. The deer urine and feces have improved soil quality enough in several locations that at these locations, grass has begun to grow again.

Pat also highlighted some of the sustainability challenges that his ranch faces, and in particular emphasized the challenge posed by competition with farm land. As grassland, Pat estimated that he earns about fifty-five dollars per acre per year; however, he could sell the land to be converted into cropland for \$2,000 per acre. In general, he noted, many land managers are pulling their land out of the Conservation Reserve Program to be farmed because farming has become so lucrative. In the face of this challenge, the Guptills have had to learn to do more with less, and generate more revenue on the same amount of land.

After the tour, **Jeffery Hemenway**, a soil quality specialist with the Natural Resources Conservation Service, gave a demonstration with a rainfall simulator to illustrate how a landscape can effectively retain rainfall and prevent runoff. The simulator demonstrated that tilled soil without a cover crop will lose most of its rainfall as runoff, with very little being absorbed by the soil. Untilled soil without a cover crop will perform better, absorbing more water and losing less to runoff. Rangeland soil will retain nearly all of its rainfall, and lose almost no water as runoff. Overall, the simulator demonstrated how effectively cover crops and grasslands protect soil surfaces, thereby increasing infiltration and reducing erosion, runoff, and water pollution. Demonstrations of the rainfall simulator are available to be viewed on YouTube.

Jeffery emphasized that land managers can build or maintain a healthy soil profile with proper land management practices, such as rotational grazing. However, it is much more difficult to rebuild a healthy soil profile than it is to maintain it. It takes only one or two years of poor land management to deplete 1% of organic matter, but fifteen years of good land management to regain that same 1%.

Tour of Bluestem Land Co. LLC, Jones Ranch and Feedlot, and Ded Butte Ranch, LLC, near Midland, SD

Scott Jones, a rancher at Bluestem Land Co. LLC, Jones Ranch and Feedlot, and Ded Butte Ranch, LLC, was the host for the second tour, and primarily discussed management and sustainability efforts at his ranch, as well as the sustainability challenges his ranch faces. For example, the ranch feedlot has a vegetative treatment system to manage runoff that includes two sediment basins and two vegetative treatment areas. These mechanisms ensure that untreated runoff water from the feedlot does not enter the nearby creek. The system uses grassy areas to filter and remove nutrients from the runoff, which also has the added benefit of helping more grass grow. The installation of the vegetative treatment system was part of a collaborative partnership with South Dakota State University. SDSU monitored the system's performance for two years after its installation by collecting data on rainfall, temperature, and discharge flows into the system. Scott also noted that the ranch employs rotational grazing, separating the land into various sized pastures, starting the cattle in different pastures at different times of the year, and reserving pastures that are closest to home for late spring calving.

The ranch is 90% native grassland, containing numerous native cool and warm season grasses and forbs as well as trees and shrubs. The ranch's natural biodiversity is an asset to sustainability efforts, and helps the ranch endure periods of drought. The ranch also maintains approximately 1000 acres of hay land, most of which is a tame grass and alfalfa mix. 200 acres of this was originally cropland and was enrolled in the Conservation Reserve Program at the first signup. After the contract expired, this land was subsequently retained as hay land. Portions of the ranch's hay land are rotated into other forage crops when production falls off, and are then returned to alfalfa and grass, often through the use of no-till or minimum tillage methods.

On one area of the ranch that was acquired in 1979, pastures are cross-fenced into 400 to 500 acre units. This allows for faster pasture rotation and longer rest periods, which helps reduce gully erosion in the draws. In turn, this helps reduce silting in the nearby Bad River, a tributary of the Missouri River. These efforts were undertaken in conjunction with the Bad River Demonstration Project in the 1990s.

Other sustainability efforts on the ranch include permitting fee hunting in order to manage wildlife populations and to provide an alternative revenue stream; monitoring pastures using photo-points as part of the Conservation Stewardship Program; using repurposed and salvaged materials for infrastructure management; investing in preventive medicine for the cattle, such as vaccinations, boosters, and parasite controls, in order to reduce overall health costs and ensure the cattle's health; treating the ranch's animals well and providing them with adequate feed; taking measures to mitigate impacts of estate taxes; cultivating a passion for ranching in the next generation; and harvesting native seed.

Scott also discussed some of the sustainability challenges that his family's ranch faces, and how these challenges are dealt with. The unpredictability of the weather – and in particular the threat of a drought – was one sustainability challenge that was raised. Effectively dealing with this challenge requires retaining as much rainfall as possible and maintaining a healthy, resilient landscape that can withstand difficult weather conditions.

Lack of water for cattle has also been a sustainability challenge that the ranch has faced since its inception in 1892. In order to address this challenge, stock dam construction began shortly after the ranch was founded, and continued until the 1980s. Since then, the ranch has been adding pipelines supplied by an artesian well and eight rural water taps and tanks in order to improve the quality of the

cattle's drinking water, to better distribute grazing, and to protect and maintain riparian areas. Moreover, the tanks in each pasture are placed to encourage the cattle to use all parts of the pasture, thereby reducing the chances that a pasture will be overgrazed. Cattle on the ranch rarely travel more than a half-mile for water.

An imminent sustainability challenge that the ranch faces is managing the added costs and time commitment associated with verifying sustainability. Many sustainability measures require significant paperwork, which puts additional pressure on the ranch's available labor. It was suggested that if sustainability verification could be implemented through programs already in place, it would be somewhat easier to keep better records, and in turn it would be easier to verify a ranch's sustainability. The Beef Quality Assurance (BQA) program and the numerous existing Age and Source Verification programs are possible programs that could incorporate sustainability verification into their existing frameworks.

Another challenge is that some sustainability measures entail capital investment and intensive time and labor investments. Intensive rotational grazing, for example, requires buying, building, and repairing more fences and more intensive management of cattle than less intensive rotational grazing or continuous grazing requires. It was noted that high estate taxes are another sustainability challenge that ranchers face.

The conversion of grassland to cropland is another sustainability challenge that the ranch faces. Grassland conversion is driving up land and pasture lease rates, and also increases estate values without the benefit of additional revenues. There is also the environmental concern that large areas of cropland might drain into the ranch's creeks. Often times, saline seeps develop near converted areas, which can have a negative impact on both the health of the grasslands and water quality near the seeps.

Toward the end of the tour, there was a discussion about different approaches and mechanisms to improve sustainability. Participants noted that every operation has its own mechanisms for sustainability, and that it is not necessarily appropriate to compare ranches to one another. Rather, there is a wide range of sustainability practices, and it is important for each land manager to find his or her own niche, and to manage the land in a way that matches his or her own lifestyle and is appropriate given the land's natural resources. Several participants also commented on the importance of continuous improvement, and the simple fact that ranchers either become sustainable or go out of business.

There was also some discussion about beef sustainability in general, and sustainability challenges that the industry currently faces. Workshop participants gave examples of sustainability challenges that the industry currently faces, including losing beef processing factories, high land prices, and grassland conversion. A participant noted that the beef industry cannot be sustainable without sufficient grasslands for cattle grazing.

Panel Discussion: Threats to Grasslands, Best Western Ramkota Hotel, Rapid City, SD

This panel discussion was designed to provide an opportunity to reflect on threats to grasslands and their impacts on land, wildlife, water, recreation, cattle operations, land management, financial decision-making, and communities. Panelists also reflected on opportunities to address these threats and impacts. The panel was comprised of: Jeff Zimprich, Natural Resources Conservation Service; Kurt Forman, U.S. Fish and Wildlife Service; Jim Kopriva, South Dakota Grassland Coalition; Lyle Perman, 2014

South Dakota Leopold Conservation Award Winner; Benjamin Turner, Natural Resource Management South Dakota State University; and Barry Dunn, South Dakota State University.

Jeff Zimprich, State Conservationist, Natural Resources Conservation Service, emphasized the importance of keeping working lands productive. He noted that threats to grasslands result from land use decisions – conservation is simple if land use choices are correct. Important land use decisions include effective drought planning and preparation and preventing cool-season plants from invading ecosystems, as these plants do not adjust well to drought and are not good for soil health. It is important for conservation organizations to build collaborative partnerships with producers because these partnerships create opportunities to help producers make good land use decisions.

Kurt Forman, South Dakota Private Lands Coordinator, U.S. Fish and Wildlife Service, discussed the impact the loss of grassland has had on migratory birds. The best hope to maintain viable bird production and populations in South Dakota is to partner with landowners to maintain grassland. Kurt also noted that South Dakota grasslands, especially the 5.5 million acres of native range found throughout the Prairie Pothole Region of the state, are critical to maintaining continental duck populations.

Jim Kopriva, Farmer and Rancher, South Dakota Grassland Coalition, discussed the impacts that the loss of grassland has had on cow-calf operations. Cattle ranchers are stewards of a rare and precious resource, and fundamentally are grass farmers. Grass production and responsible grassland management are imperative for cattle ranchers to be sustainable. It is important to recognize that when people destroy grassland, they are destroying habitat for cattle and many other types of wildlife. Jim also noted that grain producers, grass producers, and wildlife all have a symbiotic relationship. For example, grass producers need to work with grain producers in order to feed their cattle, either through grazing their stubble or buying their grain.

Lyle Perman, Rancher, 2014 South Dakota Leopold Conservation Award Winner, discussed the impacts that the loss of grassland has had on water and recreation. Land that has been converted from grassland is going to face both water quality and water quantity issues. Another consequence of grassland conversion is more erosion, which ultimately causes lakes to have more silt, and can discourage recreation on these lakes. Moreover, many different species of birds, bull snakes, and mule deer are adversely impacted when grassland is lost. Some of these resources can be monetized, while others we simply enjoy.

Benjamin Turner, Graduate Assistant, Natural Resource Management South Dakota State University, discussed some of his research that is related to grassland conversion and crop production. Through interviews with land managers, Ben reconstructed the land history of different sites, and then conducted assessments on each site's soil. He found that grasslands have greater stability, hold more water, and have greater biotic integrity than croplands do. The adverse effects of farming on grassland sites that were converted to cropland can last up to twenty-five years. Moreover, he has found that livestock grazing on crop residue does not impact crop production, and that livestock are compatible within a farmland landscape.

Barry Dunn, Dean, South Dakota State University, highlighted some of the impacts that the loss of grassland has on communities. He commented that rural South Dakota has seen many of its inhabitants move away because of grassland loss. Grassland conversion changes who and what people are, as well as their ethics and values. There is a common interest in stopping the loss of grassland because

everything that these communities treasure is at risk – their values, the futures of their children, cattle ranching, and the natural beauty of the landscapes.

The following discussion and comments emerged during the question and answer discussion:

There are two new provisions in the farm bill, one that makes land that has been converted from grassland ineligible for the Conservation Reserve Program, and another that is intended to stop people from manipulating crop insurance yields. What factors have caused the loss of native grass and Conservation Reserve Program acres?

- Panelists commented that the high price of corn, generous crop insurance policies, and substantial agricultural subsidies were the main factors driving grassland conversion. One panelist noted that twenty years ago crop insurance would not guarantee a farmer a profit. However, when the price of corn increased – in large part because of the Renewable Fuel Standard – insurance policies for corn farmers became much more lucrative. The profitability of corn and the strong safety nets for corn farmers created a higher demand for cropland in the agriculture industry, which in turn has led to large scale conversions of grassland into cropland. Another panelist commented that given the current system, more land managers will continue to take their land out of the Conservation Reserve Program because of how profitable crop production has become. Panelists remarked that one of the biggest threats to grasslands is that the safety net for those who raise grass is not nearly as strong as is the safety net for crop producers.

Are there any environmental standards that farmers must meet in order to be eligible for government crop insurance?

- A panelist answered that in the future farmers will not qualify for the government subsidy on crop insurance if they are not in compliance with their conservation plan. Another panelist commented that if farmers are in compliance with their conservation plan, then they are eligible for USDA benefits, including government subsidies on crop insurance.

What does the future look like? When current young people take over operations, will they change things?

- A panelist commented that this is the third cycle of breaking up and converting grassland then restoring it. It is likely that in the first two cycles the grasslands were restored to a lower threshold, in which there was less total grassland than there was previously. This trend suggests that at the conclusion of this third cycle, even after restoration efforts, there will be less total acreage of grassland than before. One panelist noted that restored grassland can be less resilient than grassland that has never been converted, and that conversion can impact the land's soil for twenty-five years. Another panelist suggested that, because of the government's financial situation, set aside programs like the Conservation Reserve Program may not exist in the future. Panelists remarked that, in the future, conservation efforts likely will have to be driven by consumers, and that it is important to build a coalition of the willing in order to advance conservation efforts.

There is a sentiment that absentee landlord demands are driving land conversion. To what extent is this true, and what can we do about it?

- A panelist commented that in his experience, absentee landlords will often demand that tenants take land out of the Conservation Reserve Program and/or convert grassland to cropland, or the landlord will rent the land to a different tenant who is willing to do so.

Another panelist noted that landlords can rent cropland to tenants for about \$100 per acre, while they can rent grassland to tenants for only about \$30 per acre. This dramatic difference in profitability is a factor driving grassland conversion. Another panelist remarked that the fact that income from rented land is not subject to self-employment tax creates another incentive for land owners to rent out their land, rather than manage it themselves. Panelists remarked that a reinvigorated youth who are passionate about cattle ranching and conservation could reduce absentee land ownership and slow the rate of grassland conversion. Panelists also emphasized the importance of education and responsibility – people need to ask if they are renting their land to people who are going to harm it, or to people who are going to manage it responsibly.

How can land managers be convinced to be willing defenders of grassland conservation, while still retaining their flexibility in the long term?

- Panelists remarked that the key is to bring a diverse set of conservation options to the table, so that land owners will be able to select an option that they find satisfactory. One panelist remarked that a short-term agreement can be a useful tool to initiate a relationship with a land manager, which can eventually lead to long-term conservation agreements. Another panelist commented that unless land managers are willing to voluntarily engage in conservation efforts, mandatory land use practices could be on the horizon.

How can industry contribute to sustainable beef and conservation of grasslands?

- Panelists remarked that stakeholders need to collectively define sustainability, and then establish financial drivers for it. One panelist suggested that a program like Certified Angus Beef, which increased consumer demand for a particular kind of beef, could be a model for a similar program that increases consumer demand for grassland conservation. However, cattle ranchers believe that they need help from their industry partners to stimulate consumer demand for the conservation of grassland – ideas included advertising and/or marketing campaigns.

The panelists each gave brief closing remarks, during which the following themes emerged. There are many diverse interests represented here, but grassland conversion puts them all at risk. It is important to recognize that each individual's decisions have impacts and consequences that extend up and down the supply chain. For this reason, it is important to practice holistic management and to look at the supply chain as a whole.

➤ **July 10, 2014**

Panel Discussion: Supply Chain Perspectives, Best Western Ramkota Hotel, Rapid City, SD

This panel discussion was designed to bring together stakeholder perspectives with representatives from ranching, cattle feeding, packaging and processing, food service and retail, and conservation to discuss definitions of sustainability and the challenges and needs encountered by various sectors as related to sustainable beef. The panel was comprised of Todd Mortenson, Mortenson Cattle Company; Leroy Ness, South Dakota Association of Conservation Districts; Jody Longshore, Cargill; Andrew Brazier, McDonald's; and Steve Donovan, Ducks Unlimited.

Todd Mortenson, Owner, Mortenson Cattle Company, discussed his general approach to land management. When he started managing the land, Todd went to some holistic management courses

and learned about rotational grazing, and incorporated much of what he learned into his land management practices. Todd believes that it is more important to build wealth in the land through responsible land management than it is to build wealth in a bank account. Maintaining a healthy ecosystem and a healthy ranch will help land managers navigate rough times, like years in which there is a drought. If a land manager takes care of his or her land, then the land will take care of the land manager, too.

Leroy Ness, Producer and Resource Management Specialist, South Dakota Association of Conservation Districts, discussed the difficulties he has had in dealing with the next generation of landlords, who in many cases are demanding that land be taken out of the Conservation Reserve Program and/or converted to cropland. Leroy also remarked that the price of land is rising at an unsustainable rate, and that this is one of the biggest threats to beef sustainability.

Jody Longshore, Director of Corporate Responsibility, Cargill, emphasized the importance of creating supply chain transparency. Regarding technology, Cargill consistently looks for opportunities to embrace new innovations and best practices. This approach improves efficiency and increases Cargill's sustainability. Furthermore, rather than prescribing a single correct way to produce beef, Cargill supports and encourages continuous improvement. Animal welfare and food safety are also top priorities, and improvements in these areas should be collaborative and noncompetitive. Overall, Cargill is looking for opportunities to become more sustainable that do not require sacrificing profitability – corporations need to make a profit in order to be sustainable.

Andrew Brazier, Director of Worldwide Supply Chain – Beef, McDonald's, discussed McDonald's sustainable beef practices. In January McDonald's began promoting its movement toward purchasing verified sustainable beef by 2016. McDonald's sustainability is about continuous improvement, and involves working collaboratively with multiple stakeholders. McDonald's recognizes that there is a disconnect between perception and reality concerning beef production. McDonald's wants to share with consumers the stories of the great work people in the beef industry are doing.

Steve Donovan, Manager of Conservation Programs for South Dakota, Ducks Unlimited, discussed the important role cattle play in managing the wetlands. Responsible grazing management is a much more cost-effective approach to managing the wetlands than spending lots of money trying to reestablish native plants is. Steve noted that Ducks Unlimited wants to manage wetlands with cattle, but in some places, including Nebraska, there are not enough cattle to do so, and that this should serve as a cautionary tale for South Dakota. Steve concluded by commenting that there used to be a widespread perception that cattle and wildlife are incompatible; however, this perception has changed, and there is now broad agreement that cattle and wildlife can coexist in a healthy ecosystem.

The following discussion and comments emerged during the question and answer discussion:

The land managers in this room are committed to sustainability and responsible land management. How can the word be spread to other producers who are not meeting these same high standards?

- Panelists remarked that it is difficult to impart to other people a love of the land, and that some people simply have a love of money. Panelists also commented that it is important to lead by example, and to demonstrate that land managers who prioritize sustainability and responsible land management can still make a good living. One panelist commented that

people who manage their land responsibly today are going to be more profitable in the future, so sustainability and profitability are not necessarily incompatible.

What role should industry play in beef sustainability efforts?

- A panelist commented that it is not sustainable for industry to bear the costs of environmental sustainability and the costs of communicating the importance of sustainability to the consumer. Industry has to focus on all three pillars of sustainability, environmental, financial, and social. Another panelist remarked that a commonality between many of the most sustainable entities in the supply chain is a healthy level of dissatisfaction. Healthy levels of dissatisfaction lead to efforts to improve sustainability, and continuous improvement is an important component of sustainability efforts. Other panelists noted that the success of industry and the success of ranching are tightly connected, and that industry is conducting research with stakeholders to discover more sustainable ways of producing beef that are economically, ethically, and environmentally viable. Panelists agreed that stimulating consumer demand for beef that is produced in a sustainable manner is one way to make ranching more profitable, thereby removing some of the incentive to convert grassland to cropland. Panelists also agreed that this undertaking will require cooperative partnerships between industry and ranching to succeed.

What would the panelists ask of the workshop participants in order to make the beef supply chain more sustainable?

- One panelist asked people to keep sending land managers who are interested in sustainability to the conservation organizations, so that these organizations can continue to build a coalition of the willing. There are readily available federal funds that can be used for voluntary easements. Another panelist noted that it is important to reach out and teach the consumer about the value of sustainable beef, and while ranchers do not have the resources to do this, industry does. Another panelist agreed, saying that producers need an avenue through which they can tell their stories and verify their sustainability without getting tied up in bureaucratic red tape. Another panelist acknowledged this concern, but suggested that having a credible process is also an important consideration. Another panelist suggested that NGOs might be valuable allies for communicating with consumers. Another panelist encouraged producers to engage with regulators, to show them the voluntary commitment to sustainability.

What economic incentives are driving or could drive sustainability?

- One audience member suggested that a significant amount of agricultural land is public land, and that water belongs to everyone, so perhaps the government could implement some regulations that would encourage sustainable practices. Another audience member remarked that one economic driver could be consumer preferences. Consumers will pay a premium for their preferences, so developing a consumer preference for beef that is produced in a sustainable manner could create an economic driver for sustainability. Panelists agreed that localizing consumer demand is an important and ongoing effort. The marketplace is not monolithic, and catering to different consumer preferences – including a markup on beef that has been produced in a sustainable manner – is one way sustainability could become more profitable.

What is it that makes responsible land managers unique, and how can we spread this distinguishing feature?

- Some audience members believed that most land managers are responsible, and that responsible land managers are not the exception. Other audience members disagreed, pointing out that some land managers are primarily concerned with money. One audience member suggested that there is a distinction to be made among agricultural producers – ranchers often ranch because of their love of the land, while farmers are often motivated by other considerations. The real problem, then, is that the loss of grassland is leading to the loss of ranchers. One panelist suggested that the beef industry needs stronger representation in Washington, D.C. in order to create a level playing field with crop producers.

For their closing remarks, panelists were asked to answer the question, What is the next step that needs to be taken to specifically protect South Dakota grasslands and move toward sustainable beef more generally? The following themes emerged from panelist responses:

Industry and producers need to work cooperatively to share the producers' stories. Also, the entire supply chain needs to work together in order to achieve policy changes that protect important resources. It is important to continue to communicate to consumers that there are people and companies in the supply chain that prioritize sustainability, and are striving for continuous improvement. This creates an incentive for those who are not sustainable to change their behavior, which creates more good stories to share with consumers, introducing a powerful positive feedback loop.

Reflective Wrap Up, Best Western Ramkota Hotel, Rapid City, SD

Josh Dukart, Consultant, Rancher, and Soil Conservationist, North Dakota Grazing Lands Coalition and Holistic Management Educator, offered reflections and a wrap up of the workshop. Josh emphasized that there are many different, yet equally viable, approaches to sustainability, and that it is important to build a definition of sustainability that accommodates these different approaches. Establishing sound principles should be the primary objective, and we should recognize that there are many methods that satisfy those principles.

Josh also discussed the importance of not only changing how we do things, but also changing how we see things. Conservation is a great first step for responsible land management, but it is not the ultimate solution. We need to be making the land stronger and more resilient, too. Responsible land management, moreover, will be holistic, considering a variety of factors, including healthy soil, healthy people, healthy animals, healthy plants, and a healthy ecosystem. Josh also remarked on the particularly important role that grassland conservation plays in sustainable beef. A sustainable beef operation without grassland is probably unrealistic, and it takes much less time to destroy the grassland than it does to restore it. Education also has an important role to play in sustainable beef. We need the younger generation to be interested and engaged in responsible land management.

Overall, beef sustainability is incredibly complex, and there is no simple solution. In order to achieve and maintain sustainability, it is important to have cross-sector collaboration, balance between people, finances, and resources, and people who are willing to ask the right questions and examine the effectiveness of current approaches.

Looking to the Future, Closing Remarks, and Adjourn Workshop, Best Western Ramkota Hotel, Rapid City, SD

The workshop concluded with workshop participants splitting up into groups and coming up with steps forward and opportunities for the future. The following themes emerged:

Several workshop participants suggested that industry and producers work together to facilitate the building of a sustainable beef brand, and to share the stories of producers. One workshop participant noted that one benefit of involving many partners in a campaign like this is that it creates credibility and leverage. Furthermore, it is important to both get more money into conservation easement programs to encourage responsible land management, as well as to figure out how to encourage people to be responsible land managers without economic incentives. There was agreement among workshop participants that it is important to continue building a coalition of the willing, and that educating producers, consumers, and the younger generation is one effective mechanism for accomplishing this. It was determined that, as a follow-up to the meeting, a working group would form to further explore these next steps.

With final comments and thank you remarks by the South Dakota Grassland Coalition and World Wildlife Fund, the workshop was adjourned.

Appendix A: Participant List, Sustainable Beef Workshop, Rapid City, SD, July 8-10, 2014

2014 South Dakota Sustainable Beef Workshop Participants		
Pete	Bauman	South Dakota State University
Craig	Bieber	Bieber Red Angus
Andrew	Brazier	McDonald's
Kim	Dirks	Tyson Foods, Inc.
Steve	Donovan	Ducks Unlimited, Inc.
Jacelyn	Downey	Audubon Rockies
Dusty	Downey	Audubon Rockies
Joshua	Dukart	North Dakota Grazing Lands Coalition
Barry	Dunn	SDSU-College of Agriculture and Biological Sciences
Angela	Ehlers	South Dakota Association of Conservation Districts, Inc.
Jim	Faulstich	South Dakota Grassland Coalition
Kurt	Forman	U.S. Fish and Wildlife Service
Seth	Gallagher	Rocky Mountain Bird Observatory
Billy	Gascoigne	Ducks Unlimited, Inc.
Pat	Guptill	Guptill Ranch
Jeffrey	Hemenway	USDA- Natural Resources Conservation Service
Michael	Hillyer	Wal-Mart Stores, Inc.
Pete	Jahraus	South Dakota Department of Environment and Natural Resources
Judge	Jessop	South Dakota Grasslands Coalition/South Dakota Association of Conservation Districts, Inc.
Steve	Jester	Partners for Conservation
Scott	Jones	Ded Butte Ranch, LLC
Martha	Kauffman	World Wildlife Fund
Jim	Kopriva	South Dakota Grassland Coalition
Corissa	Krueger	The Nature Conservancy
Nancy	Labbe	World Wildlife Fund
Jody	Longshore	Cargill
Jill	Majerus	World Wildlife Fund
Mike	McKernan	South Dakota Grassland coalition
Barry	McLaury	South Dakota Department of Environment and Natural Resources
Todd	Mortenson	Mortenson Cattle Company
LeRoy	Ness	South Dakota Association of Conservation Districts, Inc.
Dave	Neu	Sand County Foundation
Dave	Nomsen	Pheasants Forever, Inc.
Tim	Olson	South Dakota Department of Game, Fish & Parks
Lyle	Perman	South Dakota Grassland Coalition

Mark	Richardson	OSI Group LLC
Carter	Roberts	World Wildlife Fund
Kyle	Schell	Schell Ranch
Brian	Scott	South Dakota Department of Agriculture
Doug	Sieck	South Dakota Grasslands Coalition
Bill	Slovek	South Dakota Grasslands Coalition
Jeff	Smeenk	Center of the Nation Cattle Company
Norlyn	Tipton	Sysco
Ben	Turner	South Dakota State University
Donn	Waage	National Fish and Wildlife Foundation
Larry	Wagner	South Dakota Grassland Coalition
Jeff	Zimprich	Natural Resources Conservation Service

Facilitators and Additional Support Staff:

Julie	Shapiro	The Keystone Center
Paul	Friedrich	The Keystone Center