

Incentivizing the Environment

Rangeland management practices provide environmental protection and producer incentives.

by **Macey Mueller**

Environmental stewardship is a critical component of the beef production system. This is the third part in a series of four articles highlighting the conversations, the practices and the outcomes related to ensuring a long-term food supply and a positive environmental impact.

Rangelands are vital to a thriving beef industry. They also provide a host of benefits to society, like food and fiber production, climate stability, air and water purification, and wildlife habitat. Complex environmental processes produce these benefits, known as “ecosystem services,” which help protect natural resources and improve our overall well-being.

Rangelands comprise about 30% of United States land cover, totaling about 770 million acres. About two-thirds of those rangelands are privately owned. However, pressures like population growth, volatile agricultural commodity prices and soaring land values all compel landowners to sell private land for development, putting some ecosystem services at risk.

To help maintain these essential benefits, there is a growing effort among landowners, conservationists, private industry and other stakeholders to incentivize the improvement of ecosystem services and the protection of valuable rangeland.

Bottom lines and ecosystems

Drew Bennett, professor of practice of private lands stewardship at the University of Wyoming, says ecosystem services include everything from sequestering carbon and mitigating or attenuating floods to providing pollination for crops and other native plants. He regularly works with landowners to identify

science-based range management practices to enhance or maintain different ecosystem services while also benefitting a working agricultural operation.

“I have seen a number of landowners implement different management practices, such as rotational grazing, that benefit the health of the land,” he says. “At the same time, they are often able to increase the productive capacity of the land — and subsequently their bottom line — through their management over time.”

Bennett says there is also a growing external demand for enhancing some of these ecosystem services. For example, in certain areas of the country, landowners may be able to participate in “species banking” projects where they receive payment for implementing particular management practices to enhance wildlife habitat for a species of concern.

A more widely available incentive option for landowners is a conservation easement, an agreement between a landowner and the entity that holds the easement — typically a not-for-profit land conservation organization or a government agency — to limit or restrict some of the development that could happen on that property.

Bennett says this approach is especially popular in areas that are rapidly urbanizing or have increased subdivision pressure. This method is also used to prevent rangeland from being tilled for row crop production, which releases the carbon sequestered in the soil.

As land prices inflate in value, landowners in these areas can sell a conservation easement to tap into a portion of the development value that land holds while still being able to run their agricultural operation.

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“Each conservation easement agreement is going to be unique to the land and the parties involved, but they typically allow landowners to maintain their operation with relatively minimal restrictions on agricultural production,” Bennett says. “I’ve seen several landowners use this tool to pay off debt, expand their operation, help their children get started in the family business or even in estate planning efforts.

“It’s one of the ways you can tap into that land value without having to sell off an asset that is a fundamental piece of what makes your agricultural operation work.”

Carbon credits

While conservation easements help protect the long-term viability of ecosystem services, there is a growing interest in assigning a value to those services to compensate landowners for their dedication to enhancing biodiversity and improving the environment through agricultural practices.

Chad Ellis, chief executive officer of the Texas Agricultural Land Trust, has spent more than two decades empowering agricultural producers in their conservation efforts. He currently chairs the Ecosystem Services Market Consortium and the National Grazing Lands Coalition and is chair-elect of the U.S. Roundtable for Sustainable Beef — all organizations dedicated to fostering stewardship practices that help conserve natural resources.

He says recent pressures on corporations to set significant sustainability goals have created an imperative demand for ecosystem services marketplaces where industries can purchase credits to help offset their environmental impact and landowners can capitalize on their land’s ability to store carbon, replenish air and water resources and provide wildlife habitat.

The most rapidly growing sector of ecosystem services marketplaces lies in carbon credits, but despite the potential for accelerating conservation and providing supplemental income for agricultural operations, Ellis says they are still in the developmental stages and are widely unregulated. Barriers still exist, excluding a large population of early adopter innovators who have been implementing conservation strategies for years. Additionally, the science-based monitoring, reporting and verification process that determines the success of a project is expensive.

Nonetheless, some landowners are choosing to engage in these markets, and Ellis says they must decide which protocols will best fit their operation and their long-term goals.

“Producers who are approached with or who seek out these opportunities need to be asking the right questions about the protocols used to determine the value in specific land management practices, how payments are structured and who is responsible for expenses incurred through the monitoring, reporting and verification process,” he says.

Since each individual marketplace — currently about a half-dozen — develops its own protocols for valuing a service, Ellis says it’s also important to know who is responsible if the predicted goal in that model is not reached.

“When you engage into a market, most of them are going to come out to get a baseline, using core samples to measure the amount of carbon you currently have on your farm or ranch,” he says. “A lot of them will then come back at year five and remeasure those soils to determine if the models were correct, and you sequestered as much carbon as they were predicting.



Dr. Drew Bennett



Chad Ellis



Mary-Thomas Hart

“You just don’t want to get yourself in a situation where you may have to write a check back because you did not reach a goal.”

Marketplace policy

Industry organizations like the National Cattlemen’s Beef Association (NCBA) have developed policy around ecosystem services marketplaces and are working to educate producers on the opportunities that exist and to protect their freedom and flexibility to engage in the incentive-based programs.

“We want private carbon markets to be trusted by everyone involved, and we appreciate that the federal government needs to be involved to an extent to establish rules, but we are strongly in favor of these marketplaces remaining private and voluntary,” says Mary-Thomas Hart, NCBA environmental counsel. “There’s always interest and value in diversifying a revenue stream, and we want to help our producer members navigate the opportunities these emerging ecosystem services marketplaces may present.”

The United States Department of Agriculture (USDA) recently announced it will spend up to \$1 billion to fund selected Partnership for Climate-Smart Commodities pilot projects to create market opportunities for commodities produced using climate-smart practices, and Hart expects ecosystem services marketplaces will be central to the next Farm Bill discussion, which should begin ramping up in 2023.

“There’s certainly a lot of interest in private ecosystem services markets in Washington, D.C. right now,” she says. “It currently feels a little like the wild west, but creating some uniformity should help make these markets viable long-term.”

As policy is shaped to better regulate marketplaces and technology is developed to make the measurement, reporting and verification process less expensive, Ellis says carbon credit markets are likely going to be more accessible and more attractive to producers in the future and create a gateway for other ecosystem services markets.

“The future is really beyond carbon,” he says. “When we look back to the sustainability goals within these corporations, we’re seeing much more than just greenhouse gases; we’re seeing a focus on biodiversity, clean water and open space — all ecosystem services that our grazing lands provide.

“The stars are aligning where we can have carbon credits, biodiversity credits and water credits, and landowners will be able to stack all of these credits to actually get to a price point that makes sense in making significant management changes.”

Because some geographical areas with certain types of soils and limited precipitation sequester less carbon than those areas with greater rainfall and deeper soils, Ellis says additional marketplaces will also open the door for more producers to be eligible for compensation.

“If I’m in West Texas, I may not be in a good location to be able to sequester a lot of carbon, but I may be in an area that is really high value from a biodiversity or a water quality perspective,” he says. “The more we can incentivize producers to implement good management and stewardship practices, the more we can increase the functionality of our ecosystem services, and the more we can help impact the bottom line of their operations.” **HW**

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