

# Sustainable Southwest Beef Project



## Year One: Top 10 Accomplishments

1. **Established 52 member integrated team** of research scientists, education specialists, extension professionals to address the integrated themes of the project. A comprehensive program evaluation plan will be implemented throughout the life of the project.
2. Collaborated with an **advisory board of industry leaders** to inform and direct research needs.
3. Hosted the project kick-off meeting at the 2020 Southwest Beef Symposium. Meeting attendees helped establish and publish **baseline information on barriers to adoption** of the three novel strategies central to the project.
4. **Launched a long-term experiment** designed to compare heritage and conventional breed effects on vegetation, soil, and economics of cow-calf, backgrounding, and feedlot systems, while co-developing a new precision ranching system with collaborating producers.
5. Launched a **proof of concept for the technological dashboard system** to support precision ranching in Southwestern landscapes
6. **Defined** seven beef supply chains originating in the Southwest to be evaluated for sustainability outcomes using the Integrated Farm System Model (IFSM) and metacoupling analysis.
7. **Created three K-12 educational lessons**, including Solving the Beef, a competitive game where players earn points for developing creative solutions related to Raramuri criollo cattle and precision ranching tools.
8. **Documented the effectiveness of GPS data for identifying** breed grazing distribution differences and making cattle monitoring and ranch management more efficient
9. Published **13** peer-reviewed journal articles, **23** conference papers and **4** project syntheses for broad distribution.
10. **Successfully navigated the challenges of COVID-19** in a research context including using and distributing alternate media such as podcasts, webinars on market options, and videos distributed on the project website and social media accounts.



United States Department of Agriculture National Institute of Food and Agriculture

*This research is part of five-year coordinated agricultural project (CAP) supported by the USDA-NIFA Award No. 2019-69012-29853 "Sustainable Southwest Beef"*

# Goals

The Sustainable Southwest Beef Coordinated Agriculture Project (CAP) is a five-year USDA-NIFA funded project that promotes ranch and rangeland resilience in the Southwestern US.

The team is evaluating strategies to help keep ranching and rangelands ecologically and economically healthy as climate, markets, and policies change. Specific strategies are:

- Heritage Raramuri Criollo cattle
- Precision ranching technologies
- Tradeoffs among beef supply chain options from pasture to plate

# What We Do

- Evaluate the economics, viability, ecological factors, and tradeoffs associated with the three strategies for sustainable beef production on Southwestern rangelands.
- Develop lesson plans for K-12 education that center around sustainability in beef production.
- Engage ranchers, educators, and students in collaborative research and extension to develop and train the next generation of researchers and producers.
- Develop the “Southwestern Beef Knowledge System” to share the science in an on-the-ground and user-friendly form.

# Timeline

The project began in August, 2019, with establishment of research, stakeholder engagement events, and on-boarding students and staff. Adaptation to social distancing required modification of approaches but progress is being made on all aspects of the work. Our project will continue through 2024.

# Team Leaders

## Project Leadership

Project Director: **Andres Cibils (NMSU)**  
Project co-director: **Sheri Spiegall (ARS)**

## Team Leaders

Breed Comparison Research:  
**Rick Estell (ARS)**

Precision Ranching Research:  
**Andres Cibils (NMSU)**

Supply Chain Research:  
**Sheri Spiegall (ARS)**

Extension/Outreach:  
**Emile Elias (USDA SW Climate Hub)**

## Education

Asombro Institute:  
**Stephanie Bestelmeyer**

BlueSTEM AgriLearning Center:  
**Ann Marshall & Kristy Ehlers**

Senior Science Coordinator  
**Jean Steiner (NMSU)**

## Evaluation

Office of Educational Innovation and Evaluation (KSU)

