The July 17, 2024 Gunnison Basin Sage-grouse Strategic Committee meeting was conducted in the Gunnison County Blackstock Government Center, 2nd floor meeting room, located at 221 N. Wisconsin #D, Gunnison, CO, 81230. The meeting was also available on Zoom.

Committee Members Present:

Voting Members:
Nathan Seward, Chairperson, Colorado Parks and Wildlife (CPW)
Liz Smith, Vice-Chairperson, Gunnison County Board of County Commissioners (BOCC)
Theresa Childers, National Park Service (NPS)
Peter Caloger, Public At-Large
Paul Mowery, Gunnison County Stockgrowers

Non-Voting Members
Jessica Frey, NPS

Others in the Audience:
Hannah Kranor-Kersting, CSU Extension
Sharl Liebergreen, Gallagher
Wyn and Ryan Marten, Ranchers
Ethan Placke, Center for Public Lands
Brinnen Carter, NPS

Staff Members Present:
Ben Prior, Gunnison Conservation District
Misty Castillo, Gunnison County Community and Economic Development Department

Others present as listed in text.

CALL TO ORDER: Chairperson Seward called the July 17, 2024 meeting of the Gunnison Basin Sage-grouse Strategic Committee to order at 10:05 AM.

DETERMINATION OF QUORUM: Seward confirmed that a quorum was not present.

AGENDA APPROVAL: Nothing to change. Quorum not present for approval.

APPROVAL OF June 12, 2024 MEETING MINUTES: Quorum not present. Changes: Pg. three name change for Dayle Funka, Liz With and Liam Duggan. Approval next meeting

COMMITTEE MEMBER COMMENTS / REPORTS
Seward, Dr. Jessica Young stepped down as chair of I and E subcommittee, she recommended Aliesha Rummel as chair. Aliesha Rummel is new chair of technical subcommittee. Dan Olsen for technical committee. Lauren Huckle NPS for I and E committee. Marcella for Technical Committee. Witt Blair may not want to be active in the subcommittees.

Seward, Waunita Watchable Wildlife report is done. BLM hydrologist, Andrew, is back after working with BLM in Ft. Collins for two years. Good to have him back to continue work for wet meadow work. Raven subcommittee meeting June 17th, CPW Gunnison Office acquired $70,000 to look at roadkill throughout the Gunnison Basin. Two graduate students to manage project. They will document carcasses on roads looking specifically at carcass distance from road and raven numbers on carcasses. To determine if distance from road plays a factor in raven numbers on road.

Caloger, Gunnison County landfill agreement still not found. Kathy Brodhead found operation plan for landfill control of raven. Caloger, USFWS is going to target bard owls to increase spotted owl numbers. Maybe will open opportunities for Gunnison sage-grouse conservation in terms of raven control. Seward, not heard back about Delta Waterfowl membership. Seward will reach out to them again regarding membership. NPS, meeting the federal highway to determine funding. Black Canyon one of four parks being considered for these funds. CPW lottery funds may help the process. CPW approval of funds will help NPS get $90,000 for highway research.

VIRTUAL FENCING: GALLAGHER eSHEPARD

Liebergreen, has been with eShepard since February. Will move to Kansas City to help set up eShepard in the U.S. and Canada. Gallagher eShepard neck bands sit under cattle's chin and weighs about 5.5 pounds. Collars can be used on full grown cows, yearlings, and bulls but not calves. Intended for cows but collars have been used on donkeys. There is an auto tone and electrical pulse to control cows. Audio is used first then electrical pulse. There is breakaway system on the collars in case cattle get caught. The neck band is solar powered, with two solar panels on either side of collar. Battery can last 7-10 years. Two forms of coverage can be used, cell service and base station. Sim cards can be installed to bypass base station need.

Base stations used for areas that do not have cellular service. Base stations are solar powered. There is a webapp and mobile app for the eShepard system. Small paddock sizes can be used for the eShepard system. Audio tones used first, three tones, then electrical pulse is used if the cows do not respond to audio. Cows eventually learn the system and often only audio tones are used. Are cameras considered being offered on the collars? No, not yet. Is audio being considered for collars? Rather than audio, they will introduce an activity sensor to determine abnormal behavior. Animal behavior will be used to monitor animal health. Location delay? Neck band pings every 10 minutes, very close to real time. Death signal? There is a signal that will alert the owner of a problem. If there is no movement for a couple hours, collars will alert user of the problem.

Liebergreen goes through several real-life examples of where the eShepard system is being used. A ranch in New Mexico will be using the eShepard system to protect prairie chicken habitat. NRCS will be assisting this ranch with cost of eShepard system. The ranch will use exclusion zones and paddocks to keep cattle off crucial prairie chicken habitat. Several ranches in New Zealand use the eShepard system. Oamrama Station and Waipori Stations in NZ. Omarama ranch has a large river running through it. New Zealnd requires all water areas to be fenced off from cattle. This ranch uses eShepard to keep cattle off river. Waipori ranch has a large lake on it. This ranch turned to virtual fencing to fence off lake. The eShepard system was 1/10th of physical fencing cost. An Alaska ranch uses eShepard to contain cows in certain areas to keep them away from moose. Allows moose to move through ranch freely. Rimanuni ranch in New Zealand has large cliffs which pose a problem to cattle. Using eShepard to keep cow out of cliff areas and bypass sinkholes.

Liebergreen demoed the web app live to audience. Can paddocks be a variety of shapes? Lines are being developed as an option. Containment rate is very high. There is a return feature on collar to control certain problem individuals. For cattle, a collar for all is needed, schooling is not as good compared to goats/sheep. Cost varies depending on number of collars. There is three-year repair or replace warranty for every collar. Data charge is required. 1st base station is $6000, each station after the 1st is $5000.

VIRTUAL FENCING: HANNAH CRANOR-KERSTING

Kranor-Kersting, virtual fencing trail currently being conducted in Gunnison County using the Vence system. Vence relies solely on base stations, does not have cellular capabilities. There is no mobile app for Vence, all web based. All Vence collars are leased for $40 per collar a year. Collars are battery powered; batteries are $10 per battery. Base stations cost between $10,000 to $12,000. Vence collars use sound and shock. The sound is just one beep, does not change pitch. One way gate, so constant stimulus is not used if they escape. Vence has inclusion, exclusion, and movement options. Vence collars are lighter than eShepard. Will work when not in range and can hold up to 16 virtual fences. Fences still work even when not in range. Battery life can be drained quickly if stimulus is used extensively. CSU extension has virtual fencing intern

traveling through state talking to producers about their experiences with virtual fencing. Some producers turn off audio, so battery lasts longer. Battery life likely a weak spot for the Vence system. Replacing batteries is labor intensive. Base stations must have some cell service with any carrier. Base stations are big. Modeling coverage can be used in the Vence web application. Have had better success with placing base stations lower rather than higher.

Herd manager application is the web app for Vence. Can be clunky, not that user friendly. Alert system is still in the works, not too helpful. No mobile app for Vence. Must be on a laptop or desktop to access system. There is roughly a 24 hr delay when changes are made on the web app. Can see herd, individuals, heat maps, etc. on herd manger application.

The Vence Gunnison Basin field trial started in 2022, Gunnison County and CSU extension bought a base station and 50 collars. The base station is on a trailer so it can be moved to new sites. Different producers throughout the Gunnison Basin have tested the Vence system out. Past tests didn't test how the system performed on rugged terrain, range, etc. The producer this year is using the system on a large allotment on public land with varying topography. The range limit is 10,000 acres per base station. CSU intern trying to determine the break even point for producers around the state regarding virtual fencing.

Collars are installed in squeeze. Portable base station has been helpful in allowing another producer to use. Cattle are trained with sound with a hard fence at first. Training can take 3 to 5 days, easy process. Retraining every year is helpful. The collars now are more water resistant. The location of fencing can be up to 30 meters off. Vance system must be full polygons but can turn portions off. Must turn fence off within 24 hrs of moving cattle. Maternal cows will break out to go follow their calves.

Lot of dead spots in the Gunnison Basin with one tower. The tracking capability of virtual fencing is probably one of the biggest pros. Exclusion zones are another key feature that useful. The extension office will continue the virtual fencing trails. The hope is to acquire more towers, so the system is more accessible to producers in the Gunnison Basin. Olsen, NRCS working on cost share, may be ready by 2026 for Colorado. Multiple ranchers can use base stations, fencing remains private for each user. Each collar can communicate with 5,000 to 6,000 collars. Producer buys the base station and maintains it. Large solar panels plus marine size batteries for backup.

Vence reps are okay in general. Bought out by Merck. Slow process to start. Vence interface not user friendly. Vence collars come shipped in pieces and must be put together by producer. Cameras on collars has been used for wildlife collars, could be useful for cattle collars. Hard to make switch from physical fence to virtual fencing when physical fencing is already there. The Gunnison Basin has two producers using the Vence system currently.

VIRTUAL FENCING: WYN MARTENS AND COLLEAGUES

Marten, purchased three towers from Vence and donated to Center of Public Lands at Western State. The idea is to allow other producers to be able to use towers. Two towers are up currently, have been using for roughly a month. Third tower in reserve. Forest service did not allow for deploying on their land. Towers are all on private land currently. Towers are about size of refrigerator and antennas are adjustable can go up to 25 feet. The stations weigh roughly 200 pounds and batteries weigh 80 lbs each.

Marten, there are 150 cattle collared, 210 total. Marten, 13 miles of fencing in need of repair on their USFS allotment. Marten, got fencing to implement better grazing techniques and protection of vital wildlife habitat. USFS wanted Martens to take towers out after each season. Vence team helped Martens find 24 viable sites for stations across the Gunnison Basin. Lots of options for modifying virtual fence with the Vence system. Can replay how cows move to see patterns, if chased by predators, etc. One benefit of leasing collars is that purchasing new updated collars will not be required.

Placke, a grad student at Western. He is working with the Martens to setup and use the Vence system. Base station setup is easy and general maintenance is minimal. The only real maintenance is battery

replacement every 4 to 5 years, marine batteries. Hail damage to solar panel is possible. Base station setup is simple. Western is collecting data for future use on virtual fencing and inform the public. Goal is to form a network for all interested in virtual fencing. Also see how it improves the environment (soil health, water, etc.). Provide admin support to getting started in virtual fencing for public. Lower barrier to entry. Make the technology easier to access. Center of Public Lands will help with tower maintenance. Form several research projects based on virtual fencing use in the Gunnison Basin.

Placke, will be conducting on the ground surveys to get a better idea of what producers want to see from virtual fencing.

Seward, interested in keeping cows off patches of sensitive areas using virtual fencing. Also, keeping cattle off larkspur. Virtual fencing possibly a good, cost-effective alternative to building new physical fencing. Olsen, 13 miles of fence could cost up to $350,000. Virtual fencing also allows for better grazing management. Possible metrics to track for virtual fencing studies: soil health, improvement from better grazing practices, plant biodiversity, bird surveys, soil moisture. Placke, still brainstorming ideas for research topics. Marten, producers using EOS to monitor chlorophyl activity in pastures via satellite images to better understand pasture health.

PUBLIC COMMENTS

None.

FUTURE MEETINGS: Future meetings will occur in the Gunnison County Blackstock Government Center, 2nd floor meeting room and by Zoom online meetings, unless changed for a specific reason.

06-12-24	10-12	Regular Meeting	Blackstock; 221 N. Wisconsin 2nd floor meeting room
07-17-24	10-12	Regular Meeting	Blackstock; 221 N. Wisconsin 2nd floor meeting room
08-21-24	10-12	Canceled	Blackstock; 221 N. Wisconsin 2nd floor meeting room
09-18-24	10-12	Regular Meeting	Blackstock; 221 N. Wisconsin 2nd floor meeting room
10-16-24	10-12	Regular Meeting	Blackstock; 221 N. Wisconsin 2nd floor meeting room
11-20-24	10-12	Regular Meeting	Blackstock; 221 N. Wisconsin 2nd floor meeting room
12-18-24	10-12	Regular Meeting	Blackstock; 221 N. Wisconsin 2nd floor meeting room

June meeting is rescheduled for June 12 10:00 am – 12:00 pm given the Juneteenth holiday on the regularly scheduled meeting.

ADJOURN: The July 17, 2024 meeting of the Gunnison Basin Sage-grouse Strategic Committee adjourned at 12:33 PM.

Minutes Prepared By: Ben Prior, Gunnison Conservation District