



An **Interim Report** for

New Mexico Department of Game and Fish, Share with Wildlife Program

Agreement Contract Number: 25-516-0000-00034

***Ecological Immersion: Teaching High School Students Through
Lesser Prairie-Chicken Habitat Improvement Research***



Photo by Zane Corman

Submitted by:

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Background

The Center for Environmental Health Monitoring and Management (CEHMM) is a non-profit organization committed to working towards solutions beneficial for conserving the Lesser Prairie Chicken while cooperating with anthropogenic activities. Through Candidate Conservation Agreement (CCA) and CCA with Assurances (CCAA; collectively CCA/As) programs, our cooperative conservation efforts with local ranchers and energy development entities promote the livelihoods of ranchers and the advancement of sustainable energy while also advocating for species and habitat conservation. The CCA/As allow a partnership to be established between local ranchers and CEHMM. By enrolling in the program, ranchers agree to follow grazing protocols that support the conservation of Lesser Prairie Chickens and their habitat, and in turn habitat improvement projects, that support their ranching operation and are funded and executed through the program (e.g., fence and tank installation).

Additionally, CEHMM strives to engage in educational outreach to increase awareness and participation of community members in the CCA/As and other organizational events. Our educational outreach efforts offer opportunities for students and other members of the community to learn about the importance of protecting the Lesser Prairie Chicken (*Tympanuchus pallidicinctus*) and grassland environments.

Methods

CEHMM has collaborated with Dora High School in Dora, Roosevelt County, New Mexico to educate local students and teachers about grassland environments, the Lesser Prairie Chicken, the CCA/As, and how CEHMM utilizes grazing protocols within the CCA/As to conserve the Lesser Prairie Chicken. CEHMM will develop a curriculum to educate students and teachers about these topics. The classroom curriculum will be delivered to the students at Dora High School in a PowerPoint format. The PowerPoint presentation will include information on the previously-mentioned topics in addition to background on CEHMM employees' educational and career history to expand on potential conservation careers available to students after graduation. A hands-on field day will also take place on CEHMM property. The field day will consist of teaching data collection methods used to monitor grazing protocols within the CCA/As and other aspects of grassland ecology, such as utilization, grass species and preferred grasses. At least 40 students will participate in the *Ecological Immersion* project.

Results to Date on FY25 Scope of Work

CEHMM has developed the classroom curriculum and field modules that will be delivered to high school students at Dora High School and on CEHMM property in Roosevelt County, Milnesand, New Mexico. The classroom curriculum was developed to include multiple Next Generation Science Standards, including LS2.A: Interdependent Relationships in Ecosystems, LS2.C: Ecosystem Dynamics, Functioning, and Resilience, LS4.D: Biodiversity and Humans, ESS3.C: Human Impacts on Earth Systems, ESS3.D: Global Climate Change, and ETS1.B: Developing Possible Solutions. The classroom curriculum involves information on the Lesser Prairie Chicken, grassland ecosystems, how conservation and anthropogenic activities such as ranching can be integrated in a way that is beneficial for both, and how CEHMM accomplishes this integration through the CCA/As programs and grazing protocols. Additionally, although the primary focus is conservation of Lesser Prairie Chicken, we have expanded the curriculum to encompass the importance of and the vast range of biological diversity that grassland ecosystems support, including birds, invertebrates, and other wildlife. Field modules were created to demonstrate the numerous data collection methods that CEHMM utilizes to observe the Lesser Prairie Chicken and monitor the CCA/As grazing protocols including the assessment of forage utilization, canopy cover, ground cover, and visual obstructions. In addition to other data collection methods that are often performed to monitor grassland ecology (e.g., monitoring wildlife via camera traps, monitoring invertebrate diversity by establishing pitfall trap grids, and monitoring bird diversity by conducting visual encounter surveys). The field modules have been developed in a way that will allow all 40 students (divided into small groups) to rotate through stations. At each station, students will receive in-depth demonstrations and hands-on experience with a data collection method. The curriculum and field modules have been approved by the Dora Schools Principal.

Additional resources for the students are currently being developed, such as ID guides for invertebrates, mammals, and birds. Each student will receive a copy of each field guide that they can take home and hopefully continue to use. All equipment and supplies outlined in the project proposal and required for project implementation have been purchased. Supplies include: 24 pair work gloves, 1 100M tape measure, 10 set of binoculars, 200 solo cups, 48 AA batteries, 4 trail cameras, 4 memory cards, 4 trail camera security boxes, 40 sets of snake guards, 10 95% ethyl alcohol, 48 20ml glass vials, 10 forceps, 30 clipboards, 2 coolers, 1 pruning shears, 1 spring scale, 120 bottle water, and 6 storage bins.

Several components of the contract and original proposal still need to be executed. Tasks to be completed in FY26:

1. Create a pre- and post-assessment for each student to complete. This will allow us to understand the students' level of knowledge on grassland ecosystems and Lesser Prairie Chicken ecology prior to teaching and after teaching the curriculum.
2. Share developed curriculum with the Share with Wildlife Education Coordinator. Receive edits and approval on the curriculum from the Share with Wildlife Education Coordinator prior to instructing the students.
3. Classroom curriculum and field day data collection with the students has been scheduled to take place in September of FY26.
4. Run statistical analyses on the data collected with the students. Create a database of results that can be expanded on in subsequent years.
5. Attend a second classroom visit in FY26 to teach students statistical analyses and show them results.
6. Submit a FY26 Interim Report by June 2026.