



CEHMM

Conservation and Environmental Services

Lesser Prairie-Chicken and Dunes Sagebrush Lizard Candidate Conservation Agreement and Candidate Conservation Agreement with Assurances

Monthly Report
September 2018



Wildlife Friendly Interior Fence

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Candidate Conservation Agreements (CCAs) allow the US Fish and Wildlife Service (FWS), the Bureau of Land Management (BLM), and the Center of Excellence (CEHMM) to work in cooperation and consultation with private land owners and industry in support of conservation measures for the Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*) (LPC) and the Dunes Sagebrush Lizard (*Sceloporus arenicolus*) (DSL), which were warranted for listing under the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531, et seq.). CCAs:

- Develop, coordinate, and implement conservation actions, which reduce and/or eliminate known threats to the LPC and DSL in New Mexico on federal, state, and private surface and minerals;
- Support ongoing efforts to re-establish and maintain viable populations of both species in currently occupied and suitable habitats;
- Encourage development and protection of suitable LPC and DSL habitat by giving Participating Cooperators incentives to implement specific conservation measures.

Under the CCA, federal lessees, operators, or permittees that join by voluntarily signing a Certificate of Participation (CP) receive a high degree of certainty that additional

restrictions would not be placed on their otherwise legal activities if either species is listed. The companion Candidate Conservation Agreement with Assurances (CCAA) provides incentives for voluntary conservation of species-at-risk on non-federal lands. Under the CCAA, the lessee, owner or permittee voluntarily commits to implement specific conservation measures on non-federal lands for the species by signing a Certificate of Inclusion (CI). Under the CCAA, if either species is listed, private landowners receive assurances



The Dunes Sagebrush Lizard is native to a small area of south-eastern New Mexico and West Texas.



The Lesser Prairie-Chicken is native to parts of Colorado, Kansas, New Mexico, Oklahoma, and Texas.

that additional restrictions would not be placed on their otherwise legal activities. Without regulatory assurances, landowners may be unwilling to initiate conservation measures for these species. In both cases, signing up for the CCA or CCAA is voluntary.

CEHMM is the Federal permit holder for these agreements and is responsible for implementing, monitoring, and reporting on projects completed with CCA/A funds (Figure 1). CEHMM is a 501(c)(3) not-for-profit corporation based in Carlsbad, New Mexico. CEHMM's participation allows for a federally approved, independently audited financial management system to provide for fund management and administration.

The following monthly report details projects funded and completed with CCA/A funds as well as every day implementation of the agreements including activities such as moving wells out of DSL habitat. For more details on the CCA programs, visit our website at www.cehmm.org.

Benefits of Candidate Conservation Agreement Programs

- ⇒ Voluntary
- ⇒ Provides on-the-ground conservation
 - ⇒ Landscape based approach



Photo courtesy Grant Beauprez

- ⇒ Allows land-owners and industry to continue work on the ground
- ⇒ Aims to prevent listing

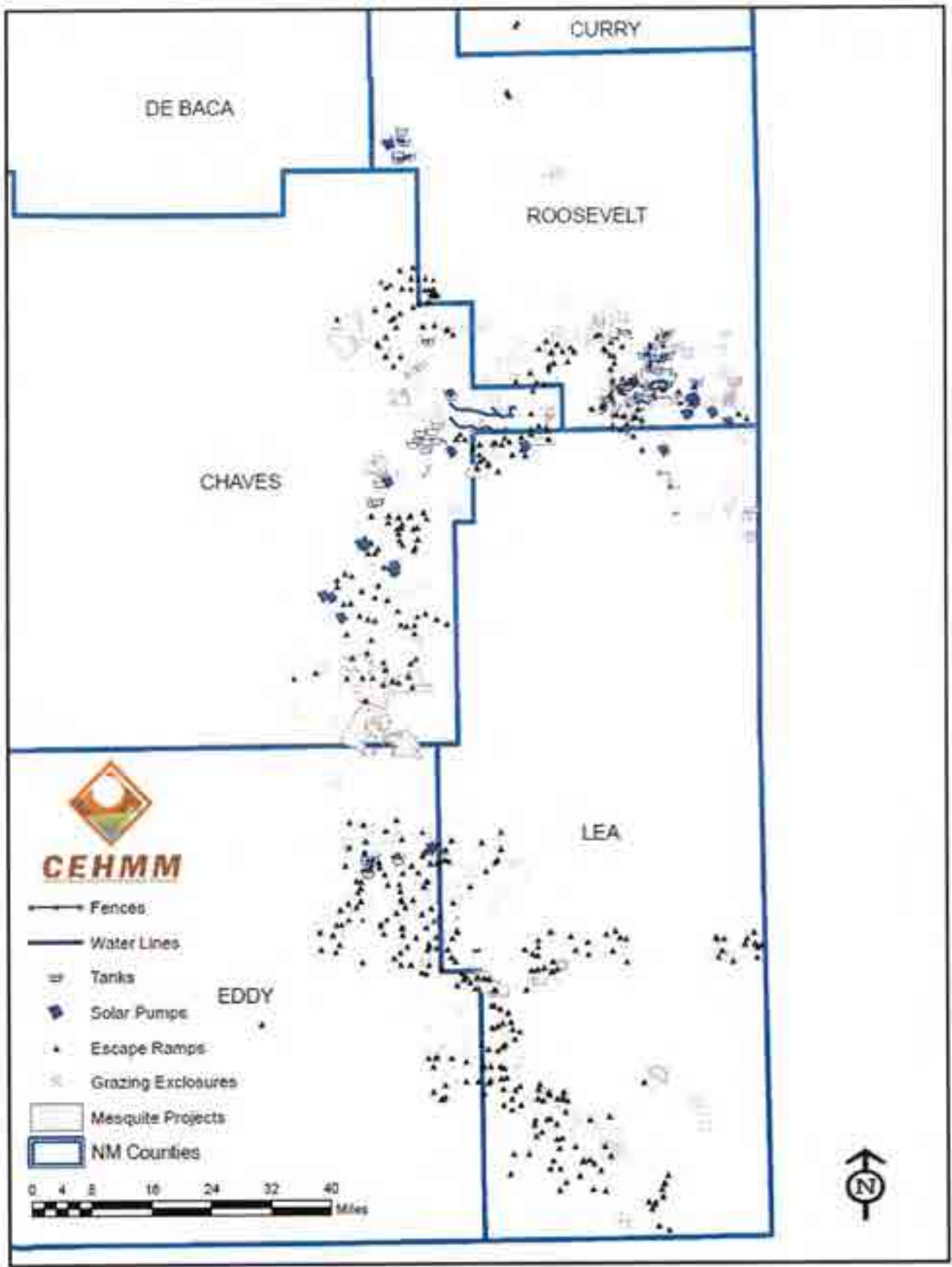


Figure 1: Map of all Completed Projects throughout Life of CCA/A Program

Conservation Activities and Monitoring

CCA/A – District 1 – South of Hwy 380

- **47 oil and gas operators are enrolled in the CCA and/or CCAA. The following actions were completed in support of industry enrollments:**

Onsites

One onsite for DSL CCA/A compliance was conducted with one operator. Conservation measures were satisfied with the placement of the wells so they were not moved.

- **Habitat and Grazing Monitoring**

Monitoring of vegetative attributes in relation to the conservation measures described in the CCA/A was completed at 23 established sites on two enrolled ranches. This completed vegetative monitoring in District One for the summer of 2018.

- **Project Monitoring**

Canopy cover data for five mesquite treatments was collected. Canopy for grasses, forbs, shrubs and mesquite was collected along 23 transects. 31,433 acres of mesquite were treated to reduce habitat fragmentation for LPC and DSL, return the landscape to a state in which both species evolved, increase production of vegetation associated with LPC habitat, and prevent encroachment onto suitable habitat for both species. Results are currently being calculated and will be reported in next month's report.

Photos were taken of one reclamation project that was completed in 2015. This project consisted of the reclamation of four pads and two roads. LPC habitat was improved by this project by reducing habitat fragmentation caused by the roads and pads and vegetation that LPC rely on for nesting habitat was planted. The photos shown in figures 2 and 3 are examples of a pad that was reclaimed in 2015, and the response three years later in September, 2018. Grasses that were planted have germinated and reclamation goals are being achieved by removing caliche and replacing it with native vegetation.

- **Project Monitoring Continued**



Figure 2: Abandoned well pad with caliche removed prior to planting native vegetation (2015) .



Figure 2: Abandoned well pad three years following removal of caliche and planting with native vegetation (2018).

CCA/A – District 2 – North of Hwy 380

CEHMM personnel have completed the pre-monitoring for the Mesquite Hand Treatment Active Leks #1.

CCA/A – District 1 and District 2 Combined

The Annual Stakeholder Meetings were held on September 19, 2018 in Milnesand and on September 20, 2018 in Carlsbad.

Work has commenced on the 2018 Annual Report.

Completed Projects September 2018

CCA/A – District 1 – South of Hwy 380

No projects were completed this month.

CCA/A – District 2 – North of Hwy 380

Medlin DSM Removal—2,000 acres of DSM were removed on the enrolled rancher's state leased lands (Figure 5) with a budgeted amount of \$90,276.34. In 2018, CEHMM's Natural Resource Authorization request for removal of DSM was approved by the New Mexico State Land Office (NMSLO). Work was completed on September 25, 2018.



Figure 3: An area before mesquite eradication on the left and another area where mesquite eradication was completed on the right on the enrolled ranch.

Funded Projects Awaiting Completion

CCA/A - District 1 - South of Hwy 380

Pearce Water – This project was funded in August 2014 for \$200,000. This project was funded to allow the Participating Cooperator to improve their grazing management strategy. The strategy being implemented includes short durations of grazing followed by long periods of relief from grazing pressure. A different pasture is getting at least 12 consecutive months of rest each year, and all others include long rest periods during the growing season. By implementing this type of strategy, nesting and brood rearing substrate for LPC is less susceptible to drought and is more productive due to the long periods of rest involved in this type of management strategy. In order to continue to implement these practices, a more productive water system is necessary. The Pearce water well (Figure 4) was drilled to a depth of 380 feet into a water bearing zone in a sandstone formation. A pump test was conducted, with the well maintaining a flow rate of one gallon per minute. Drilling mud was cleaned out of the well with no increase in the flow rate. CEHMM will set the pump in the well to pump into a storage tank provided by the Participating Cooperator. One bid was received to install a solar powered pump and the panels to run it at a location where a windmill was removed. The bid is currently being reviewed. An award letter will be drafted upon approval.

Smith Water – This project was funded in July 2016 for \$19,657.63. By introducing a new water source in this pasture, other pastures with suitable and potentially suitable LPC habitat will be relieved from grazing pressure by moving cattle into the pasture with the new water. This will increase the productivity of vegetation that the LPC relies on for nesting and brood rearing. CEHMM will develop a bid proposal for contractors. National Environmental Policy Act (NEPA) was completed in August 2017. Mr. Smith is completing the road bore. Due to the potential installation of a rail spur near the original project location, this project will be modified to incorporate portable water stations. These stations will have the ability to be moved throughout the ranch. The portable stations will be shown to the ranking team once CEHMM receives the specifications that pertain to them.

Funded Projects Awaiting Completion

CCA/A – District 1 – South of Hwy 380

K. James Water Project—This project was funded in June 2018, and consists of CEHMM contracting the installation of approximately 1.25 miles of water line, installing a solar powered submersible pump, a solar powered booster pump and installing a 200-300 gallon tire trough with a satellite water for LPC use. The Participating Cooperator is providing in kind services consisting of plumbing the trough, removing a windmill, and providing a storage tank. The project was funded for \$39,451.89. This will provide water for the LPC in times of drought, and allow an area to be grazed that is not currently being used because of the distance from existing water sources for livestock. By allowing this area to be utilized, other areas will not be grazed as heavily. This will leave more residual vegetation for LPC nesting and brood rearing. CEHMM received the signed project agreement from the Participating cooperator. The BLM has been contacted to proceed with the NEPA process.

CCA/A – District 2 – North of Hwy 380

Mesquite Hand Treatment of Active Leks #1 – This project was funded in March 2018 for \$897,876.85. Seven 502-acre plots will be hand treated for Honey Mesquite to total 3,514 acres (Figure 5). Eradicating and removing mesquite opens up habitat to allow for lekking, nesting, and brood rearing. Work is expected to commence on October 1, 2018. This project was funded in March 2017 for \$897,876.85.

Mesquite Hand Treatment of Active Leks #2 – The ranking team has approved hand treatment of additional leks. This project was funded in August 2017 for \$745,470.00. CEHMM and the ranking team are in the process of identifying leks to be treated. Eradicating and removing mesquite opens up habitat to allow for lekking, nesting, and brood rearing.

Funded Projects Awaiting Completion

CCA/A – District 2 – North of Hwy 380

Mesquite Eradication – With both Marjorie Williamson DSM Removal and Medlin DSM Removal being completed, the remaining project will be completed in 2018, following two years or more post treatment. Eradication will be completed via rotary cutter attachments (Figure 3) for the purpose of removing vertical structure. Following chemical treatment, the skeleton of the plant is considered a vertical structure and must be removed to actually deliver a conservation benefit for the LPC. Refer to attached “Conservation Benefit: Mesquite Removal” (Appendix B).

- Peterson/Luman DSM Removal – 250 acres of DSM will be removed (Figure 5). This project was funded in August 2017 for \$26,562.00. Work will commence after the completion of Medlin DSM Removal.

Peterson-Buffington Fence Repair — This project was approved and funded in 2018 for \$26,945.01 to replace 0.75 miles of boundary fence between two enrolled ranches, that was lost in a wildfire earlier this year. The team also approved repair of a recently installed fence, also damaged in the wildfire, that needs new posts, H-braces, and corners (Figure 5). With these repairs, the enrolled rancher can keep out trespass cattle and continue to manage his property in a way that promotes LPC habitat.

Running N Mesquite #2 — This aerial treatment of 4,402 acres was approved and funded in 2018 for \$173,089.20 (Figure 5). Eradicating and removing mesquite opens up habitat for lekking, nesting, and brood rearing. A proposal to remove the DSM will be presented in the future. A migratory bird survey will be completed prior to the aerial treatment to avoid nesting birds. Ponds will also be avoided.

TNC Water — This project was approved and funded in 2018 for \$52,830.44 to remove seven small, worn out stock tanks and replace them with seven 20’ fiberglass stock tanks which include built in bird escape ramps (Figure 5). Improved water points in a grazing regime, if managed correctly, can provide for improved habitat for all wildlife by conserving native vegetation species, as the operator will be able to rotate their herd and rest pastures in a more effective manner. This will also allow for the conservation of critical nesting/brood-rearing habitat for the LPC, and provides a source of year round water to all wildlife including LPC.

Funded Projects Awaiting Completion

CCA/A – District 2 – North of Hwy 380

M. Coombes Boundary Fence-Fence Removal North — This project was approved and funded in 2018 for \$281,631.81 to remove and replace 14 miles of old, ineffective boundary fence with new wildlife friendly fence (Figure 5). This fence borders five other CEHMM enrolled properties and three NMDGF properties. Fencing improves grazing rotation which allows for the maintenance or improvement of LPC habitat and stops trespass cattle. Old fence needs to be removed as it is a hazard to wildlife. Work commenced on this project September 10, 2018.

Mohon Water Tanks — This project was approved and funded in 2018 for \$19,369.24 to remove on old stock tank that no longer holds water, improve the old pad, and replace the old tank with a new 20' fiberglass stock tank with a wildlife friendly escape ramp. There will also be another 20' fiberglass tank with wildlife friendly escape ramp installed in another area of the ranch that is coming out of Conservation Reserve Program (CRP) (Figure 5). Improved water points in a grazing regime, if managed correctly, can provide for improved habitat for all wildlife by conserving native vegetation species, as the operator will be able to rotate their herd and rest pastures in a more effective manner. This will also allow for the conservation of critical nesting/brood-rearing habitat for the LPC, and provides a source of year round water to all wildlife including LPC.

M. Coombes Water #1 North — This project was approved and funded in 2018 for \$141,205.21. Three unreliable windmills will be removed and replaced with three solar pumps; eight small, leaky stock tanks will be replaced with eight 20' fiberglass tanks with wildlife escape ramps; a new water point with a 20' fiberglass stock tank and one 12' x 20' storage tank will be added; and 3,900 feet of pipeline will be added to connect with an existing pipeline (Figure 5). Improved water points in a grazing regime, if managed correctly, can provide for improved habitat for all wildlife by conserving native vegetation species, as the operator will be able to rotate their herd and rest pastures in a more effective manner. This will also allow for the conservation of critical nesting/brood-rearing habitat for the LPC, and provides a source of year round water to all wildlife including LPC.

Funded Projects Awaiting Completion

CCA/A – District 2 – North of Hwy 380

M. Coombes Water #2 North — This project was approved and funded in 2018 for \$59,911.47 to remove two unreliable windmills and add two solar pumps, install one 20' fiberglass stock tank with wildlife escape ramp, and add one 12' x 20' storage tank (Figure 5). Improved water points in a grazing regime, if managed correctly, can provide for improved habitat for all wildlife by conserving native vegetation species, as the operator will be able to rotate their herd and rest pastures in a more effective manner. This will also allow for the conservation of critical nesting/brood-rearing habitat for the LPC, and provides a source of year round water to all wildlife including LPC.

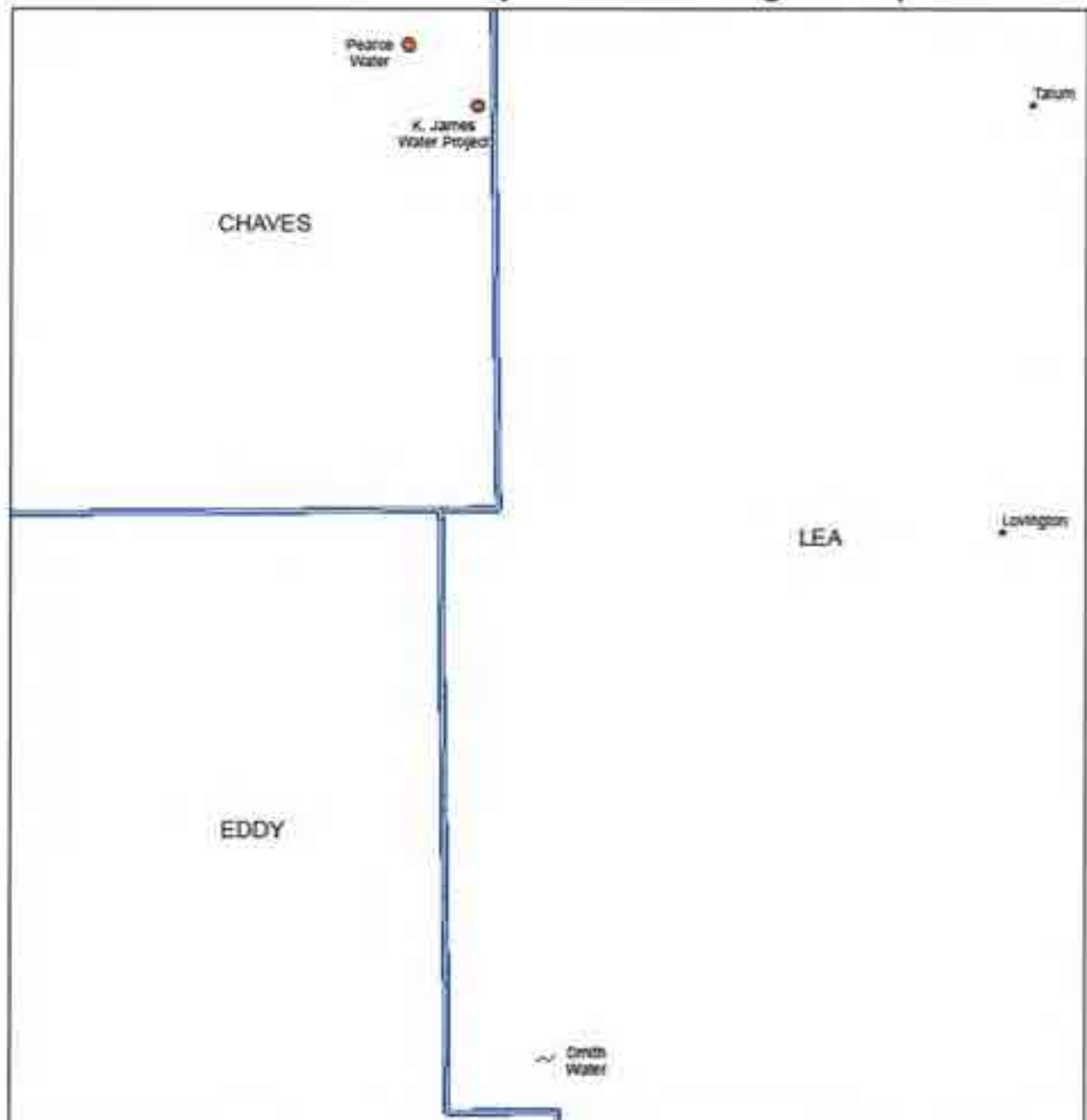
Weinheimer Interior Fence — This project was approved and funded in 2018 for \$110,486.94 to install approximately 7.5 miles of new wildlife friendly fencing and to remove approximately 1.25 miles of old, dilapidated fence (Figure 5). Work has commenced on this project as of July 17, 2018. Fencing improves grazing rotation which allows for the maintenance or improvement of LPC habitat.

Weinheimer Fence & Water — This project was approved and funded in 2018 for \$89,395.41 to install 3.25 miles of new, wildlife friendly interior fencing; install two 20' fiberglass stock tanks with wildlife friendly escape ramps; remove and replace an old, inadequate windmill with a solar pump; and install a storage tank (Figure 5). The fence was completed on September 11, 2018. Improved water points in a grazing regime, if managed correctly, can provide for improved habitat for all wildlife by conserving native vegetation species, as the operator will be able to rotate their herd and rest pastures in a more effective manner. This will also allow for the conservation of critical nesting/brood-rearing habitat for the LPC. Fencing improves grazing rotation which allows for the maintenance or improvement of LPC habitat.

CCA/A – District 1 & District 2 Combined

Grazing Workshop—Two workshops focused on managing through drought and utilizing adaptive grazing management strategies were funded in June 2018. They will be centered around adaptive grazing management with a focus on sustainability of LPC habitat and profitability for livestock operators. The workshops will be available to all Participating Co-operators with grazing operations, land and wildlife management agencies, and industry stakeholders. The project was funded for \$12,712.81. Two workshops (two days each) will be held October 15-18. One will be in Carlsbad, NM (Oct 15-16) and the other will be in Milnesand, NM (Oct 17-18).

District 1 Funded Projects Awaiting Completion



— Water Line
□ NM Counties

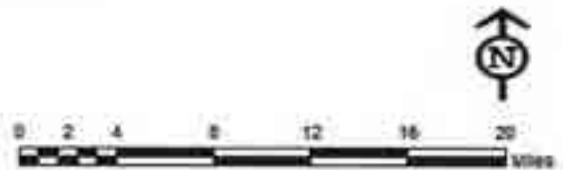


Figure 4: District 1 Funded Projects Awaiting Completion

District 2 Funded Projects Awaiting Completion

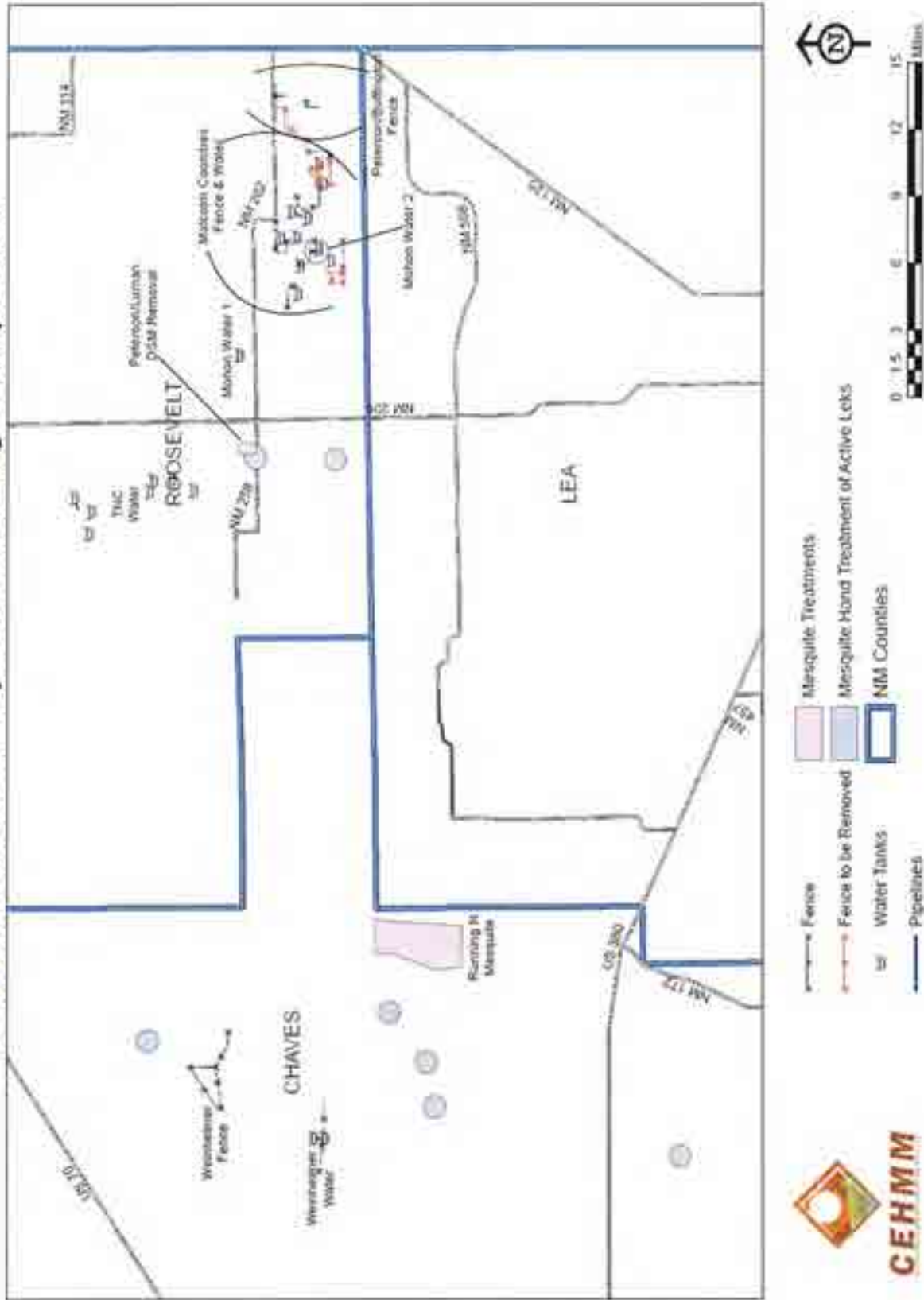


Figure 5: District 2 Funded Projects Awaiting Completion

Education

Audubon of New Mexico Education/Outreach Manager is initiating Audubon's plans for the CCA/A funded project "Engaging Community in Conservation Education". They are developing a high school environmental education program to be delivered to local students within historic and current Lesser Prairie-Chicken/Dunes Sagebrush Lizard habitat in New Mexico. This program will target the following New Mexico high schools: Dora, Floyd, Elida, Portales, and Carlsbad Early College High School with the intent to engage at least one class in each school by the end of the contract period. Audubon has provided a project update including a draft curriculum, which was sent to the ranking team for review.

Operations Moved out of DSL Habitat

Construction of well pads and roads for oil and gas development in DSL habitat poses a serious threat to a species which depends on a very specialized dynamic habitat. Due to the severity of the loss of DSL habitat from development, enrollees have agreed to conservation measures including no-surface occupancy within 30 meters of suitable or occupied DSL habitat. CEHMM attends onsite with enrolled companies to help site roads, pads, pipelines, and power lines in areas that are in near proximity to suitable and occupied habitat. During the onsite, CEHMM helps to determine suitability of the habitat and ensure that the companies avoid the dunes by the required 30-meter buffer. If the disturbance is within the 30-meter buffer, then the enrolled company, in order to comply with their agreements, must relocate the disturbance to occur outside of the 30-meter buffer. The number of wells and ROWs moved out of DSL habitat below shows the importance of every day implementation of the CCA/As to the conservation of the species.

Year	Federal Wells	State Wells	ROWs	Seismic Data Acquisition (Acres)
2009	0	0	0	2,900
2010	79	0	0	1,454
2011	83	0	15	0
2012	65	22	1	0
2013	73	3	7	0
2014	77	6	1	0
2015	36	37	68	0
2016	80	15	0	0
2017	5	0	0	0
2018	0	0	0	0
Total	498	83	92	4,354

Reclamation/Restoration

In areas of loose and sandy soil, oil and gas well pads and roads are constructed from caliche, which is a layer of calcium carbonate that is precipitated below the soil surface through evaporation in arid environments. Caliche makes an ideal substrate for roads; it becomes almost impenetrable when compacted with heavy equipment. When companies construct these roads and well pads in LPC and DSL habitat, this impenetrable layer fragments the habitat. Reclamation of these wells and pads removes the caliche from the surface using heavy equipment. By removing the caliche pads and roads, fragmentation in LPC and DSL habitat is reduced or eliminated. Once the caliche is removed, reseeding with native vegetation occurs which speeds up the process of rehabilitating the disturbed areas. The table below details the reclamation treated to date through the CCA/A agreements.

Total Acres Treated for Entire Project	
Roads and Pads Caliche Removal and Reseeding (Number)	154.00
Mesquite (Acres)	87,876.00
Dead Standing Mesquite Eradication (Acres)	4,854.70
Yucca (Acres)	120.00

Well/ROW/Frac Pond Deductions

Industry Participating Cooperators are assessed fees for surface disturbing activities, which CEHMM assesses on a monthly basis. New surface disturbances include, but are not limited to wells, Rights of Way (ROW), and frac ponds. The fees assessed are then deducted from the Participating Cooperator's CCA/A Habitat Conservation Fund at the end of each month. A copy of the deductions are sent to Participating Cooperators for verification. If a Participating Cooperator has a positive Habitat Conservation Fund balance, then the fees are deducted from that Participating Cooperator's Habitat Conservation Fund. If the company does not have a positive Habitat Conservation Fund balance, the company is issued an invoice for the amount of the remaining balance. The tables below show fees assessed for surface disturbing activities.

Total Deductions for September 2018
\$885,500.00

Total Deductions for 2018
\$2,911,250.00

Total Deductions for Entire Project
\$21,252,831.96

Enrollment Numbers

**NMDGF acres are included in the rancher numbers*

TOTAL HABITAT ENROLLMENT		ACRES
Total LPC/DSL habitat acres enrolled by Industry		1,922,887
Total LPC/DSL habitat acres enrolled by Ranchers		1,862,987
Total LPC/DSL CCA habitat acres enrolled by Industry and Ranchers		1,349,890
Total LPC/DSL CCAA habitat acres enrolled by Industry and Ranchers		1,636,705
Total LPC/DSL CCAA habitat acres enrolled by the NMSLO		406,672
Total LPC/DSL CCA/A habitat acres enrolled by Industry, Ranchers (and NMDGF), and NMSLO		2,959,438
DSL	ACRES	% ACRES ENROLLED
Total DSL habitat acres in NM*	868,618	
DSL habitat acres enrolled by Ranchers CCA/A	583,422	67.2%
DSL habitat acres enrolled by Ranchers in BLM RMPA	522,712	60.2%
DSL habitat acres enrolled by Industry CCA/A	426,546	49.1%
DSL habitat acres enrolled by Industry in the BLM RMPA	379,974	43.7%
DSL habitat acres enrolled by NMSLO	179,232	20.6%
Total DSL CCA/A habitat acres enrolled by Industry, Ranchers (and NMDGF), and NMSLO	732,180	84.2%
LPC	ACRES	% ACRES ENROLLED
Total LPC habitat acres in estimated occupied range (EOR)	2,069,934	
LPC habitat acres enrolled by Industry in EOR	508,737	24.6%
LPC habitat acres enrolled by Ranchers in EOR	876,154	42.3%
LPC habitat acres enrolled by NMSLO in EOR	348,551	16.8%
Total LPC CCA/A habitat acres in EOR enrolled by Industry, Ranchers (and NMDGF), and NMSLO	1,152,030	55.7%

*This acreage is based on the Texas A&M DSL polygon utilized by the BLM, which includes a one-mile buffer around the polygon.

Enrollment Numbers

**NMDGF acres are included in the rancher numbers*

EOR + 10	ACRES	% ACRES ENROLLED
Total LPC habitat acres in estimated occupied range + 10 mile buffer (EOR10)	6,874,894	
LPC habitat acres enrolled by Industry in EOR10	1,626,894	23.7%
LPC habitat acres enrolled by Ranchers in EOR10	1,643,608	23.9%
LPC habitat acres enrolled by NMSLO in the EOR10	406,672	5.9%
Total LPC CCA/A habitat acres in EOR10 enrolled by Industry, Ranchers (and NMDGF), and NMSLO	2,554,416	37.2%

HISTORICAL	ACRES	% ACRES ENROLLED
Total LPC habitat acres in historic range	13,650,507	
LPC habitat acres enrolled by Industry in historic range	1,922,887	14.1%
LPC habitat acres enrolled by Ranchers in historic range	1,862,987	13.6%
Total LPC habitat acres enrolled by Industry in BLM RMPA	951,548	7.0%
Total LPC habitat acres enrolled by Ranchers in BLM RMPA	1,158,738	8.5%

CHAT 1	ACRES	% ACRES ENROLLED
Total acres in CHAT 1	783,740	
LPC habitat acres enrolled by Industry in CHAT 1	138,464	17.7%
LPC habitat acres enrolled by Ranchers in CHAT 1	345,425	44.2%
LPC habitat acres enrolled by NMSLO in CHAT 1	153,725	19.5%
Total LPC CCA/A habitat acres in CHAT 1 enrolled by Industry, Ranchers (and NMDGF), and NMSLO	455,676	58.0%
Total LPC CCA/A habitat acres in CHAT 1 enrolled by Industry and Ranchers (and NMDGF)	482,575	61.2%

Enrollment Numbers

**NMDGF acres are included in the rancher numbers*

CHAT 2	ACRES	% ACRES ENROLLED
Total acres in CHAT 2	703,799	
LPC habitat acres enrolled by Industry in CHAT 2	43,625	6.2%
LPC habitat acres enrolled by Ranchers in CHAT 2	69,779	9.9%
LPC habitat acres enrolled by NMSLO in CHAT 2	54,450	7.7%
Total LPC CCA/A habitat acres in CHAT 2 enrolled by Industry, Ranchers (and NMDGF), and NMSLO	125,280	17.8%
Total LPC CCA/A habitat acres in CHAT 2 enrolled by Industry and Ranchers (and NMDGF)	108,150	15.4%

CHAT 3	ACRES	% ACRES ENROLLED
Total acres in CHAT 3	3,713,608	
LPC habitat acres enrolled by Industry in CHAT 3	1,147,732	30.9%
LPC habitat acres enrolled by Ranchers in CHAT 3	1,070,180	28.8%
LPC habitat acres enrolled by NMSLO in CHAT 3	175,238	0.47%
Total LPC CCA/A habitat acres in CHAT 3 enrolled by Industry, Ranchers (and NMDGF), and NMSLO	1,549,476	41.7%
Total LPC CCA/A habitat acres in CHAT 3 enrolled by Industry and Ranchers (and NMDGF)	1,498,081	40.3%

CHAT 4	ACRES	% ACRES ENROLLED
Total acres in CHAT 4	1,494,093	
LPC habitat acres enrolled by Industry in CHAT 4	275,382	18.4%
LPC habitat acres enrolled by Ranchers in CHAT 4	133,730	9.0%
LPC habitat acres enrolled by NMSLO in CHAT 4	23,260	1.6%
Total LPC CCA/A habitat acres in CHAT 4 enrolled by Industry, Ranchers (and NMDGF), and NMSLO	375,708	25.1%
Total LPC CCA/A habitat acres in CHAT 4 enrolled by Industry and Ranchers (and NMDGF)	360,850	24.2%

Signature

If you have any questions, please call Emily Wirth at (575) 885-3700.

Signed: 
Douglas C. Lynn, Executive Director

Date: 10/03/2018

Appendix A

Conservation Benefits

Grazing Management



CEHMM recognizes the mutual benefit between sustainable grazing and lesser prairie-chickens. Collaboration between employees and the efforts of the CCAA via technical and financial assistance leads to improved grassland health.

The lesser prairie-chicken (LPC) occupies four ecoregions in the Great Plains. In eastern New Mexico and west Texas, this region is known as "Sand Shinnery Oak Prairie" (SSOP) and is dominated by shinnery oak, sand/big-bluestem, little bluestem, sand drop seed and sand sagebrush. Ranching is the most common use of this large expanse of land. Grazing as a conservation tool for the LPC is an essential management component as this endemic species has evolved with large bovines for centuries. SSOP is the southernmost extension of the LPC range, the warmest and driest ecoregion of the four ecoregions. Sustainable grazing practices have been identified by Center of Excellence (CEHMM) and US Fish and Wildlife Service (FWS) as a top priority to insure adequate habitat for all life stages of the LPC.



CCAA



Benefits of Sustainable Grazing

- Improved rangeland for wildlife and ranching operations.
- Improved quality and quantity of forage.
- Heterogenic landscapes for all grassland species.
- Drought resiliency.

Conservation Benefits: Grazing Management

Range Conservationist Spotlight:

CEHMM District 2
Josh Ricklefs

Sustainable Grazing and the Lesser Prairie Chicken

"Grazing practices utilizing a rotation pattern, paired with stocking rates that the land is capable of supporting, promote habitat for the lesser prairie-chicken, while also allowing ranchers to sustain and improve rangeland health. Sustainable grazing practices leave residual vegetation of sufficient height and density that the lesser prairie-chicken can utilize for nesting, brood-rearing, and concealment from potential threats. This also helps the rancher by acting as a drought contingency plan, as the rangeland will be in better condition when a drought event occurs. The vegetation will also be more resilient and will be able to respond better once drought conditions end. Through vegetation monitoring, CEHMM can analyze trends along with current rainfall data to assist ranchers in planning for these events. Improved and new infrastructure via projects through CCA funding also allows the rancher to implement sustainable grazing practices to the benefit of both the rancher and the lesser prairie-chicken."



The dunes sagebrush lizard, a species of concern, is a secondary beneficiary of sustainable grazing. Attention to the treatment of their very specialized habitat and ability to survey on private lands has increased survey numbers and knowledge in this species.

Photo courtesy of Mike Hill

CCAIA

Sustainable grazing practices are addressed in the Candidate Conservation Agreements and Agreements with Assurances (CCA/CCAA). The voluntary Certificate of Participation (CP) and Certificate of Inclusion (CI), which applies to enrolled ranches on federal, state and/or deeded lands, partially includes:

- ✓ Improving or maintaining conservation lands.
- ✓ Designing grazing plans to meet habitat specific goals for individual ranches that may include stocking rates, rotation patterns, grazing intensity and duration, and contingency plans for varying prolonged weather patterns including drought.
- ✓ Utilizing no more than 45% of current year's forage growth.
- ✓ Consultation with CEHMM prior to using herbicide treatments on shinnery oak due to impacts upon LPC and the dunes sagebrush lizard (DSL). Post-treatment grazing management is essential for success. Grazing by any livestock will be deferred during the growing season for at least the two consecutive years following treatment.



CEHMM works with enrollees on grazing plans, improving infrastructure and monitoring vegetation. CEHMM, with approval from the Candidate Conservation Ranking Team, offers assistance on such practices as brush management, water development, prescribed fire, fencing, and defragmentation through road and well pad reclamation.

CEHMM monitors vegetative components of LPC habitat on the enrolled livestock operations to determine habitat improvement, static levels, or decline in habitat by using standard protocol methods:

- ✓ Forage utilization cages.
- ✓ Determination of composition and cover of forbs, grasses and woody plants through established grazing monitoring methods.
- ✓ Establishing photo points to view trends.

To learn more about CCAIA assistance, contact your local CEHMM office:

District 1 – 575-685-3700

District 2 – 575-675-2324

Visit us at www.cephmm.org

Conservation Benefits, Grazing Management

Appendix B

Conservation Benefits

Mesquite Removal



Fragmentation and loss of habitat for the lesser prairie-chickens is considered a major cause for the decline in population of this grassland bird across their range.

Honey Mesquite (*Prosopis* spp.) is universally accepted as an invasive and highly competitive shrub that may readily encroach onto landscapes that did not historically support the species. This landscape has experienced intense disturbance or changes in natural ecological processes over a significant period of time. Through interspecific competition with other beneficial plant species, mesquite has increased in frequency, and subsequently led to a transition from grassland landscapes into shrub/grasslands which is less desirable for grassland birds, specifically lesser prairie-chickens (LPC). Research shows that LPC avoid areas with more than 1% mesquite canopy cover due to changes in vertical obstruction and conversion to shrub-dominated landscapes, which greatly limits desirable habitat for this species.

Mesquite outcompetes desirable grasses and forbs, thus reducing quality and quantity of nesting habitat for LPC. Removal or reduction of mesquite in lesser prairie-chicken habitat, followed with proper grazing management, can increase production and composition which will benefit grassland species.



Mesquite skeleton following a successful herbicide treatment.

CC&E

Conservation Benefits: Mesquite Removal

LPC Biologist Highlight:

Blake Grisham, PhD, Texas Tech University

"Mesquite removal is most beneficial for lesser prairie-chickens in areas within 1-2 miles of existing, active leks. Contemporary evidence suggests mesquite encroachment in areas surrounding leks causes lesser prairie-chickens to constrain their space use to areas without mesquite. Also, and more importantly, mesquite dominated landscapes (>25% mesquite cover at any scale) are structurally different than grasslands, and research shows that lesser prairie-chickens select shrubs and grasses 15-25 inches tall for nesting and brood rearing activities. The benefits of mesquite removal for lesser prairie-chickens are maximized when the skeleton of treated plants are completely removed. Post-treatment care via managed grazing and prescribed fire is highly recommended to give beneficial grasses and forbs the competitive advantage over mesquite in treated areas over time. Beyond 1-2 miles of existing, active leks, targeting areas between active leks in sandy soils that contain mesquite is an excellent strategy to promote connectivity between active lek clusters across the sand shinnery oak ecoregion in New Mexico and Texas."



Conservation Benefits:

- ✓ Improved grasslands habitat for lesser prairie-chickens.
- ✓ Increase grasslands resiliency for drought conditions.
- ✓ Removes vertical obstruction.

CCAIA



CEHMM's Approach to Mesquite Control

- Aerial herbicide
- Hand application of herbicide

Aerial application is the least expensive method to control mesquite because large areas with high densities can be treated. The ability to perform aerial applications is limited by plant health, precipitation, temperature and wind speed. Certain thresholds within these limitations must be met to ensure that the treatment will be successful.

Hand application may be performed at any time of the year. This method produces a higher percent kill of individual plants due to the ability of directly applying the chemical to each plant. Cost per acre is appreciably higher than aerial applications and smaller areas with lower densities must be targeted.

CEHMM's Approach to Removal of Dead Standing Mesquite

- Shredding-Mowing

Once the mesquite plant is dead, the skeleton of the plant is still a vertical obstruction and must be removed to actually deliver a conservation benefit for the LPC. CEHMM returns to past herbicide treatments and removes the dead standing mesquite.



To learn more about CCAIA assistance, contact your local CEHMM office:

District 1 – 575-885-3700
District 2 – 575-675-2324

Visit us at www.chehmm.org

Conservation Benefits, Mesquite Removal

