



2022

Quarterly Report

April 1, 2022 - June 30, 2022



Photo Credit: Zane Corman

A Lesser Prairie-Chicken Displaying on a Lek in Roosevelt County.

Candidate Conservation Agreements for the Lesser Prairie-Chicken and the Dunes Sagebrush Lizard in New Mexico

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Candidate Conservation Agreements

This report describes the activities conducted in the second quarter of 2022 for the Candidate Conservation Agreement (CCA) and Candidate Conservation Agreement with Assurances (CCAA) for the Lesser Prairie-Chicken (LPC) (*Tympanuchus pallidicinctus*) and Dunes Sagebrush Lizard (DSL) (*Sceloporus arenicolus*). The Center of Excellence (CEHMM) administers a CCA for federal land and minerals and a CCAA for non-federal lands and minerals. The two agreements are referred to collectively as the CCA/A. CCA/As allow the U.S. Fish and Wildlife Service (FWS), the Bureau of Land Management (BLM), and CEHMM to work in cooperation and in consultation with landowners and industry to support conservation measures for the LPC and the DSL. Both species were warranted for listing under the Endangered Species Act of 1973, as amended (16 U.S.C. § 1531, et seq.). The purpose of the CCA/A is to:



Photo Credit: Mike Hill

The Dunes Sagebrush Lizard is Native to a Small Area of Southeastern New Mexico and West Texas.

- Develop, coordinate, and implement conservation actions to reduce and/or eliminate known threats to the LPC and the DSL in New Mexico on federal, state, and private surface and minerals;



Photo Credit: Nirmal Khandan

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

- Support ongoing efforts to re-establish and to maintain viable populations of both species in currently occupied and suitable habitats;
- Encourage development and protection of suitable LPC and DSL habitats by giving incentives to Participating Cooperators to implement specific conservation measures.

Under the CCA, federal lessees, operators, or permittees, who 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 CCAA

provides incentives for voluntary conservation of at-risk species on non-federal lands. By signing a Certificate of Inclusion (CI) under the CCAA, the lessee, owner, or permittee voluntarily commits to implement specific conservation measures for the species on non-federal lands. Under the CCAA, if either species is listed, private landowners receive assurances 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, enrollment in 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. 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 quarterly report details projects funded and completed with CCA/A funds. The report also details the daily implementation of the agreements including activities such as moving wells out of DSL habitat, monitoring of enrollments for habitat characteristics, and monitoring for conservation commitment. For more details on the CCA/A programs, visit our website at www.cehmm.org.

Benefits of Candidate Conservation Agreement Programs

- Voluntary enrollment
- Measurable on-the-ground conservation
- Landscape-based approach
- Allow landowners and industry to continue work on the ground
- Aim to prevent listing



ESA Listing Proposal

Dunes Sagebrush Lizard

On May 19, 2022, the Center for Biological Diversity filed suit against the FWS for delaying protection of the DSL. A decision of whether to list the DSL under the Endangered Species Act (ESA) is anticipated by the end of the year.

Lesser Prairie-Chicken

On May 26, 2021, the FWS released a proposal to list the LPC under the ESA. Two geographic distinctions were applied, known as distinct population segments (DPS). The New Mexico population is included within the southern DPS and has been proposed for listing as Endangered. The justification for this listing proposal includes impacts from habitat loss, degradation, and fragmentation, such as grassland conversion to cropland, energy production, woody vegetation encroachment, road and electrical infrastructure, overgrazing, and climate change. More information regarding the listing decision for the LPC is anticipated in the coming weeks.

Conservation Activities and Monitoring

CCA/A – District 1 and District 2 – Combined Activities

- **All Activities CCA/A Enrollment Option**

CEHMM, in conjunction with the FWS, the BLM, and industry stakeholders, developed a proposed amendment to the CCA/A. This amendment will allow for an enrollment option that will cover all of the participant's activities in the historic range of the LPC rather than receiving coverage for individual parcels. The amendment was posted in the Federal Register in February 2022, and it closed for comment on March 18, 2022.

This option differs from the traditional parcel-by-parcel enrollment method because it will allow enrollment of activities implemented by companies that develop linear infrastructure. It will also ensure future conservation by allowing coverage on lands and minerals acquired after a decision to list either species. An inflation and deflation factor will be added to conservation fees, and the habitat classifications have been modified to better reflect LPC habitat. Conservation commitment will remain standard over the board regardless of enrollment type (i.e. parcel-by-parcel v. all-activities), so conservation will be implemented on lands acquired in the future. CEHMM is currently in the process of drafting CPs and CIs for the All Activities option.

Conservation Activities and Monitoring

CCA/A – District 1 and District 2 – Combined Activities, Continued

- **LPC Monitoring**

Staff completed 22 days of survey effort. A total of 1,095 LPCs were observed. Surveys resulted in the identification of 98 leks, with an average of 11.8 LPCs per lek.

- **DSL Monitoring**

Staff assisted Mike Hill with DSL pitfall trap surveys during the month of June. Collections (Figure 1) are associated with the ongoing CCA/A-funded Capture/Recapture DSL Monitoring Project. Capture/Recapture studies with individual marking can provide insight on dune dynamics, such as individual movement.



Photo Credit: Austin Wilson

Figure 1. Mike Hill Marks a DSL for Recapture and Tissue Collection.

CCA/A – District 1 – South of Hwy 380

- **DSL Monitoring**

Pitfall trap grids were installed on May 4, 2022. A total of two grids were installed, with 36 buckets in each grid. The buckets were arranged in a 6 by 6 pattern, with 15 meters between each bucket. The DSL pitfall trap surveys began on May 9 and were completed on June 24, 2022. A total of 16 trap days were completed in this area. Four species of lizards were captured in the pitfall traps: 1) *Aspidoscelis marmoratus*, 2) *Holbrookia maculata*, 3) *Phrynosoma cornutum*, and 4) *Uta stansburiana*. While no DSL individuals were captured or observed throughout these surveys, *H. maculata* was observed (Figure 2).



Photo Credit: Maxie Kiehne

Figure 2. *H. maculata* Captured in a Pitfall Trap.

Conservation Activities and Monitoring

- **DSL Monitoring, Continued**

This is a potentially important finding, as this lizard species, like the DSL, is sensitive to disturbances within their habitat.

DSL walking surveys were completed on May 10, 2022. Walking survey grids were located in the Square Lake area. A total of nine transects were completed. While three species of lizards were identified (i.e., *A. marmoratus*, *Aspidoscelis sexlineatus*, and *U. stansburiana*), none were DSL individuals.

- **CCA/A Workshops**

CEHMM staff attended the New Mexico Healthy Soil Workshop in May of 2022. They learned about the importance of soil health and how erosion affects soil health. They also discussed natural environmental controls that will help to mitigate erosion (i.e., one-stone dams; Figure 3).



Figure 3. One-stone Dam Presented at New Mexico Healthy Soil Workshop.

CEHMM staff also attended the Water and Wildlife on Working Lands Field Day. The workshop was conducted on the Sand Ranch on May 16, 2022. This field day was used to educate staff on the 1) the importance of maintaining a healthy habitat for the LPC and DSL, 2) the techniques used to monitor habitat health, and 3) the grazing techniques that ranchers within LPC/DSL habitat use to improve the landscape within LPC/DSL habitat.

Conservation Activities and Monitoring

CCA/A – District 2 – North of Hwy 380

- **Adaptive Grazing Study**

The Adaptive Grazing grant funding is in its final year. High-intensity, short-duration grazing (Figure 4) started on April 26, 2022. Cattle were moved to the traditional grazing side of the property on June 11, 2022. Thus far, researchers have observed a marked reduction in bare ground. Further data analysis will reveal if there has been a significant impact to vegetative metrics. Final data analysis for the Conservation Innovation Gant program will be completed in the third quarter of 2022. The landowner, Bryce Peterson, has expressed interest in partnering with CEHMM to continue this research once the Natural Resources Conservation Service (NRCS) funding period has ended.



Photo Credit: Josh Ricklefs

Figure 4. Cattle Graze the Invasive Lehmann Lovegrass (*Eragrostis lehmanniana*) Within Their Daily Paddock (Constructed of Electric Wire).

- **DSM Removal**

Mastication equipment has been moved back to the Sand Ranch project area. Staff resumed the removal of dead standing mesquite (DSM) on the remaining 3,900 acres within the project area.

- **LPC Camera Trap Study**

In addition to lek surveys, CEHMM personnel began spring camera trap surveys on March 7, 2022. Collection concluded for the spring season on May 18, 2022. A total of 59,986 photos (Figure 5) and 2,785 videos were collected this season. Footage review and data analysis is ongoing. These surveys are being utilized to monitor, record, and analyze lek behavior in southern Roosevelt County. Camera traps will be deployed for the fall season by September 1, 2022.



Figure 5. Four Individual LPC are Observed on a Study Lek.

Funded Projects Awaiting Completion

CCA/A – District 1 – South of Hwy 380

K. James Wildlife Water Amendment — This project was funded in June 2018 for \$39,451.89. CEHMM will contract the installation of approximately 1.25 miles of water line and install a solar-powered submersible pump, a solar-powered booster pump, and a 200-300 gallon tire trough with a satellite water location (Figure 9). The Participating Cooperator will provide in-kind services consisting of plumbing the trough, removing a windmill, and providing a storage tank. These efforts will provide water for the LPC in times of drought and will allow grazing in an area that is underutilized due to remoteness from existing livestock water sources. By allowing this area to be utilized, livestock use in other areas will decrease, leaving more residual vegetation for LPC nesting and brood-rearing (Appendix A). CEHMM received the signed project agreement from the Participating Cooperator. The BLM has been contacted to proceed with the National Environmental Policy Act (NEPA) process. An onsite with BLM wildlife staff, archaeologists, range staff, and CEHMM was completed in November 2018 to determine a suitable route and to stake the line for archaeological clearance. BLM range staff prepared the NEPA documents. An archaeological (ARCH) survey was completed, and information has been submitted to the BLM in order to complete the NEPA process. The ranch was recently sold, and the new owner has elected to continue the property enrollment. A cooperative agreement was executed between the lessee, the BLM, and CEHMM. The project will be completed in the summer of 2022 following LPC nesting season.

2019 DSL Habitat Reclamation — This project (Figure 9) was approved and funded in August 2019 for \$42,784.30. Caliche will be removed from approximately 3.3 miles of an oilfield road that is no longer in use. In addition to the road, approximately 0.6 acres of caliche will be removed from one unused well pad. These are legacy wells with no responsible party. Since roads made from caliche cause habitat fragmentation, these removal efforts will improve habitat for the DSL. Seed was purchased with grant money received from the ConocoPhillips Lower 48 Grant. CEHMM met with the landowner in February 2020 to discuss logistics. The right of entry was filed with the New Mexico State Land Office, and it was approved in August 2021. The reclamation project will be completed in the summer of 2022 to coincide with the growing season of warm-season plants.

Funded Projects Awaiting Completion

CCA/A – District 2 – North of Hwy 380

Davis Mercantile Historical Plaque/Marker — This project (Figure 8) was approved and funded in August 2019 for \$6,354.88. In 2018, CEHMM personnel began working with the New Mexico State Historical Preservation Division to list the Davis Mercantile as a historical building. It was approved and listed in early 2019 as a Historic District with both the state and national historical societies. A historical roadside marker and a historical plaque will be mounted at the store to show the significance and history of the Davis Mercantile, depicting life in the era when the area was being developed and how the store contributed to LPC conservation. The plaques have been delivered, and CEHMM plans to install them in the coming months.

CEHMM District 2 Water — Totalling \$20,281.67, this project (Figure 8) was approved and funded in March 2022. A 20-foot fiberglass stock tank and 0.5 miles of 1.25-inch pipeline will be installed to allow for grazing management on the 300 acres behind the CEHMM District 2 Office in Milnesand. Currently, the pasture is not considered potential habitat as it has lost grass coverage and is now dominated by shrubs (e.g. yucca and sand sage). With proper grazing management and adequate water, the property may be transformed to suitable habitat bringing about a balance of grasses, forbs, and shrubs. This small acreage (entirely within CHAT 1) may also serve as a grazing research site for novel management tools.

G. Coombes Atlee-Lovejoy Boundary Fence — Through this project (Figure 8), 2.5 miles of old, hazardous boundary fence will be removed and replaced on a newly purchased property (equivalent to 4,309 acres) adjacent to the Atlee-Lovejoy property. The property (within CHAT zones 2 and 3) contains potential and suitable habitat for both the LPC and DSL. Additionally, this fence is shared with another enrollee and will combat trespass cattle issues as well as be elemental in a rest/rotation management plan for each landowner. The landowner will be providing H-braces, gates, and corner posts as an in-kind contribution. The fencing project was approved and funded in March 2022 and has a budget of \$66,701.06.

Funded Projects Awaiting Completion

CCA/A – District 2 – North of Hwy 380, Continued

G. Coombes Atlee-Lovejoy Mesquite — This aerial mesquite treatment (equivalent to 1,250 acres, Figures 6 and 8) will provide connectivity of treated mesquite areas on neighboring properties as well as with the 2,000 acres Coombes proposed through the CCAA, which was treated in 2021. Funded and approved in March 2022, this project is estimated to cost \$79,571.41 in total. The spray area is within CHAT 1 with many historic and active leks nearby. Mesquite encroachment can reduce canopy coverage of preferred grasses and forbs that the LPC requires throughout its life history, ultimately resulting in habitat fragmentation. Brush encroachment can also lead to soil health issues, such as degradation and moisture loss.



Photo Credit: Josh Ricklefs

Figure 6. Damage from Insects (i.e., *Mozena lunata* Pictured Here) Causes the Mesquite to be in Poor Condition for Treatment.

G. Coombes Atlee-Lovejoy Water — This water improvement project (Figure 8) was funded and approved in March 2022. It includes 8.8 miles of pipeline run to three new stock tanks. The 1.25-inch Numex pipe will be split among 3 planned pipelines to vastly increase the water availability and connectivity on the ranch. Coombes will provide the stock tanks as an in-kind contribution; the remaining project cost is estimated at \$139,754.55. Water improvements, such as this one, provide better management opportunities for grazing and the implementation of rest/rotation plans. The northernmost pipeline is located in CHAT 1, the middle pipeline is split between CHAT zones 1 and 2, and the southernmost pipeline includes both CHAT zones 2 and 3.

Malcolm Coombes 2022 Mesquite — This project (Figure 8) includes an aerial mesquite treatment of 1,600 acres. The project is estimated at \$100,475.16 in total; it was funded and approved in March 2022. Once the mesquite has been treated and removed, the habitat will be suitable once again, providing greater connectivity. The entirety of the ranch is within CHAT zone 1, and numerous historic and active leks are nearby. Mesquite is problematic as it outcompetes native plant species that the LPC requires to thrive. Additionally, evidence suggests the LPC tend to avoid vertical structure, ultimately resulting in habitat fragmentation. The removal of mesquite reduces vertical structure on the landscape, as well as perches for predators.

Funded Projects Awaiting Completion

CCA/A – District 2 – North of Hwy 380, Continued

Kinsolving Fence — Through this project (Figure 8), five miles of old, dilapidated fence will be replaced with five-strand wildlife-friendly fencing. This fence is located upon shared boundaries and provides a benefit to multiple CCAA enrollees. The initiative was funded and approved in March 2022. The estimated project cost is \$153,359.01 and the landowner has opted to provide all t-posts as an in-kind contribution. The updated fencing will provide further efficiency in the implementation of Kinsolving's rest/rotation management plan and reduce hazard potential for wildlife. The vast majority of the project area is located within CHAT 1 and a small portion is located in CHAT 2.

Kinsolving Mesquite — This project (Figure 8) was approved and funded in March 2022 for \$142,282.66. The project area (located entirely within CHAT 1) includes 2,300 acres of mesquite. This mesquite treatment (and subsequent removal) will improve connectivity of LPC habitat on the ranch. Mesquite, both as a live plant and skeleton, is problematic for the LPC. Evidence suggests the LPC tend to avoid areas of high mesquite density, ultimately resulting in fragmented habitat. The mesquite encroachment also results in reduced canopy coverage of native plants beneficial to the LPC throughout its life. Since this ranch is connected to multiple CCAA enrollees, this project is of great importance in working toward landscape level habitat efforts and will also benefit Kinsolving's neighbors.

Kinsolving Water — Approved and funded in March 2022, this water improvement project (Figure 8) will include the installation of 3 miles of pipeline and two new stock tanks. Additionally, vertical structure will be significantly reduced across the ranch by removing eight windmills. Of those, four will be converted to solar pumps. The total project cost is expected to be \$152,889.63. The landowner will provide all caliche for stock tank installation as an in-kind contribution. The water project area is located entirely within the CHAT 1 portion of the ranch. Water improvements, such as this, allow ranchers to more efficiently implement strategies that facilitate pasture rest through rotational grazing.

G. Moore Fence Removal — This project (Figure 8) includes approximately four miles of interior fence removal. It was approved and funded in March 2022 with a total project cost estimated at \$15,000.00. Removing the old, dilapidated interior fence will reduce hazards to livestock and wildlife. The majority of the ranch is located in CHAT 2 with some acreage within CHAT 3. There are multiple active leks on the property.

Funded Projects Awaiting Completion

CCA/A – District 2 – North of Hwy 380, Continued

G. Moore Water — Through this project, two windmills will be removed, one solar pump will be installed, and one new stock tank will be added in this project area (Figure 8). Budgeted at \$43,784.40, this water improvement project will be instrumental in enhancing the landowner's ability to follow their grazing management plan. Additionally, the landowner will be reducing vertical structure on the landscape, which LPCs tend to avoid. Providing additional free sources of water assists the rancher, but it also helps area wildlife, particularly in times of drought. Overall, this update will be an improvement for the property's LPC habitat.

Running N Kenna Fence — This fencing initiative (Figure 8) includes the removal and replacement of 4.5 miles of old, hazardous, interior fencing. Approved and funded in March 2022, this project will greatly assist the Running N Kenna Ranch in its grazing management. Upon completion, a more efficient rest/rotation grazing plan can be implemented. Overall, hazards to wildlife will also be reduced. The fencing project, budgeted at \$106,833.64, is located within CHAT zones 3 and 4.

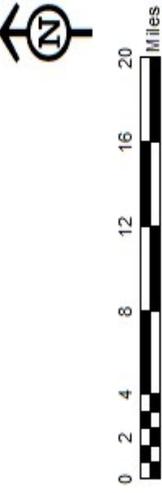
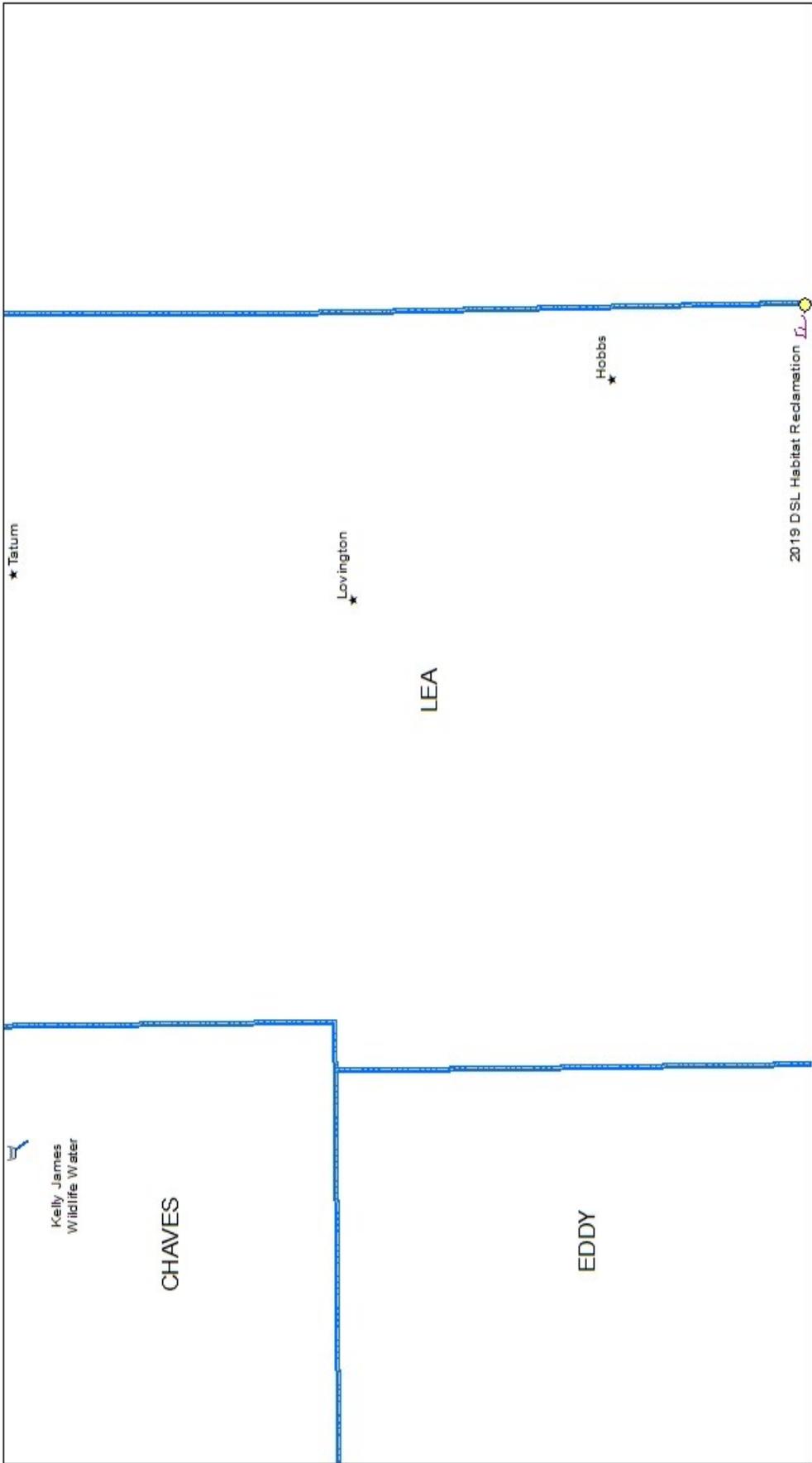
Running N Kenna Mesquite — With an approximate project area of 4,619 acres, this mesquite treatment project (Figure 8) will greatly improve the landscape on a majority of the Running N Kenna property. The aerial treatment was funded and approved in March 2022 and is expected to cost \$320,263.16. Since mesquite is a problematic brush species for the LPC, a project of this magnitude will be crucial to restoring the native species the LPC requires for nesting, lekking, and brood-rearing. Paired with proper grazing management and subsequent removal of the skeletons, we expect to reduce vertical structure on the landscape and see an increase in native canopy coverage of necessary grasses and forbs. The project area includes multiple leks (with additional nearby) and acreage within CHAT zones 1, 2, and 3.

Weaver/Grasslans Fencing — Budgeted at \$138,204.08, this project is planned for a newly purchased and enrolled property. Approved and funded in March 2022, this initiative (Figure 8) is largely for interior fence removal (approximately 6.5 miles). An additional four miles of boundary fencing will be removed and replaced with new, wildlife-friendly, five-strand fencing. The fencing was damaged in a wildfire in 2018 and the new fencing (and removal of hazardous interior fencing) is required to properly establish this new property into their ranch-wide rest/rotation plan. The fencing project is located entirely within CHAT 1.

Funded Projects Awaiting Completion

CCA/A – District 2 – North of Hwy 380, Continued

Weaver/Grasslans Mesquite — Encompassing 2,370 acres, this aerial mesquite treatment (Figure 8) is located adjacent to previous brush control efforts on the ranch (through both aerial treatment and grubbing techniques). A total of \$145,704.48 has been budgeted for this brush control initiative, which was approved and funded in March 2022. Once completed, a stronghold of restored acreage will be available to the LPC. Eventually, the dead, standing skeletons will be removed to reduce vertical structure. The ranch has numerous active and historic leks; the project area is entirely within CHAT 1.



- Abandoned Well
- Roads Proposed For Reclamation
- Water Tanks
- Pipelines
- NM Counties

Figure 7. District 1 Funded Projects Awaiting Completion

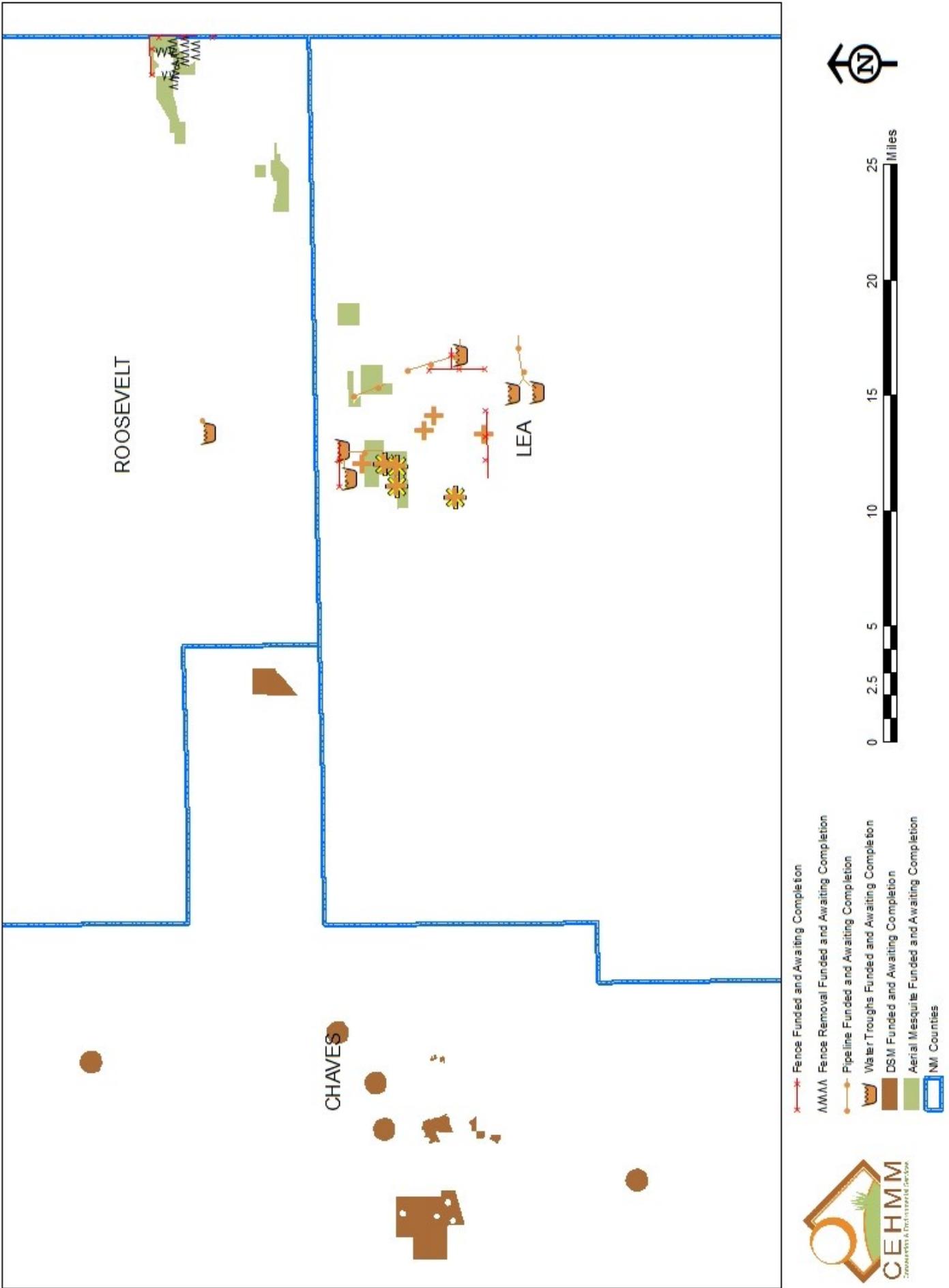


Figure 8. District 2 Funded Projects Awaiting Completion.

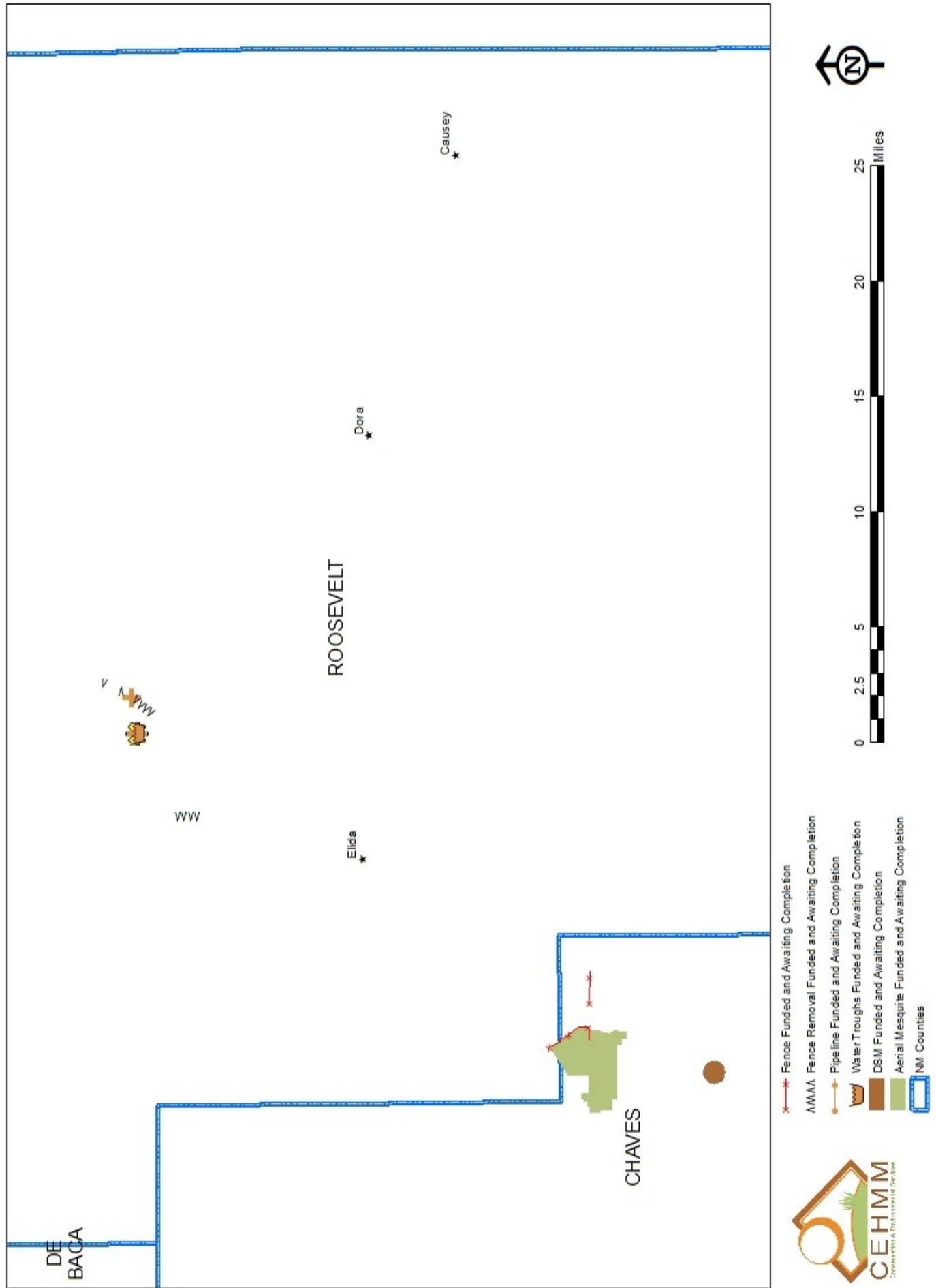


Figure 9. District 2 Funded Projects Awaiting Completion.

Operations Moved Out of DSL Habitat

Construction of well pads and roads for oil and gas development poses a serious threat to the DSL because of its dependence on a very specialized, dynamic habitat. Due to the severe 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 onsites with enrolled companies to help properly site infrastructure in areas that are in near proximity to suitable or occupied habitat. During the onsite, CEHMM helps to determine habitat suitability and to ensure that the Participating Cooperators avoid the dunes by the required 30-meter buffer. If a disturbance is within the 30-meter buffer, then the Participating Cooperators must relocate the disturbance to occur outside of the buffer to comply with their agreements. The number of wells and rights of way (ROW) moved out of DSL habitat is illustrated in Table 1, and it shows the importance of everyday implementation of the CCA/As to the conservation of the species.

Table 1. Operations Moved Out of DSL Habitat.

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	2	0	0	0
2019	3	0	0	0
2020	0	1	0	0
2021	0	0	0	0
2022	0	0	0	0
Total	503	84	92	4,354

Reclamation/Restoration

In areas of loose, 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 habitats, this impenetrable layer fragments the habitats. 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 habitats is reduced or eliminated. Once the caliche is removed, reseeding with native vegetation occurs and speeds the rehabilitation of the disturbed areas. The table below details the reclamation treated to date through the CCA/A agreements. CEHMM completed the draft assessment of Net Conservation Gain (NCG) throughout the life of the CCA/A.

Table 2. Total Treatments for Life of the CCA/A Program.

Total Treated for Entire Project	
Roads and Pads Caliche Removal and Reseeding (Acres)	159.20
Mesquite (Acres)	105,664.00
Dead Standing Mesquite Eradication (Acres)	14,396.00
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, 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. Copies 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 Cooperator does not have a positive Habitat Conservation Fund balance, they are issued an invoice for the amount of the remaining balance. The following table shows fees assessed for surface-disturbing activities. Between April 2022 and June 2022, 294 wells were permitted, resulting in \$897,250.00 in habitat conservation fees (Table 3).

Table 3. Habitat Conservation Fees.

Wells Permitted Between April 2022 and June 2022
294
Total Deductions Between April 2022 and June 2022
\$897,250.00
Total Deductions for 2022
\$1,194,250.00
Total Deductions for Entire Project
\$32,555,817.36

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	1,866,247
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	1,651,844
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*	869,699	
DSL habitat acres enrolled by Ranchers CCA/A	584,503	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)	2,085,073	
LPC habitat acres enrolled by Industry in EOR	508,737	24.6%
LPC habitat acres enrolled by Ranchers in EOR	891,293	42.7%
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)	6,890,033	
LPC habitat acres enrolled by Industry in EOR10	1,626,894	23.7%
LPC habitat acres enrolled by Ranchers in EOR10	1,658,747	24.1%
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	13,665,646	
LPC habitat acres enrolled by Industry in historic range	1,922,887	14.1%
LPC habitat acres enrolled by Ranchers in historic range	1,878,126	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	796,391	
LPC habitat acres enrolled by Industry in CHAT 1	138,464	17.7%
LPC habitat acres enrolled by Ranchers in CHAT 1	360,564	45.2%
LPC habitat acres enrolled by NMSLO in CHAT 1	153,725	19.3%
Total LPC CCA/A habitat acres in CHAT 1 enrolled by Industry, Ranchers (and NMDGF), and NMSLO	455,676	57.2%
Total LPC CCA/A habitat acres in CHAT 1 enrolled by Industry and Ranchers (and NMDGF)	499,028	62.6%

Enrollment Numbers

**NMDGF acres are included in the rancher numbers*

CHAT 2	ACRES	% ACRES ENROLLED
Total acres in CHAT 2	706,264	
LPC habitat acres enrolled by Industry in CHAT 2	43,625	6.2%
LPC habitat acres enrolled by Ranchers in CHAT 2	72,244	10.2%
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	15.3%

CHAT 3	ACRES	% ACRES ENROLLED
Total acres in CHAT 3	3,713,631	
LPC habitat acres enrolled by Industry in CHAT 3	1,147,732	30.9%
LPC habitat acres enrolled by Ranchers in CHAT 3	1,070,203	28.8%
LPC habitat acres enrolled by NMSLO in CHAT 3	175,238	4.7%
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 Ryan Schmidt at (575) 885-3700 or Kyle Dillard at (575) 675-2324.

Signed: Emily Wirth
Emily Wirth, Executive Director

Date: 7/11/2022

Appendix A

Conservation Benefits

Grazing Management



CEHMM recognizes the mutual benefit between sustainable grazing and lesser prairie-chickens. Collaboration between enrollees and the efforts of the CCA/A 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.



CCA/A



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 rest/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

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 CCA/A assistance, contact your local CEHMM office:

District 1 – 575-885-3700

District 2 – 575-675-2324

Visit us at www.cehmm.org

Conservation Benefits Mesquite Removal



Fragmentation and loss of habitat for the lesser prairie-chicken 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.

CCA/A

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.

CCA/A



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.



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Conservation Benefits: Mesquite Removal