



2023 Annual Report

Range-wide Oil and Gas Candidate Conservation Agreement with Assurances (CCAA) for the Lesser Prairie-Chicken

Permit #TE27289B-0
(2014-2044)



Submitted to the
U.S. Fish and Wildlife Service
on March 31, 2023
by the
Western Association of Fish and Wildlife Agencies
&
WAFWA Species Restoration Fund

Chanda Pettie
Lesser Prairie-Chicken Program Director

Zachary Lowe, PhD
WAFWA Executive Director

The Range-Wide Oil and Gas Candidate Conservation Agreement with Assurances for the Lesser Prairie-Chicken (LPC) in Colorado, Kansas, New Mexico, Oklahoma, and Texas (CCAA) is a voluntary conservation strategy that establishes a mitigation framework which is administered by the Western Association of Fish and Wildlife Agencies (WAFWA) and permitted by the U.S. Fish and Wildlife Service (Service). Established in 2014, the CCAA is a partnership between the states of New Mexico, Colorado, Kansas, Oklahoma and Texas, the oil and gas industry and private landowners. The CCAA is available on WAFWA’s website (<https://wafwa.org/initiative-programs/lesser-prairie-chicken/>).

RECOMMENDED CITATION

WAFWA, 2024. The 2023 Annual Report for the Range-wide Oil and Gas Candidate Conservation Agreement with Assurances for the Lesser Prairie-Chicken. Western Association of Fish and Wildlife Agencies. Boise, Idaho.

Contents

EXECUTIVE SUMMARY..... 3

INTRODUCTION AND BACKGROUND..... 3

ENROLLMENT 5

CONSERVATION STRATEGY 6

 I. Avoidance of Habitat Impacts 6

 II. Minimization of Impacts to High-Quality Habitat 7

 III. Remediation of Habitat Impacts 8

 III. Mitigation of Habitat Impacts 9

HABITAT CONSERVATION..... 11

UNIT LEDGER 15

FINANCIAL SUMMARY 16

MORTALITY OR INJURY REPORT 17

INCIDENTAL TAKE 17

PARTICIPANT COMPLIANCE..... 17

POPULATION SURVEYS 19

LITERATURE CITED..... 19

APPENDICES..... 20

 Appendix A. Ledger 20

 Appendix B Industry Impact by Year (2014-2023) 21

 Appendix C. Conservation by Year (2014-2023)..... 22

 Appendix D. Enrolled Industry Participants..... 23

EXECUTIVE SUMMARY

<p>5.7 million Acres Enrolled</p>	<p>Industry participants commit to implementing the CCAA conservation strategies for all of their oil and gas related projects on enrolled lands.</p>	<p><i>Biologically-based</i></p> <p>MITIGATION FRAMEWORK</p> <p>Uniquely addresses impacts to habitat quality & quantity</p> <p style="text-align: center;">2:1 Mitigation Ratio</p> <p>Provides mitigation into perpetuity, offset by conservation provided annually</p>
<p style="text-align: center;">●</p> <p style="text-align: center;"> </p> <p style="text-align: center;">●</p> <p style="text-align: center;"> </p> <p style="text-align: center;">●</p> <p style="text-align: center;"> </p> <p style="text-align: center;">●</p> <p style="text-align: center;"> </p> <p style="text-align: center;">●</p> <p style="text-align: center;"> </p> <p style="text-align: center;">●</p> <p style="text-align: center;"> </p> <p style="text-align: center;">●</p>	<p style="text-align: center;">CONSERVATION STRATEGY</p> <p>I. Avoid Habitat Impacts Projects exhibited an impressive 53% collocation rate with existing infrastructure to avoid new impacts to habitat whenever possible.</p> <p>II. Minimize Impacts to High Quality Habitat When avoidance is not possible, projects are strategically located in low-quality habitat to minimize the effect of new impacts.</p> <p>III. Remediation of Habitat Impacts In some cases, participants elect to restore previously impacted habitat to generate remediation credits to offset new impacts.</p> <p>IV. Mitigation of Habitat Impacts Any remaining impacts are offset (mitigated) by the CCAA’s conservation efforts at a 2:1 ratio to ensure a net conservation benefit.</p>	

MITIGATED IMPACTS

18,569 Habitat Acres Impacted
(cumulative since the start of the program in 2014)

Habitat Quality = LOW
Habitat Quality Score: 0.30 (range 0.0-1.0)
with a trend of decreasing habitat quality

Majority (75%) of impacts occur in low quality habitat (CHAT 3-4)

Percentage of leks observed within 1.25 miles: 4%
(65% of the habitat acres were surveyed)

11,770 Debit Units

CONSERVATION OFFSET

46,538 Habitat Acres Conserved
(provided in 2023)

Habitat Quality = HIGH
Habitat Quality Score: 0.68 (range 0.0-1.0)
with a trend of increased habitat quality

Majority (98%) of conservation occurs in high quality habitat (CHAT 1-2)

Percentage of leks observed within 1.25 miles: 62%
(98% of the habitat acres were surveyed)

39,386 Credit Units

● **11,770 Debit Units** Credits Exceed Debits by **70%** ● **39,386 Credit Units**

Conservation Efforts are Greater than Impacts

INTRODUCTION AND BACKGROUND

Entities and Business Structure

The Western Association of Fish and Wildlife Agencies (WAFWA) is a 501(c)4 nonprofit organization representing the state and provincial fish and wildlife agencies from 24 states and Canadian provinces, an area covering nearly 3.7 million square miles of western North America. WAFWA holds the Federal Fish and Wildlife permit (# TE27289B-0) issued by the U.S. Fish and Wildlife Service (Service) on 02/28/2014 for the Range-Wide Oil and Gas Candidate Conservation Agreement with Assurances for the Lesser Prairie-Chicken in Colorado, Kansas, New Mexico, Oklahoma, and Texas (CCAA). WAFWA is the CCAA program administrator with responsibility to ensure activities under the CCAA are in-compliance with the terms and conditions of this 30-year permit and that operations are conducted following the CCAA Business Plan (WAFWA, 2021).

The Species Restoration Foundation (SRF) is a 501(c)4 nonprofit organization created by WAFWA solely to manage the financial operations of the CCAA. WAFWA and SRF share a principal interest in the success and governance of the CCAA by having a mutual Executive Board of Directors. The board is composed of the directors of each member agency and is the ultimate decision maker for the CCAA.

The LPC Initiative Council (LPCIC) is the governing body of the CCAA, comprised of the directors, or their designee, of the five-state fish and wildlife agencies within the LPC range, to provide support and oversight of the CCAA's administration. The LPCIC is informed by advisory committees providing a mix of expertise and experience. The LPC Program Director oversees the day-to-day operations.

Annual Report

WAFWA provides the Service with an annual report regarding the implementation of the CCAA by March 31st of each year. Provided in this report are the key findings for the reporting period of January 1, 2023, to December 31, 2023.

Financial Audit

The SRF financial operations are audited annually through an independent third-party accounting firm according to Government Auditing Standards. Since the organization was created in 2014, there have been no material findings identified in any financial audit. The 2023-2024 financial audit and accompanying IRS form 990, provides findings that the CCAA is financially sustainable at its current rate of use. The audit results and accompanying IRS form 990 are publicly disclosed and available on WAFWA's website (www.wafwa.org/about-us/).

Third-party Annual Programmatic Review

The WAFWA/SRF program operations are annually reviewed by an independent third-party consultant to evaluate conservation performance and compliance with the terms of the CCAA. This process supports a predictable feedback loop for continued adaptive management and improvement. The 2023 programmatic review provides findings that the annual report herein fairly reflects the expenditures and conservation achievements of the program and has passed all compliance points of the CCAA (Dillon, 2024). The review is publicly disclosed and available on WAFWA's website (<https://wafwa.org/initiative-programs/lesser-prairie-chicken/>).

New for 2023: ESA Species Listing

The U.S. Fish and Wildlife Service listed two Distinct Population Segments (DPS) of the lesser prairie-chicken (LPC) under the Endangered Species Act (ESA). The Southern DPS was listed as endangered. The Northern DPS was listed as threatened. The effective date for the listing is March 27, 2023.

ENROLLMENT

Industry participation remains high with 127 oil & gas companies committed to implementation of the CCAA's conservation strategy of avoiding, minimizing and mitigating impacts within the LPC estimated occupied range. Industry Participants¹ have committed to the strategy by enrolling over 5.7 million acres of industry-leased or controlled private lands. Under the terms of the CCAA, new participant enrollment is no longer authorized as of the LPC's effective Endangered Species Act (ESA) listing date of March 27, 2023. The CCAA does still provides that ownership interest can still be transferred after the listing decision.

Enrollment Changes in 2023

- There was a net increase of one (1) industry Participant from the prior year. Resultant from two (2) Participants being voluntary terminated due to company merger or sale, and three (3) new companies being enrolled by transfer of Enrolled Property from existing Participants.
- No Participants were suspended or terminated due to compliance issues.
- There was a net addition of 21,182 enrolled land acres received prior to the ESA effective listing date.

Enrolled Property

The CCAA provided several enrollment options for industry Participants to address their operational needs. Participants could enroll defined parcels of private lands on a per acre fee basis (Land Enrollment) or pay a one-time fee for oil and gas related linear infrastructure such as pipelines, roads or utility lines (Linear Enrollment). The land enrollment option commits Participants to submitting all of their oil and gas development projects on the Enrolled Property for the duration of the agreement. The linear enrollment option is restricted to the coverage option elected (i.e., the pipeline flat-fee enrollment option only allows coverage for pipelines and their directly associated infrastructure) but projects may be submitted anywhere within the CCAA covered area².

In 2023, 88% of enrollment consisted of Land Enrollment for a total of 5,026,163 acres. Land Enrollment may overlap; two or more companies may have a lease on a parcel of land where both have enrolled said land. If this overlap is removed, the actual land covered by CCAA enrollments is 4,588,729 acres (8.7% overlap). The remaining 12% of enrollment consisted of Linear Enrollment as buried oil and gas collection pipelines. It is important to recognize that buried lines do not constitute a source of LPC habitat loss or fragmentation when the CCAA Conservation Measures are implemented to avoid disturbances during the breeding season (Section XVII, CCAA). Under the CCAA, 76,675 miles of pipeline were conditioned with Conservation Measures to ensure no adverse impacts to the species.

Industry's Commitment
Avoid, Minimize & Mitigate Impacts on
5.7 million
Acres

Table 1. Industry enrolled property by ecoregion.

Ecoregion	Land Enrollment (acres)	Linear Enrollment: Buried Pipeline (acres)*	Total Acres Enrolled	% Enrollment per Ecoregion
Mixed Grass Prairie	2,304,376	380,378	2,684,753	47%
Sand Sagebrush Prairie	1,857,866	99,742	1,957,608	34%
Shinnery Oak Prairie	576,568	184,910	761,479	13%
Shortgrass Prairie	287,343	36,609	323,962	6%
Total:	5,026,163	701,639	5,727,802	100%

*Pipeline enrollments are buffered by the CCAA's impact buffer distances to obtain acreage.

¹ Active Industry Participants - Industry companies with oil and gas related activities that have an executed CCAA Certificate of Inclusion (CI).

² CCAA Covered Area - Defined as the 2013 Estimated Occupied Range of the LPC plus a 10 mile buffer (EOR+10).

CONSERVATION STRATEGY

The CCAA conservation strategy provides incentives for industry Participants to avoid and minimize impacts to LPC while providing assurances regarding the effect, if any, that listing would have on their operations. The incentive promotes: I] avoidance of new oil and gas developments within areas not already impacted by infrastructure; II] minimization of new oil and gas developments in high-quality LPC habitat; and III] implementation of a biologically based framework to mitigate impacts resulting from new oil and gas developments when avoidance is not possible.

- I. Avoidance of Habitat Impacts (discretionary)
- II. Minimization of Impacts to High-Quality Habitat (discretionary)
- III. Remediation of Habitat Impacts (discretionary)
- IV. Mitigation of Habitat Impacts (required)

I. Avoidance of Habitat Impacts

The primary avoidance strategy of the CCAA is to promote the location of new oil and gas developments (projects) within areas already impacted by development, referred to as collocation. Collocating developments greatly reduces the impact to LPC by avoiding areas of potential habitat. The CCAA conservation strategy incentivizes collocation by not requiring mitigation for lands already impacted by development.

In 2023, industry projects exhibited a 53% collocation rate with pre-existing infrastructure which avoided potential habitat impacts by 826 acres (Table 3). Since the start of the program, the collocation rate has been 58% which avoided potential habitat impacts on 26,150 acres (Table 3).

This demonstrates the effectiveness of the program's incentivization to avoid industry impacts within areas not previously impacted. More importantly, it demonstrates industry Participant's commitment to implementing the discretionary conservation measure of avoiding habitat. When avoidance is not possible, Participants commit to implementing the conservation measure of avoiding high-quality LPC habitat (Minimization of Impacts).

Table 3. Avoidance of habitat impacts by collocation.

Ecoregion	Potential Impact Acres ³	Impact Acres ⁴	Collocation Rate	Habitat Acres Avoided
2023 Industry Impacts				
Mixed Grass Prairie	297	127	57%	170
Sand Sagebrush Prairie	403	221	45%	182
Shinnery Oak Prairie	863	389	55%	473
Shortgrass Prairie	0	0	--	--
2023 Total:	1,563	737	53%	826
2014-2023 Industry Impacts				
Mixed Grass Prairie	18,307	10,484	43%	7,823
Sand Sagebrush Prairie	7,993	3,698	54%	4,295
Shinnery Oak Prairie	14,973	2,040	86%	12,933
Shortgrass Prairie	3,446	2,347	32%	1,099
2014-2023 Total:	44,719	18,569	58%	26,150

Voluntary Conservation
Impacts Avoided on
26,150
Habitat Acres

³ Potential Impact Acres - Includes the footprint of the impact activity (i.e., new oil & gas development) plus a defined buffer within which LPC habitat is deemed to be impacted because of the activity (indirect effect). Buffer distances vary depending upon the activity, refer to the CCAA.

⁴ Impact Acres - A review is conducted of the Potential Impact Acres to identify areas that have not already been impacted by developments. Any new areas of impact are then mitigated or remediated.

II. Minimization of Impacts to High-Quality Habitat

When habitat avoidance is not possible, industry Participants commit to implementing the discretionary conservation measure of avoiding high-quality LPC habitat areas whenever possible. WAFWA provides industry Participants with assistance and planning tools to help identify high-quality habitat for avoidance of those areas.

Strategic Location

Under the CCAA, high-quality habitat is defined as the geographic areas of greatest conservation value to the LPC; defined as focal areas (CHAT 1) and connectivity zones (CHAT 2). An online, interactive map of these areas is provided on WAFWA’s Southern Great Plains CHAT at www.sgpchat.org. The CCAA conservation strategy incentivizes avoidance of high-quality habitat by assigning higher mitigation fees to those areas.

In 2023, an impressive 95% of projects occurred outside of high-quality habitat (Table 4). Since the start of the program, the percentage has been 75% (Table 4). This demonstrates the effectiveness of the program’s incentivization to avoid industry developments within high-quality habitat areas. More importantly, it demonstrates industry Participant’s commitment to implementing discretionary conservation measures.

Table 4. Minimization of impacts by avoiding high-quality habitat areas.

Ecoregion	Impact Acres by CHAT Category				% Habitat CHAT 1 & 2
	CHAT 1	CHAT 2	CHAT 3	CHAT 4	
Mixed Grass Prairie	0	0	83	44	0
Sand Sagebrush Prairie	35	0	58	128	16%
Shinnery Oak Prairie	0	0	359	30	0
Shortgrass Prairie	0	0	0	0	0
2023 Total:	35	0	499	203	5%
Mixed Grass Prairie	2,329	1,306	5,243	1,606	35%
Sand Sagebrush Prairie	507	0	378	2,813	14%
Shinnery Oak Prairie	0	31	1,419	590	2%
Shortgrass Prairie	428	86	593	1,40	22%
2014-2023 Total:	3,264	1,423	7,632	6,250	25%

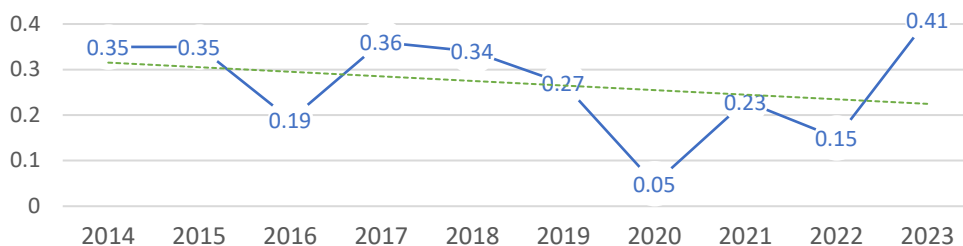
Voluntary Conservation
High Quality Habitat
75%
Avoidance Rate

Habitat Conditions

In addition to using CHAT as a habitat quality indicator, a LPC Habitat Evaluation Guide (HEG) rapid assessment is conducted for each project to determine LPC habitat quality within a one-mile radius. The HEG assessment is based on four variables: vegetation cover, composition of LPC preferred species, invasive woody plant occurrence, and the percentage of suitable habitat expressed as grassland within a one mile radius. The HEG results in a score of 0.0 to 1.0, with 1.0 representing the highest habitat condition. This is also referred to as the ‘Habitat Score’.

In 2023, the quality of habitat impacted by CCAA enrolled projects was low, with a mean weighted HEG score of 0.41 on a scale of 0.0-1.0 (Figure 1). Since the start of the program, the quality of habitat impacted has a mean weighted score of 0.30 and shows a decreasing trend. Refer to Appendix B for Habitat HEG scores per ecoregion and year.

Figure 1. Habitat quality of projects (Habitat Score), trend through time.



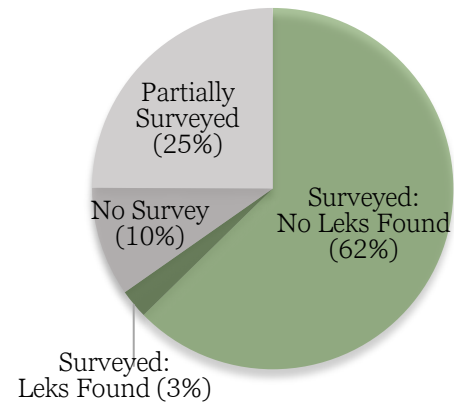
Lek Occurrence

Industry participants are encouraged through the CCAA conservation strategy to conduct LPC lek surveys following U.S. Fish and Wildlife Service approved protocols. This voluntary action helps inform when certain conservation measures will be required. Specifically, where lek surveys do not fully saturate the area of direct or indirect impact, industry Participants must assume leks are within the project area. In which case, all conservation measures are applied, including those related to restricting project activities during the breeding season (March 1 – July 15). This incentivizes industry Participants to conduct surveys prior to construction of a project. Also, surveys may be conducted by State Fish and Wildlife Agencies or by WAFWA as a partnering effort. Survey efforts are posted online through an interactive map provided on WAFWA’s Southern Great Plains CHAT at www.sgpchat.org.

In 2023, 51% of the projects were fully surveyed prior to project construction, and another 29% were partially surveyed (i.e., having >25% survey coverage) for a total of 80% of the projects having some survey coverage. The surveys identified no leks occurring within a 1.25 mile radius of the project areas surveyed (0% occurrence rate).

Since the start of the program, 65% of the projects were fully surveyed prior to project construction, and another 25% were partially surveyed for a total of 90% of the projects having some survey coverage. The surveys identified that 38 of the 928 projects fully-surveyed had one or more active leks within a 1.25 mile radius (4% occurrence rate). Refer to Appendix B for lek results per ecoregion and year.

Figure 2. Lek Survey Results (2014-2023)



III. Remediation of Habitat Impacts

The mitigation framework incentivizes the remediation of industry impacts on the landscape to restore LPC habitat as part of the program’s conservation benefit to the species. Industry Participants may elect to mitigate impact activities by generating ‘remediation units’ to offset the impact rather than use offset units. When Participants remediate (restore) an existing impact to CCAA standards, remediation units are generated same as an offset unit and credited to the Participant’s Habitat Conservation Fund Account. Remediation units may then be used by the Participant as needed within the ecoregion in which the remediation occurred. Remediation units will be reserved for the Participant that performed the remediation; however, the Participant may elect to transfer the remediation units.

In 2023, there were three remediation projects to restore 6 acres of habitat by removal of overhead utility lines (Table 5). Over the life of the program, there has been four remediation projects that generated 31 units (Table 5). Of the units generated by remediation, 10 units were used to offset industry impacts (Table 6). The remaining balance of remediation units is providing a conservation benefit until, or unless, used to offset ne industry impacts.

Table 5. Remediation (restoration) by industry Participants.

Ecoregion	CHAT Category	# Projects	Habitat Acres ²	Remediation Units Generated
2014-2023 Remediation				
Mixed Grass Prairie	--	--	--	--
Sand Sagebrush Prairie	CHAT 1	1	31	31
Shinnery Oak Prairie	CHAT 3	3	6	0
Shortgrass Prairie	--	--	--	--
2014-2023 Total:		4	37	31

Voluntary Conservation
Remediated
37
Habitat Acres

III. Mitigation of Habitat Impacts

When CCAA covered projects impact potential habitat which cannot be fully addressed through avoidance, the CCAA employs a biologically-based mitigation framework that incorporates habitat quality and quantity to define the impact to habitat as an Impact Unit⁵. That is, the mitigation framework does not evaluate impacts based merely on the acreage amount of disturbance, it uniquely addresses the quality of habitat impacted.

The mitigation framework provides a 2:1 mitigation ratio to ensure that mitigation efforts are greater than impacts, resulting in a Net Conservation Benefit for the species. This 2:1 ratio is built into the final unit amount by the CHAT Multiplier. The CHAT multiplier for impacts is twice the value for offsets (see diagram below). In this way, the resulting unit values can be easily balanced (i.e., 1 Impact Unit will be mitigated by 1 Offset Unit). Often these are simply referred to as credits and debits.

Net Conservation Benefit: 2:1 Ratio

Example: 1 acre of habitat impacted, with a habitat quality score of 1.0 in a habitat focal area CHAT 1, has an Impact Unit of 2.5. Mitigation would require 2.5 Offset Units which are generated in the same ecoregion occurring in an equal or higher CHAT score. It would take 2 acres of conserved habitat with a habitat quality score of 1.0, in a habitat focal area CHAT 1 to generate the necessary 2.5 offset units to provide mitigation.

	Impact Multiplier	Offset Multiplier
CHAT 1	2.5	1.25
CHAT 2	2.1	1.05
CHAT 3	1.8	0.9
CHAT 4	1.6	0.8

In 2023, WAFWA enrolled 45 projects to provide mitigation for 737 acres of potentially impacted habitat (Table 6). This added 526 Impact Units for a cumulative of 11,780 Impact Units that will be annually offset by conservation into perpetuity (Table 6 and Appendix B). The increase in utilization from prior recent years, see Figure 3, was expected as a result of the LPC’s federal listing status that occurred in 2023. To offset the impact, Participants may elect to purchase mitigation offset units generated by the CCAA’s conservation program (Conservation), or they may utilize the offset units they have available to them from prior remediation efforts (Remediation).

Mitigation Overview

- 18,500 Impacted Habitat Acres
- Resulted in 11,770 Impact Units (debits)
- Mitigated by 11,770 Offset Units (credits)
- 27,616 Credits Available until 07/31/2024

Remediation Overview

- 69 Impacted Habitat Acres
- Resulted in 10 Impact Units (debits)
- Remediated by 10 Offset Units (credits)
- 21 Credits Available for Future Use

Conservation Efforts are Greater than Impacts

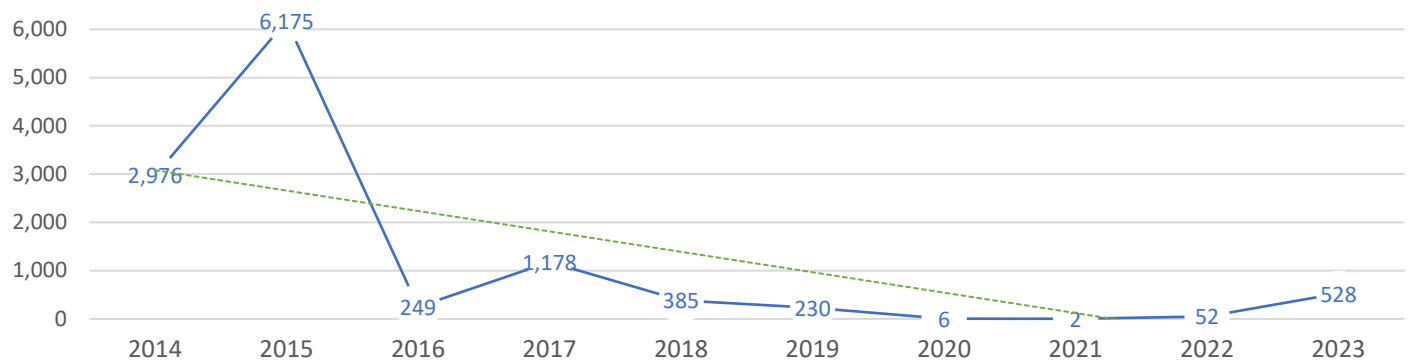


⁵ Impact Unit - A quantified measurement of impacts to LPC potential habitat resulting from CCAA covered projects. Calculated as Impact Acres x Habitat Quality HEG Score x CHAT Impact Multiplier.

Table 6. Mitigation of habitat impacts.

Ecoregion & CHAT Category		No. of Projects	Impact Units = Impact Acres x Habitat (HEG) Score x Impact Multiplier				Industry Paid Mitigation Fees	
			Impact Acres	Habitat Score	Impact Multiplier	Mitigation Impact Units		Remediation Impact Units
2023 Industry Impacts								
Mixed Grass Prairie	CHAT 3	8	83	0.69	1.8	102	--	\$155,758
	CHAT 4	2	44	0.01	1.6	1	--	\$968
Ecoregion Total:		10	127	0.45	--	103	--	\$156,726
Sand Sagebrush Prairie	CHAT 1	2	35	0.03	2.5	--	2	0.00
	CHAT 3	2	58	0.09	1.8	9	--	\$6,849
	CHAT 4	9	128	0.03	1.6	5	--	\$3,415
Ecoregion Total:		13	221	0.05	--	14	2	\$10,263
Shinnery Oak Prairie	CHAT 3	20	359	0.06	1.8	378	--	\$409,191
	CHAT 4	2	30	0.62	1.6	31	--	\$34,935
Ecoregion Total:		22	389	0.60	--	409	--	\$444,125
2023 Total:		45	737	0.41	--	526	2	\$611,114
2014-2023 Industry Impacts								
Mixed Grass Prairie	CHAT 1	119	2,329	0.46	2.5	2,578	--	\$3,451,381
	CHAT 2	81	1,306	0.42	2.1	1,130	--	\$1,511,343
	CHAT 3	274	5,243	0.46	1.8	4,352	--	\$5,698,974
	CHAT 4	109	1,606	0.29	1.6	695	--	\$896,244
Ecoregion Total:		583	10,484	0.43	2.1	8,756	--	\$11,557,941
Sand Sagebrush Prairie	CHAT 1	31	507	0.27	2.5	373	10	\$203,051
	CHAT 2	--	--	--	2.1	--	--	--
	CHAT 3	19	378	0.30	1.8	188	--	\$101,970
	CHAT 4	209	2,813	0.05	1.6	106	--	\$55,196
Ecoregion Total:		259	3,698	0.11	1.6	667	10	\$360,216
Shinnery Oak Prairie	CHAT 1	--	--	--	2.5	--	--	--
	CHAT 2	1	31	0.88	2.1	44	--	\$39,558
	CHAT 3	86	1,419	0.45	1.8	1,194	--	\$1,133,714
	CHAT 4	391	590	0.42	1.6	492	--	\$450,995
Ecoregion Total:		478	2,040	0.45	1.6	1,729	--	\$1,624,267
Shortgrass Prairie	CHAT 1	16	428	0.37	2.5	356	--	\$291,873
	CHAT 2	4	86	0.15	2.1	7	--	\$5,471
	CHAT 3	25	593	0.24	1.8	163	--	\$136,808
	CHAT 4	70	1,240	0.14	1.6	93	--	\$82,639
Ecoregion Total:		115	2,347	0.21	2.5	618	--	\$516,790
2014-2023 TOTAL:		1,435	18,569	0.34	--	11,770	10	\$14,059,215

Figure 3. Impact Units occurring, trend through time (Appendix B).



HABITAT CONSERVATION

The CCAA conservation strategy ensures that conservation efforts are greater than impacts, resulting in a Net Conservation Benefit (NCB) for the species. In addition to the 2:1 mitigation ratio and the voluntary conservation actions by industry Participants mentioned prior, the strategy concentrates resources to provide a conservation program of habitat restoration and enhancement on private lands throughout the species’ range. This ensures that WAFWA is meeting its permit requirement of providing offset units to cover the impact units (offset units ≥ impact units) and this fulfills WAFWA’s voluntary commitment to ensuring a significant conservation benefit beyond what is required by the CCAA and the permit.

Landowner Participation

In 2023, twelve private Landowners participated in the program to provide LPC dedicated conservation on 52,787 acres (Table 7). Voluntary enrollment is secured by 10-year term agreements and permanent conservation easements through a Certificate of Participation. Enrollment into the program remains open as needed to ensure the CCAA obligations are met, as guided by the CCAA’s conservation strategy.

Strategic Location

To implement the CCAA conservation strategy of ensuring conservation efforts are greater than impacts, WAFWA targets enrollment of large blocks of high-quality habitat in geographic areas of greatest conservation value to the LPC; defined in the CCAA as focal areas (CHAT 1) and connectivity zones (CHAT 2). In 2023, an impressive 98% of the conservation properties occurred within areas of greatest conservation value to the LPC (Table 7). As importantly, WAFWA ensured that enrollment is strategically located in ecoregions that will balance the need for offset units.

Strategic Location
98%
 in areas of greatest
 conservation value

Habitat Acres

Of the enrolled acreage, the program only utilizes those acres considered to be LPC habitat unaffected by land conversion or by direct/indirect impacts resulting from developments such as oil & gas activities, transmission lines, communication towers, roads and buildings (Habitat Acres). A field review of the conservation properties is conducted annually to determine if habitat impacts have changed. In 2023, the review confirmed 46,537 Habitat Acres, representing 88% of the total enrolled acreage. This is an increase in 1,808 acres from the prior year resulting from positive habitat changes surrounding the properties. The remaining enrolled acres (6,250 impacted acres) serve a valuable function as a habitat buffer and are managed as LPC habitat, however from this point forward we only refer to the Habitat Acres for defining accomplishments.

Table 7. Habitat acres by ecoregion and CHAT category.

Ecoregion	No. of Properties	Total Acres	Habitat Acres					% Habitat CHAT 1 & 2
			Total	CHAT 1	CHAT 2	CHAT 3	CHAT 4	
Mixed Grass Prairie	4	21,803	18,763	18,375	0	160	228	98%
Sand Sagebrush Prairie	2	16,185	15,634	15,635	0	0	0	100%
Shinnery Oak Prairie	3	11,378	9,014	8,247	296	471	0	95%
Shortgrass Prairie	3	3,421	3,126	3,126	0	0	0	100%
TOTAL:	12	52,787	46,537	45,382	296	631	228	98%

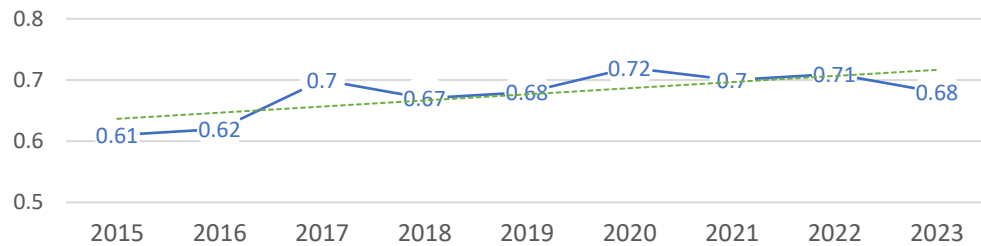
————— 46,537 Habitat Acres Conserved —————

Habitat Conditions

A LPC Habitat Evaluation Guide (HEG) rapid field assessment is conducted annually for the conservation properties to determine LPC habitat quality within a one-mile radius. The HEG assessment is based on four variables: vegetation cover, composition of LPC preferred species, invasive woody plant occurrence, and the percentage of suitable habitat expressed as grassland within a one mile radius. These variables are designed to describe LPC habitat quality and is used to track trends quickly and accurately through time. The HEG requires vegetation monitoring using transect sampling, with a HEG completed for each area of homogenous vegetation under similar management (called a management unit). The HEG results in a score of 0.0 to 1.0, with 1.0 representing the highest habitat condition. It is important to recognize that not all management units have the characteristics to achieve a 1.0 score, often due to soil structure, slope or for other reasons. Therefore, each management unit is further assessed to identify its highest potential score, thereby ensuring the goals for the property match its highest potential.

In 2023, the quality of habitat on the conservation properties was high, with a mean weighted HEG score of 0.68 on a scale of 0.0-1.0 (Figure 4). Since the start of the program, the quality of habitat conserved has a mean weighted score of 0.68 and shows an increasing trend. Refer to Appendix C for Habitat HEG scores per ecoregion and year.

Figure 4. Habitat quality of properties (Habitat Score), trend through time.

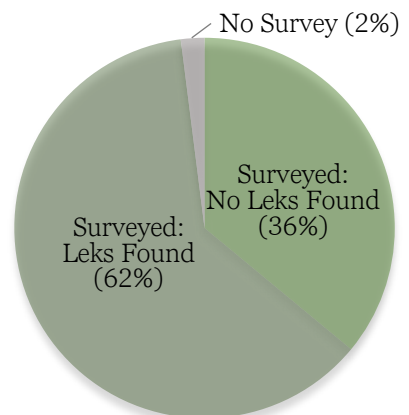


Lek Occurrence

WAFWA and our partnering state wildlife agencies voluntarily conduct LPC lek surveys on the conservation properties following U.S. Fish and Wildlife Service protocols. This voluntary action helps inform when certain conservation measures will be required. Specifically, those pertaining to addressing disturbances or threats to the species in the vicinity of active leks during the breeding season (March 1 – July 15). Survey efforts are posted online through an interactive map provided on WAFWA’s Southern Great Plains CHAT at www.sgpchat.org.

In 2023, 98% of the habitat acres were fully surveyed. The surveys identified 10 of the 12 properties have one or more active leks⁶ onsite or within a 1.25 mile radius (83% occurrence rate) with a total of 16 active leks onsite (Table 10). Based on best available science, LPC are known to utilize the habitat within a 1.25 mile radius of a lek. Applying this assumption results in a finding that 69% of lands enrolled are being utilized by LPC (Table 10).

Figure 5. Lek Survey Results (2023)



⁶ Active Leks: LPC leks recorded as active at least once within the previous five years.

Habitat Management

WAFWA works with the property owners and their leasees to develop a site-specific management plan for all enrolled acres focused on addressing LPC threats and improving habitat quality. The CCAA provides for two types of management plans: a Rangeland Management Plan to address LPC threats on native grazed rangelands, and a Planted Grass Management Plan to address LPC lands conversion back to native vegetation. Implementation of the WAFWA-approved management plan is a compliance requirement of the Certificate of Participation.

In 2023, all conservation properties had a site-specific management plan in place and were found to be in compliance with the terms of their respective plans (Conservation Participant Compliance).

Restoration & Enhancement Activities

Under the CCAA, restoration is achieved by conversion of cropland to native vegetation, removal of abandoned or unnecessary infrastructure, and conversion of unsuitable grassland habitat due to the presence of exotic or invasive woody species to suitable habitat. Enhancement is achieved by implementing grazing systems designed to improve LPC habitat, use of grazing deferments, and suppression of shinnery oak to restore historical site conditions that existed prior to overgrazing. All restoration and enhancement areas include the removal of LPC threats such as installation of wildlife escape tank ladders and visual fence markers.

In 2023, there were no new restoration activities. All restoration opportunities on enrolled lands were completed in the early years of their enrollment, largely between 2015-2018, resulting in 9,330 acres of habitat restoration (Table 8). The next phase of restoration is strategically planned to occur when new properties are enrolled upon expiration of the existing 10-year term agreements in 2024. The CCAA has a goal (i.e., a mitigation fee cost assumption) that 5-10% of management agreements would contain a restoration practice. In 2023, this goal was exceeded by having one or more restoration practices completed on 33% of the active agreements (4 of the 12 contracts), see Table 10. The fee structure also provides a goal of targeting restoration on 13% of the enrolled habitat acres. As of 2023, the restoration percentage was 13% (Table 10). The Conservation Enrollment Strategy is to target an increase of the restoration percentage up to 25%, to provide a voluntary contribution of the Net Conservation Benefit to the species.

In 2023, there were 52,787 acres enhanced by grazing management (Table 8). Since the inception of the program, 132,701 acres have been enhanced by improved grazing system (Table 8). The desired and expected conservation outcome of these grazing management plans is to ensure enrolled rangelands are managed sustainably for ranching operations, while providing healthy ecological processes and high-quality habitat for LPC conservation.

Table 8. Restoration and enhancement under management agreements.

Ecoregion	ENHANCEMENT		RESTORATION	
	Grazing Management to Improve LPC Habitat	Shinnery Oak Suppression to Improve LPC Habitat	Invasive Woody Vegetation Removal (mesquite, red cedar)	Crop Restoration to Native Grass
2023				
Mixed Grass Prairie	21,802	0	0	0
Sand Sagebrush Prairie	16,185	0	0	0
Shinnery Oak Prairie	11,378	0	0	0
Shortgrass Prairie	3,421	0	0	0
2023 Total:	52,787	0	0	0
2014-2023				
Mixed Grass Prairie	76,627	0	2,516	0
Sand Sagebrush Prairie	26,509	0	0	0
Shinnery Oak Prairie	16,987	8,272	5,564	629
Shortgrass Prairie	12,578	0	0	620
TOTAL:	132,701	8,272	8,080	1,250

Offset Units Generated

Offset units (credits) are generated when LPC conservation activities are implemented to the terms of the Certificate of Participation and the WAFWA-approved management plan. For each year a property is under agreement, it will generate offset units based on the LPC habitat quality (HEG score) of the habitat acres. This system is performance-based in the sense that higher quality habitat generates more offset units per acre which results in higher payments. The calculation to generate offset units is the same as impact units, where a 2:1 ratio ensures that mitigation efforts are greater than impacts, resulting in a Net Conservation Benefit for the species. Refer to section III Mitigation of Habitat Impacts for an overview of the 2:1 ratio calculation.

In 2023, conservation efforts on 46,537 habitat acres generated 39,386 offset units (credits) that were used to offset industry’s Impact Units (Table 9).

Table 9. Conservation efforts to generate the 2023 offset units (credits).

Site	Term	Expiration	Plan Type	Enrolled Acres	Habitat Acres	Acres Restored	Habitat Score	% Suitable Habitat	Active Leks Onsite	Active Leks w/in 1.25 mi.	Credits Generated
Mixed Grass Prairie											
CZ036	10 Years	09/30/24	Range	18,904	15,884	556	0.86	96.4%	0	0	16,888
CZ063	Permanent	--	Range	1,758	1,740	0	1.00	98.4%	0	2	2,093
CZ065	Permanent	--	Range	968	968	0	0.90	85.0%	1	2	1,091
CZ066	10 Years	09/30/26	Range	172	172	0	0.90	81.5%	0	2	194
				21,802	18,763	556	0.87	90.3%	1	2^a	20,266
Sand Sagebrush Prairie											
CZ016	10 Years	09/30/24	Range	2,251	1,897	0	0.85	90.9%	0	0	2,002
CZ088	Permanent	--	Range	13,934	13,737	0	0.50	89.1%	8	14	8,477
				16,185	15,634	0	0.54	90.0%	8	14	10,479
Shinnery Oak Prairie											
CZ003	10 Years	09/30/24	Range	9,508	7,516	4,631	0.56	98.3%	4	8	5,144
CZ013	10 Years	09/30/24	Grass	316	280	320	1.00	99.1%	0	4	351
CZ026	Permanent	--	Range	1,554	1,217	0	0.66	91.1%	0	1	952
				11,378	9,014	4,951	0.59	96.1%	4	12^a	6,447
Shortgrass Prairie											
CZ035	10 Years	09/30/24	Range	1,109	1,066	0	0.72	84.7%	1	1	949
CZ061	10 Years	09/30/25	Range	1,692	1,497	0	0.56	72.8%	2	2	1,046
CZ062	10 Years	09/30/25	Grass	620	563	620	0.28	38.2%	0	2	198
				3,421	3,126	620	0.56	65.2%	3	3^a	2,194
Total in 2023:				52,787	46,537	6,127	0.68	85.4%	16	31	39,386

^a Total is less than the sum of the column because some leks occur near other enrolled properties.

Net Conservation Benefit: Permanent LPC Conservation

32%
Permanent
Conservation

The CCAA conservation strategy targets at least 25% of the offset units to be generated from permanent easements to support long-term conservation and population strongholds.

In 2023, this goal was met and exceeded by having 32% of the offset units generated from permanent conservation easements. This permanency of conservation contributes further to the Net Conservation Benefit of the species.

UNIT LEDGER

Transactions through the CCAA are tracked in real time with a data management system designed specifically for the CCAA to safeguard confidentiality and to ensure appropriate tracking and accountability of the impact units (debits) and offset units (credits). This tracking “ledger” ensures impact units are debited from the same ecoregion in which they occurred and credited in an equal or higher CHAT category.

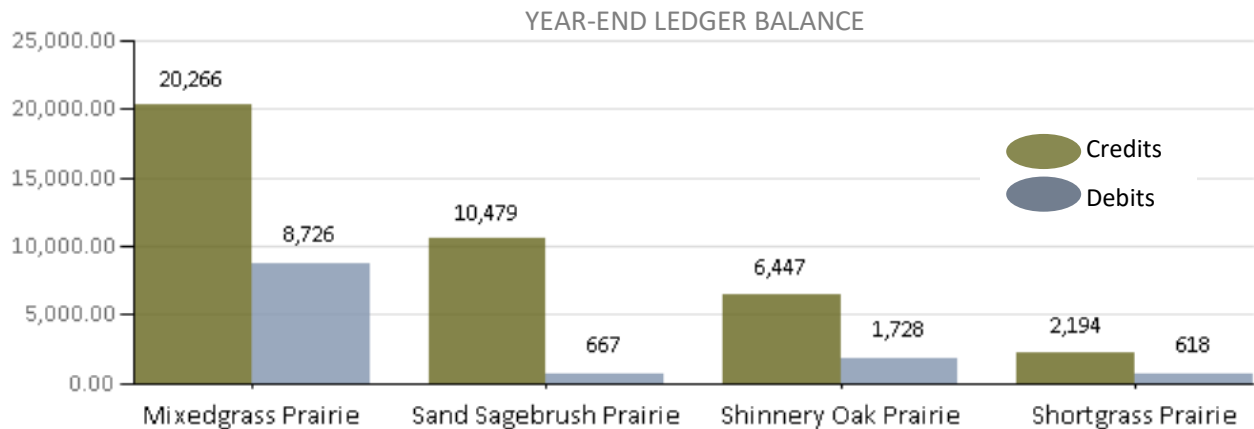
Ledger Summary

As of December 31, 2023, the credits to debits were balanced for each of the four ecoregions. Across the ecoregions, 30% of the available credits were utilized (Table 13). The remaining credits carry-overed into 2024, to be available until July 31, 2024. At which point, any unused credits will expire, and the new credits generated in 2024 will be applied to the ledger. There were 17,523 unused credits that expired on July 31, 2023 (Appendix A). This demonstrates the program’s voluntary commitment of ensuring conservation efforts are greater than impacts (Net Conservation Benefit). Refer to Appendix A for a year-end review since the inception of the program.

Table 13. Year-end ledger of mitigation debits and credits.

Ecoregion	Credits	Debits	Balance	Utilization Rate
Mixed Grass Prairie	20,266	-8,726	11,540	43%
Sand Sagebrush Prairie	10,479	-667	9,812	6%
Shinnery Oak Prairie	6,447	-1,728	4,719	27%
Shortgrass Prairie	2,194	-618	1,575	28%
2023 TOTAL:	39,386	-11,739	27,647	30%

Low Credit Utilization Rate =
High Net Conservation Benefit



Unit Forecast

The data management system described above also allows WAFWA/SRF the ability to forecast the need for future offset units, so that the conservation strategy can be adjusted accordingly in a timely manner. WAFWA/SRF conducts an annual review of the unit ledger to build a forecast based on the highest percent increase over the last 5 years. This is refined through annual Participant reporting of anticipated project submittals, and then buffered to ensure flexibility to adjust for unforeseen change in conservation habitat conditions, such as drought, and to allow for unanticipated increases to project enrollments. This forecast system is reviewed and adjusted annually, or as significant changes arise.

FINANCIAL SUMMARY

WAFWA and SRF continue to focus on growing the conservation endowment to provide support for the budgeted administrative and management costs of implementing the CCAA and to provide the liquidity required to secure the necessary annual conservation offset units as prescribed in the CCAA. The 2022-2023 financial audit and accompanying IRS form 990 provides findings that the CCAA is financially sustainable at its current rate of use to carry out its obligations to the CCAA (available online at www.wafwa.org/about-us/). In addition to the details provided in the audit, Table 14 provides a financial overview of payments made from the conservation endowment.

In 2023, habitat conservation payments in the amount of \$700,515 were made to private landowners enrolled in the CCAA to manage 46,538 habitat acres that provided the program with 39,386 offset units (Table 12,14).

Table 14 - Summary of habitat conservation payments by ecoregion and year.

Ecoregion	Year	Sign-up Incentives	Restoration Payments	Annual Payments (10-Yr Agreements)	Annual Payments (Easements)	Total
Mixed Grass Prairie	2015	\$199,084	\$37,208	\$737,699	\$0	\$973,991
	2016	\$5,262	\$28,227	\$848,388	\$0	\$881,877
	2017	\$69,414	\$342,769	\$1,309,999	\$66,530	\$1,788,712
	2018	\$5,634	\$23,573	\$1,289,461	\$64,323	\$1,382,990
	2019	\$0	\$0	\$1,266,287	\$61,673	\$1,327,960
	2020	\$0	\$46,773	\$1,332,904	\$78,099	\$1,457,776
	2021	\$0	\$0	\$1,307,117	\$78,099	\$1,385,216
	2022	\$0	\$0	\$638,807	\$77,966	\$716,773
	2023	\$0	\$0	\$459,774	\$83,315	\$543,089
	Total:	\$279,393	\$478,549	\$9,190,435	\$510,007	\$10,458,384
Sand Sagebrush Prairie	2015	\$49,988	\$0	\$121,021	\$0	\$171,009
	2016	\$148,733	\$0	\$120,405	\$0	\$269,138
	2017	\$0	\$0	\$125,016	\$351,466	\$476,482
	2018	\$0	\$0	\$126,741	\$329,189	\$455,930
	2019	\$0	\$0	\$124,166	\$361,859	\$486,025
	2020	\$0	\$0	\$133,853	\$370,701	\$504,554
	2021	\$0	\$0	\$128,669	\$0	\$128,669
	2022	\$0	\$0	\$50,280	\$0	\$50,280
	2023	\$0	\$0	\$36,452	\$0	\$36,452
	Total:	\$198,721	\$0	\$966,604	\$1,413,215	\$2,578,540
Shinnery Oak Prairie	2015	\$60,797	\$433,074	\$89,839	\$9,007	\$592,717
	2016	\$5,843	\$41,908	\$65,448	\$9,627	\$122,826
	2017	\$0	\$915,154	\$91,429	\$10,655	\$1,017,238
	2018	\$0	\$183,426	\$78,878	\$11,988	\$274,292
	2019	\$0	\$0	\$82,483	\$11,369	\$93,852
	2020	\$0	\$110,831	\$91,092	\$6,568	\$208,491
	2021	\$0	\$0	\$80,996	\$0	\$80,996
	2022	\$0	\$0	\$75,604	\$0	\$75,604
	2023	\$0	\$0	\$71,674	\$0	\$71,674
	Total:	\$66,640	\$1,684,393	\$727,444	\$59,214	\$2,537,691
Shortgrass Prairie	2015	\$17,624	\$0	\$32,328	\$0	\$49,952
	2016	\$19,478	\$0	\$59,934	\$0	\$79,412
	2017	\$0	\$40,727	\$80,319	\$44,603	\$165,649
	2018	\$14,518	\$55,668	\$78,171	\$42,414	\$190,771
	2019	\$0	\$0	\$86,056	\$37,086	\$123,142
	2020	\$0	\$0	\$95,117	\$47,190	\$142,307
	2021	\$0	\$0	\$89,587	\$47,282	\$136,869
	2022	\$0	\$0	\$55,099	\$40,762	\$95,861
	2023	\$0	\$0	\$49,300	\$0	\$49,300
	Total:	\$51,620	\$96,395	\$625,909	\$259,337	\$1,033,261
2023 Total:	\$0	\$0	\$617,200	\$83,315	\$700,515	
2014-2023 Total:	\$596,375	\$2,259,338	\$11,510,391	\$2,241,773	\$16,607,877	

MORTALITY OR INJURY REPORT

There have been no LPC mortalities or injuries observed or reported since the start of the program in 2014.

INCIDENTAL TAKE

The permit issued to WAFWA/SRF by the USFWS (Permit # TE27289B-0) on 02/28/2014 stipulates that incidental take of LPC may not exceed 8,530 birds, as measured by the following habitat impacts:

- a) If 10 years from the effective date of the permit (02/28/2024), more than 622,272 acres of habitat are developed by CCAA oil and gas activities within the Covered Area.
- b) If at 20 years, more than 1,244,545 acres.
- c) If at 30 years, more than 1,866,855 acres.

As of December 31, 2023, the acres impacted through the CCAA total 18,569 acres (Appendix B, Impact Acres). This represents 3% of the impacted acreage allowed by the CCAA permit in the first 10 years of the program and 0.99% of the total allowable impact over the 30-year life of the program.

PARTICIPANT COMPLIANCE

I. Industry Compliance: Unpaid Enrollment Fees

If an industry Participant fails to remit the Enrollment Fee in accordance with the CCAA terms of Section XIII (Enrollment and Mitigation Fees), WAFWA may suspend the Participant's Certificate of Inclusion until paid. In 2023, there were no compliance issues with outstanding payments.

II. Industry Compliance: Mandatory Conservation Measures

The CCAA includes Conservation Measures developed to 'avoid' and 'minimize' impacts on LPC and their habitat, and to mitigate for any remaining habitat impacts. Some of the avoidance and minimization measures are required and some may be applied at the discretion of the industry Participant (Section XII of the CCAA - Conservation Measures). If a Participant chooses not to implement a discretionary Conservation Measure, such as the avoidance of an impact, then the Participant has agreed to mitigate for the resulting impacts (as reported in the [Conservation Strategy](#) section). If a Participant fails to implement a mandatory Conservation Measure, and the issue cannot be resolved to the terms of the Certificate of Inclusion, then the Participant may be subject to the provisions of Section XXX of the CCAA for termination. In 2023, there were no compliance issues implementing the Conservation Measures. WAFWA evaluates industry Participant's compliance annually based on two methods:

II (a) Annual Field Review of Randomly Sampled Mitigated Projects

Overview. Projects eligible for review include those associated with active Participants (those not terminated, suspended, or cancelled) where the project has been in-part or wholly constructed and where the project has not been previously reviewed within the last three years. Of eligible projects to review, a random selection of 50 projects per ecoregion are selected. There is a limitation of reviewing no more than 10 projects, per company, in any given year. The review consists of trained WAFWA staff or their representative meeting with the Participant at the project site for a field review. Starting in 2021, WAFWA has elected to utilize an independent, third-party contractor to perform the reviews. A standardized reporting form is completed, along with photo documentation and a geospatial location review.

Results. In 2023, all reviewed industry projects were found to be complying with the terms of their enrollment. The random sample resulted in 34 projects to be reviewed. Seventeen (17) were not constructed and were deferred to the 2024 compliance season. Of the resulting 17 projects reviewed, all were found to be in-compliance. See Table 15 for a summary of the items reviewed and the results.

Table 15. Compliance review summary

Compliance Review Questions	No. of Responses		
	YES	NO	N/A
Is the location of the project mapped accurately within CCAA standards?	17	0	--
Are all developments relating to this project and under the control of the Participant mitigated? <i>Specifically, any project associated developments (i.e., new roads, utility lines etc.) that extend or have impacts beyond the project's impact buffer must be mitigated.</i>	17	0	--
Is there sufficient evidence that the breeding season restrictions are being followed?	17	0	--
If the project is within 1.25 miles of an active lek*, are there WAFWA design-approved wildlife escape ramps in all project-associated, human-made water containment sources?	0	0	17
If the project is within 0.25 miles of an active lek*, are there WAFWA design-approved markers on all fence lines associated with this project and under the control of the participant?	0	0	17
If the project is within 1.25 miles of an active lek*, are the requirements for not applying broadcast herbicide use outside the facility boundary being followed by the Participant?	0	0	17
If the project within 1.25 miles of a lek*, is the project compliant with respect to noise levels recorded at 30 feet from the facility boundary?	0	0	17
If a transmission project, are all poles in CHAT 1-3 monopole?	0	0	17
Were there any compliance issues found?	0	17	--

*If there is no current lek survey (no survey in the last 5 years), then the site is assumed to have a lek.

II (b) Review of Project Submittals

Overview. WAFWA voluntarily reviews state well permitting data for industry Participants to help ensure their compliance with their Certificate of Inclusion requirement to submit all oil and gas related development activities occurring on lands enrolled in the CCAA. This review was initiated by WAFWA in 2017 with the acquisition of membership to www.welldatabase.com which provides geospatial state well permitting data.

Results. The 2023 review was conducted with the Participants, and it was determined that the wells flagged for review were either submitted as required by the CCAA, they were not under the control of the Participant.

III. Industry Compliance: Operations During the Breeding Season

Overview. There are several avoidance and minimization Conservation Measures related to emergency⁷ and non-emergency operations⁸ occurring during the LPC breeding season (March 1 and July 15) that are within 1.25 miles of active leks. Participants are required to report to WAFWA within 30 days of an emergency operation if it occurred during the LPC breeding season, and to annually report (by February 15) any non-emergency operations. The online data management solution for the CCAA provides an online portal for Participants to report any incidents.

Results. In 2023, there were no instances of emergency or non-emergency operations reported by Participants. Since the start of the program, there have been six (6) reports of emergency operations and 26 non-emergency operations occurring. All occurrences occurred within the first 5 years of the program.

IV. Conservation Participant Compliance

Overview. Compliance monitoring of conservation properties occurs 1) during annual field monitoring by WAFWA's certified Technical Service Providers (TSPs), 2) through pre- and post-grazing season review of grazing systems, and 3) by certification of completed restoration or enhancement activities.

Results. In 2023, no compliance issues were found occurring on the conservation sites, and no impacts or actions off-site were found that would adversely affect habitat conditions onsite. Where individual pastures or management

⁷ Emergency operations are defined as those activities unexpectedly and urgently required to prevent or address immediate threats to human health, safety, or property; the environment; or national defense or security.

⁸ Non-emergency operations are defined as construction and maintenance activities that occurred on undisturbed areas in rangeland or planted grass cover (e.g., outside of a well pad, road, or facility).

units have not yet met the site's expected maximum potential, the management and grazing plan were revisited to look for ways to improve the site. In 2023, this resulted in one grazing plan revision. It is expected that all management plans and grazing plans will be revised as part of the 5-year enrollment review in 2024.

POPULATION SURVEYS

Range-wide aerial surveys were conducted for ten years (2012-2022) to estimate the annual range-wide population size of LPC and to evaluate trends in time. Annual survey reports can be found online at: <https://wafwa.org/initiative-programs/lesser-prairie-chicken/>.

LITERATURE CITED

- Dillon, J. 2024. Technical Memo - 2023 Program Audit for the Candidate Conservation Agreement with Assurances for the Lesser Prairie Chicken. Cedar Creek Associates, Inc. Fort Collins, Colorado. Available online: <https://wafwa.org/initiative-programs/lesser-prairie-chicken/>
- FWS. 2014. Range-Wide Oil and Gas Candidate Conservation Agreement with Assurances for the Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*) in Colorado, Kansas, New Mexico, Oklahoma, and Texas. 78 FR 76639. Available online: <https://wafwa.org/initiative-programs/lesser-prairie-chicken/>
- Van Pelt, W.E., S. Kyle, J. Pitman, D. Klute, G. Beauprez, D. Schoeling, A. Janus, J. Haufler, 2013. The Lesser Prairie-Chicken Range-wide Conservation Plan. Western Association of Fish and Wildlife Agencies. Cheyenne, Wyoming. 367 pp. Available online: <https://wafwa.org/initiative-programs/lesser-prairie-chicken/>
- WAFWA, 2021. Updated Business Plan for WAFWA's LPC CCAA. Western Association of Fish and Wildlife Agencies. Boise, Idaho. 20 pp. Available online: <https://wafwa.org/initiative-programs/lesser-prairie-chicken/>

Please visit WAFWA's Lesser Prairie-Chicken webpage for more information:
<https://wafwa.org/initiative-programs/lesser-prairie-chicken/>

APPENDICES

Appendix A. Ledger

Mitigation LEDGER. Year-end ledger of mitigation debits and credits.

Ecoregion	Year	Expired/Unused Credits (Conservation Benefit)	YEAR-END BALANCE		
			Credits	Debits	Balance
Mixed Grass Prairie	2014	N/A	4,542	-2,599	1,943
	2015	0	28,820	-7,283	21,537
	2016	3,139	40,042	-7,352	32,690
	2017	24,510	56,409	-8,293	48,115
	2018	40,114	55,380	-8,513	46,868
	2019	38,907	54,325	-8,621	45,704
	2020	37,845	57,361	-8,621	48,740
	2021	40,932	56,658	-8,622	48,036
	2022	47,439	29,474	-8,653	20,821
	2023	10,101	20,266	-8,726	11,540
Sand Sagebrush Prairie	2014	N/A	0	-7	-7
	2015	0	8,488	-522	7,966
	2016	7,269	8,385	-575	7,810
	2017	7,763	32,805	-596	32,209
	2018	32,121	30,765	-608	30,157
	2019	30,071	32,795	-638	32,157
	2020	32,075	34,045	-644	33,401
	2021	33,259	23,747	-645	23,102
	2022	24,858	12,743	-653	12,090
	2023	2,096	10,479	-667	9,812
Shinnery Oak Prairie	2014	N/A	288	-162	126
	2015	0	10,060	-794	9,266
	2016	7,812	7,649	-906	6,744
	2017	6,178	8,881	-1,106	7,774
	2018	7,187	7,637	-1,225	6,412
	2019	5,792	8,238	-1,315	6,923
	2020	6,393	8,744	-1,315	7,428
	2021	6,907	7,512	-1,315	6,197
	2022	5,894	7,702	-1,320	6,382
	2023	1,598	6,447	-1,728	4,719
Shortgrass Prairie	2014	N/A	147	-209	-62
	2015	4	1,994	-553	1,441
	2016	820	3,928	-568	3,361
	2017	3,209	7,847	-583	7,264
	2018	7,181	7,377	-617	6,760
	2019	6,710	7,331	-618	6,714
	2020	6,664	8,521	-618	7,904
	2021	7,854	8,193	-618	7,575
	2022	7,574	5,413	-618	4,794
	2023	3,727	2,194	-618	1,575
2023 TOTAL:		17,523	39,386	-11,739	27,647

Expired/Unused Credits - Credits generated resulting from the prior year’s habitat monitoring that were un-used for mitigation as of July 31st.

Credits - Credits generated resulting from that year’s habitat monitoring, applied to the ledger on August 1st.

Debits - Impact Units generated within the calendar year.

Appendix B Industry Impact by Year (2014-2023)

Year	# of Projects	Potential Impact Ac.	Impact Acres	Habitat Score*	CHAT Score*	Active Leks w/in 1.25 mi	Industry Paid Mitigation Fees	Impact Units	Cumulative Impact Units
Mixed Grass Prairie									
2014	180	5,600	3,274	0.42	2.6	20	\$3,416,061	2,599	2,599
2015	299	9,346	5,655	0.42	2.6	2	\$6,079,395	4,684	7,283
2016	10	371	105	0.39	3.1	0	\$92,955	69	7,352
2017	53	1,656	908	0.53	3.0	4	\$1,296,426	941	8,293
2018	19	632	268	0.43	2.7	0	\$315,055	219	8,513
2019	6	186	80	0.64	2.5	0	\$156,195	109	8,621
2020	0	0	0	--	--	--	\$0	0	8,621
2021	2	62	7	0.05	3.5	0	\$632	1	8,622
2022	4	156	61	0.32	3.8	0	\$44,495	31	8,653
2023	10	297	127	0.45	3.2	0	\$156,726	103	8,756
Total	583	18,307	10,484	0.39	2.6	26	\$11,557,941	8,756	8,756
Sand Sagebrush Prairie									
2014	45	1,367	629	0.06	3.7	0	\$4,441	7	7
2015	72	2,236	1,345	0.19	3.4	0	\$271,212	515	522
2016	22	683	338	0.07	3.6	0	\$28,993	53	575
2017	33	1,024	534	0.03	3.6	0	\$11,444	21	596
2018	16	497	136	0.07	3.4	0	\$7,238	12	608
2019	30	902	285	0.08	3.9	2	\$17,759	30	638
2020	12	372	71	0.05	3.8	0	\$3,494	6	644
2021	7	192	45	0.26	4.0	0	\$690	1	645
2022	9	316	94	0.07	3.2	0	\$9,243	16	661
2023	12	372	221	0.05	3.3	0	\$11,272	16	677
Total	258	7,962	3,698	0.09	3.6	2	\$365,786	677	677
Shinnery Oak Prairie									
2014	47	1,453	162	0.56	3.8	0	\$146,512	162	162
2015	124	3,844	752	0.37	3.8	0	\$549,689	632	794
2016	71	2,203	222	0.29	3.9	0	\$98,322	112	906
2017	78	2,403	242	0.50	3.9	0	\$181,925	200	1,106
2018	77	2,372	169	0.41	3.9	0	\$112,836	119	1,225
2019	46	1,427	99	0.51	3.9	0	\$85,986	90	1,315
2020	9	310	0	0.00	4.0	0	\$0	0	1,315
2021	0	0	0	--	--	--	\$0	0	1,315
2022	4	98	4	0.67	3.5	0	\$4,871	5	1,320
2023	22	863	389	0.60	3.1	0	\$444,125	409	1,729
Total	478	14,973	2,040	0.32	3.8	0	\$1,624,266	1,729	1,729
Shortgrass Prairie									
2014	31	950	783	0.24	3.2	5	\$166,374	209	209
2015	71	2,074	1,350	0.20	3.3	3	\$293,655	344	553
2016	5	155	83	0.11	4.0	0	\$12,344	15	568
2017	3	93	56	0.11	3.0	0	\$13,615	16	583
2018	2	62	34	0.41	2.5	2	\$30,154	34	617
2019	1	31	2	0.03	4.0	0	\$78	0	618
2020	0	0	0	--	--	--	\$0	0	618
2021	0	0	0	--	--	--	\$0	0	618
2022	2	81	39	0.01	4.0	0	\$570	1	618
2023	0	0	0	--	--	0	\$0	0	618
Total	115	3,446	2,347	0.20	3.3	10	\$516,790	618	618
2023 Total:	44	1,532	737	0.41	3.2	0	\$612,123	528	11,780
TOTAL:	1,434	44,688	18,569	0.30	3.3	38	\$14,064,784	11,780	11,780

* Weighted averages by the sites' evaluation units.

Appendix C. Conservation by Year (2014-2023)

Year	# of Contracts	Enrolled Acres	Habitat Acres	Habitat Score*	CHAT Score*	% Suitable Habitat	Active Leks w/in 1.25 mi	Enhancement Acres	Restoration Acres	Credit Units
Mixed Grass Prairie										
2014	2	23,305								4,542
2015	4	62,127	49,880	0.60	1.4	85.6%	4	62,127	638	28,820
2016	4	61,185	50,471	0.69	1.4	91.5%	0	61,185	1,322	40,042
2017	9	76,627	65,773	0.77	1.4	88.0%	6	76,627	240	56,409
2018	9	76,627	65,090	0.75	1.4	88.0%	4	76,627	317	55,380
2019	9	76,627	65,022	0.74	1.4	88.0%	4	76,627	0	54,325
2020	9	76,627	65,163	0.77	1.4	91.0%	4	76,627	0	57,361
2021	9	76,627	65,163	0.77	1.4	91.0%	2	76,627	0	56,658
2022	9	76,627	65,163	0.79	1.4	91.6%	2	21,802	0	29,474
2023	4	21,802	18,763	0.87	1.0	90.3%	2	21,802	2,517	20,266
Sand Sagebrush Prairie										
2014	0	--	--	--	--	--	--	--	--	0
2015	1	12,689	9,012	0.76	1.0	83.1%	0	12,689	0	8,488
2016	1	12,683	8,954	0.75	1.0	83.0%	0	12,683	0	8,385
2017 ^b	2	42,309	22,692	0.72	1.0	89.3%	5	42,309	0	32,805
2018 ^b	2	42,168	22,532	0.73	1.0	89.3%	10	42,168	0	30,765
2019 ^b	2	42,168	22,536	0.75	1.0	89.3%	9	42,168	0	32,795
2020 ^b	2	42,168	22,543	0.73	1.0	84.4%	12	42,168	0	34,045
2021	2	28,598	24,616	0.79	1.0	84.4%	12	26,509	0	23,747
2022	2	26,509	22,543	0.63	1.0	86.8%	17	16,185	0	12,743
2023	2	16,185	15,634	0.54	1.0	90.0%	14	16,185	0	10,479
Shinnery Oak Prairie										
2014	2									288
2015	4	17,707	13,788	0.62	1.1	92.6%		17,060	0	10,060
2016	4	17,600	13,975	0.45	1.1	90.9%		16,974	1,998	7,649
2017	4	17,613	13,975	0.52	1.1	94.8%		16,987	2,400	8,881
2018	4	17,613	13,917	0.45	1.1	94.8%		16,987	993	7,637
2019	4	17,613	13,917	0.48	1.1	94.8%		16,987	803	8,238
2020	4	17,613	13,930	0.51	1.1	93.1%		16,987	0	8,744
2021	4	17,613	13,930	0.45	1.1	93.1%		16,987	0	7,512
2022	4	17,613	13,930	0.59	1.1	92.6%		11,378	0	7,702
2023	3	11,378	9,014	0.59	1.0	96.1%	12	11,378	6,194	6,447
Shortgrass Prairie										
2014	0									147
2015	2	5,142	5,052	0.39	1.7	82.9%		5,142	0	1,994
2016	4	9,501	8,857	0.38	1.1	65.9%		8,881	242	3,928
2017	7	13,192	11,722	0.56	1.1	82.3%		12,572	378	7,847
2018	7	13,192	11,674	0.53	1.1	82.3%		12,572	0	7,377
2019	7	13,198	11,652	0.54	1.1	82.3%		12,578	0	7,331
2020	7	13,198	11,706	0.61	1.1	79.6%		12,578	0	8,521
2021	7	13,198	11,706	0.59	1.1	79.6%		12,578	0	8,193
2022	7	13,198	11,706	0.56	1.1	78.4%		3,421	0	5,413
2023	3	3,421	3,126	0.56	1.0	65.2%	3	3,421	620	2,194
2023 Total:	12	52,787	46,537	0.68	1.0	85.4%	31	52,787	9,331	39,386
TOTAL:	22^a	149,606^a	116,086^a	0.68	1.1	86.9%	a			--

^a Total, not cumulative.

^b Includes the portions of C2024 that were split off in 2021 to provide mitigation to the WCA.

* Weighted averages by the sites' evaluation units.

Appendix D. Enrolled Industry Participants

#	Company Name	Status	#	Company Name	Status
1	Anadarko Minerals, Inc	Active	58	Lea County Electric Coop., Inc.	Inactive
2	Apache Corporation (Permian)	Active	59	Legacy Reserves Operating, LP	Inactive
3	Bailey County Electric Cooperative	Active	60	Lyntegar Electric Cooperative	Active
4	Beren Corporation	Active	61	M&M Exploration, Inc	Active
5	Berexco, LLC	Active	62	Magellan Midstream Partners, LP	Active
6	BP America Production Company	Active	63	MarkWest Oklahoma Gas Company, LLC	Active
7	Casillas Petroleum Corporation	Active	64	Maverick Brothers Resources, LLC	Active
8	Castelli Exploration, Inc	Active	65	Maverick Natural Resources, LLC	Active
9	Central Operating, Inc	Active	66	McGinness Oil Company of Kansas, Inc	Inactive
10	Centurion Pipeline, LP	Active	67	Meridian Energy, Inc	Active
11	Cimarex Energy Company	Active	68	Merit Energy Company, LLC	Active
12	Cimarex Energy Company (West TX)	Active	69	Mewbourne Oil Company	Active
13	CKenergy Electric Cooperative, Inc	Active	70	MIDCO Exploration, Inc	Active
14	CMX, Inc	Active	71	Midcoast Operating, LP	Active
15	Coats Energy, Inc	Active	72	Mid-Con Energy Operating, LLC	Inactive
16	COG Operating, LLC	Active	73	Midnight Hour, LLC	Active
17	Continental Resources, Inc	Active	74	Murfin Drilling Company, Inc	Active
18	Corlena Oil Company	Active	75	Northfork Electrical Cooperative	Active
19	CP Bloom Wind, LLC	Inactive	76	Northwestern Electric Cooperative*	Active
20	Crawley Petroleum Corporation	Active	77	O'Bencho IV, LP - O'Brien Resources, LLC	Active
21	Culbreath Oil and Gas Company, Inc	Inactive	78	OGE Corporation	Inactive
22	Cynosure Energy, LLC	Active	79	ONE Gas, Inc	Active
23	DaMar Resources, Inc	Active	80	ONEOK Partners, LP	Active
24	Daystar Petroleum, Inc	Active	81	Oolite Energy Corporation	Active
25	DCP Midstream, LLC	Active	82	Osage Investors, LLC	Active
26	Devon Energy Corporation (KS)	Active	83	Osage Oil, LLC	Active
27	Devon Energy Corporation (OK)	Inactive	84	Oxy Oil and Gas	Active
28	Devon Energy Corporation (Permian)	Inactive	85	Panhandle Topeka, LLC	Active
29	Devon Energy Corporation (Rockies)	Inactive	86	Pickrell Drilling Company, Inc	Active
30	Devon Energy Corporation (TX)	Active	87	Pintail Petroleum, Ltd	Active
31	Diehl Oil, Inc	Active	88	Pioneer Natural Resources USA, Inc	Active
32	Diversified Production LLC	Active	89	Plains All American Pipeline, LP	Active
33	Dorchester Minerals Operating, LP	Active	90	Prairie Wind Transmission, LLC	Active
34	Duncan Oil Properties, Inc	Active	91	QEP Energy Company	Active
35	Edison Operating Company, LLC	Active	92	Questa Energy, Corporation	Active
36	Edmiston Oil Company, Inc	Active	93	Range Production Company, LLC	Active
37	Elevation Resources, LLC	Active	94	Red Oak Energy, Inc	Active
38	Empire Energy E&P, LLC	Inactive	95	RG Exploration, LLC	Active
39	Energy Alliance Company, Inc	Active	96	Rio Petroleum, Inc	Active
40	Energy Transfer Partners, LP	Active	97	Riviera Operating, LLC	Active
41	EnerVest Operating, LLC	Active	98	Samson Lone Star, LLC	Inactive
42	Enterprise Products Operating, LLC	Active	99	Samuel Gary Jr. & Associates, Inc	Active
43	EOG Resources, Inc	Active	100	SandRidge Exploration and Production, LLC	Inactive
44	Farmers Electric Cooperative	Active	101	Slawson Exploration Company, Inc	Active
45	Fasken Oil and Ranch, Ltd	Active	102	Southwestern Public Service/Xcel Energy Inc	Active
46	Greenbelt Electric Cooperative	Active	103	Strand Energy, LC	Active
47	Griffin Management, LLC	Inactive	104	Strat Land Exploration Company	Active
48	Imperial American Oil, Inc	Inactive	105	Superior Pipeline Company, LLC	Inactive
49	Jayhawk Pipeline, LLC	Inactive	106	Tabula Rasa Partners, LLC	Inactive
50	JMA Energy Company, LLC	Active	107	Tandem Energy Corporation	Inactive
51	John O. Farmer, Inc	Active	108	Tapstone Energy, LLC	Active
52	Jolen Operating Company	Active	109	Targa Resources Corp., Subsidiaries*	Inactive
53	Kenneth W. Cory, Ltd	Active	110	Tengasco, Inc	Active
54	Kinder Morgan, Inc	Inactive	111	Texakoma Exploration Production, LLC	Active
55	Kirkpatrick Oil Company, Inc	Active	112	Texland Petroleum, LP	Inactive
56	Laddex, Ltd	Inactive	113	Thomason Petroleum, Inc	Active
57	Landmark Resources, Inc	Active	114	Toto Energy, LLC	Active

#	Company Name	Status	#	Company Name	Status
115	Triad Energy, Inc	Active			
116	Tri-County Electric Cooperative	Active			
117	Unit Petroleum Company	Active			
118	Upland Operating, LLC*	Active			
119	Viking Resources, Inc	Active			
120	Vincent Oil Corporation	Active			
121	W.R. Williams, Inc	Active			
122	Ward Petroleum Corporation	Active			
123	Western Farmers Electric Coop	Inactive			
124	White Exploration, Inc	Active			
125	Williams Midstream	Active			
126	Younger Energy Company	Active			
127	Zinszer Oil Company, Inc	Active			

Status - Companies with an 'Active' status have an executed CCAA Certificate of Inclusion (CI) with no suspension or termination. An 'Inactive' status indicates the company does not have a mitigation balance and/or enrolled assets. A 'Suspended' status indicates there is a notice of non-compliance with the terms of the CI.