The 2015 Lesser Prairie-Chicken Range-wide Conservation Plan Annual Progress Report

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The following document represents the 2015 progress report for the range-wide conservation plan for the lesser prairie-chicken (RWP). This plan is a collaborative effort between the Kansas Department of Wildlife, Parks, and Tourism, Oklahoma Department of Wildlife Conservation, Colorado Parks and Wildlife, Texas Parks and Wildlife Department, New Mexico Department of Game and Fish and Western Association of Fish and Wildlife Agencies. Each of the 5 state wildlife agencies has engaged numerous personnel in assisting with the implementation of the RWP beyond the members of the Interstate Working Group. The 6 state directors (Keith Sexson, KS, Richard Hatcher, OK, Ross Melinchuk, TX, Alexandra Sandoval, NM, Bob Broscheid, CO and Tim McCoy, NE) were actively engaged in the implementation of the RWP through the Lesser Prairie-Chicken Initiative Council. Jon Ungerer and Christian Hagen provided input on the LPCI and NRCS programs, while David Hoge provided input on FSA programs. The assistance we received with RMP implementation from NRCS state office staff and field personnel was greatly appreciated by WAFWA. Dan Ashe, Gary Frazer, Benjamin Tuggle, Matt Hogan, Michelle Shaughnessy, Kevin Burgess, Chris O'Meilia, Jenny Davis, Clay Nichols, and Leslie Ellwood of the USFWS all provided input to the RWP implementation. The Lesser Prairie-Chicken Advisory Committee, and Lesser P Prairie-Chicken Science and Fee Structure working groups all played keys roles in the RWP implementation. Finally, the unwavering dedication and commitment of the WAFWA administrative staff in Boise ID provided considerable time and patience with this newly formed conservation effort. The WAFWA would also like to thank Larry Kruckenberg for his nurturing and quiet leadership for a landscape conservation effort, which was once a dream coming to a reality.

Photo Credit Grant Beauprez

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EXECUTIVE SUMMARY

In 2014, a new era in wildlife conservation was ushered in with the implementation of the Lesser Prairie-Chicken (LPC) Range-wide Conservation Plan (Van Pelt 2013; RWP). The RWP describes a locally controlled and innovative approach for maintaining state authority to conserve the LPC, as allowed under the Endangered Species Act (ESA).

The purpose of the RWP is to develop a conservation strategy for the species that identifies, coordinates, and commits to the implementation of an effort that ensures the improvement and long-term persistence into the foreseeable future (50 years) for the LPC throughout its current or expanded range. More specifically, this RWP:

1. Identifies range-wide and sub-population goals for LPC, the range-wide benchmark being a 10-year average of 67,000 birds.
2. Identifies desired habitat amounts and conditions to achieve the population goal within the first 10-year timeframe.
3. Uses a decision support tool (CHAT) identifying focal areas and connectivity zones where LPC conservation actions will be emphasized to produce the habitat conditions required to expand and sustain the species.
4. Enhances programs and cooperative efforts to encourage and expand voluntary landowner incentives and practices to produce the desired habitat conditions.
5. Promotes agreements designed to avoid and minimize impacts to LPC from various development activities and where avoidance is not possible, mitigate impacts.
6. Establishes a mitigation framework to be used by any entity and administered by WAFWA that will establish development agreements and when unavoidable impacts occur, to compensate for these impacts through off-site mitigation actions.
7. Identifies research needs and implements monitoring.
8. Develops an adaptive management framework that will incorporate monitoring and new information into future adjustments to maximize conservation benefits to LPC.
9. Addresses input and suggestions from agencies, organizations, landowners, industries, other stakeholders, and the general public on the conservation plan for LPC.

During the reporting period, March 1, 2015-December 31, 2015, significant progress was achieved across all nine elements identified in the RWP. More specifically:

1. The annual LPC aerial survey used to monitor progress toward the population goals was conducted between March and May 2015. In 2015, the estimated population size was 29,162 (90% CI: 21661, 41017). While there was an estimated 25% increase from 2014 to 2015, the point estimate was not statistically significant ($p > 0.2$). Increases in abundance of LPC were estimated in 3 of the 4 ecoregions. The largest was a statistically significant 75% increase in the Sand Sage Prairie Region (SSPR) of southeast Colorado, southwest Kansas and northern Panhandle of Oklahoma ($p < 0.1$). The estimated increases were 30% in the Mixed Grass Prairie Region (MGPR) of northeast Panhandle of Texas, northwest Oklahoma and south central Kansas, and 27% in the Shortgrass-CRP Prairie Region (SGPR) of northwest Kansas, however the point estimates were not

statistically significant ($p > 0.2$). An estimated decrease in abundance of LPC in the Shinnery Oak Prairie Region (SOPR) from 2014 to 2015; however, the decrease was not statistically significant ($p > 0.2$).

2. We finalized eight landowner contracts during this reporting period encompassing 67,512 acres. Conservation practices incorporated into the agreements included grazing plans with a 33% total utilization rate, mechanical tree removal, inter-seeding of planted grass stands, and chemical treatment of shinnery oak. WAFWA also secured its first permanent conservation site. The WAFWA acquired title to a 1,604-acre track of Texas native rangeland on June 26, 2015 approximately 3 miles from the Yoakum Dunes Wildlife Management Area (WMA) in the Shinnery Oak Service Area. During this reporting period, brush management was completed on 8,214 of the 15,911 prescribed acres. A total of $1,821,737 was paid to landowners managing their lands to generate credits for LPC.

3. A decision support tool, the Southern Great Plains Crucial Habitat Assessment Tool (CHAT) was used to identify focal areas and connectivity zones where LPC conservation actions will be emphasized to produce the habitat conditions required to expand and sustain the species. An enhancement to the CHAT, a project estimator tool, was incorporated into the system to encourage pre-planning for development to reduce impacts to LPC. As a result of these enhancements and integration into the mitigation program, the CHAT has had a total of 5,066 instances of access, with an average of 145 users per week. The online data portal for the SGP CHAT was used 2,777 times (average of 79 per week).

4. We enhanced programs and cooperative efforts to encourage and expand voluntary landowner incentives and practices to produce the desired habitat conditions. In 2014, CHAT elements for LPC were incorporated into the Natural Resource Conservation Services (NRCS) ranking criteria for projects being considered under the Lesser Prairie Chicken Initiative (LPCI). Using the CHAT targeting tool, a total of 179,805 acres of prescribed grazing (528) were applied through LPCI during 2015. Additionally, a total of 9,438 acres were treated with brush management (NRCS Practice Code 314) and range planting (NRCS Practice Code 550) was applied to 47 acres during 2015.

    a. We authorized 409 project agreements designed to avoid and minimize impacts to LPC from various development activities, and where avoidance was not possible, mitigated impacts. The number of authorized projects is down 43% from 2014. After two years of implementation, a review of all the projects assessed (including some not developed) shows that the mean cost of all the projects varies by ecoregion from $2,865 in the Shortgrass to $13,391 in the Mixed-grass for an EOR+10 mean of $11,936.
    b. The effects of the RWP mitigation framework on industry siting in terms of avoidance and minimization are evidenced by an average HEG score for new

developments across all ecoregions of 0.22, which demonstrates that participants are actively selecting areas with low habitat quality.

5. WAFWA established and administered a mitigation framework to be used by any entity. We established enrollment and development agreements with 177 companies and collected $49,853,237 in enrollment and impact fees for unavoidable impacts for off-site mitigation actions. The different industries participating in the RWP included oil and gas, pipeline, electric, wind energy, and telecommunications.

6. We coordinated with LPC states to identify research needs and implemented elements of the RWP monitoring. Research activities included examining disproportionate declines in LPC populations, habitat use, survivability, nest success, recruitment and evaluating the benefits of prescribed grazing on LPC demography.

7. We developed an adaptive management framework incorporating monitoring and new information to make adjustments to maximize conservation benefits to LPC. The Lesser Prairie-Chicken Initiative Council (LPCIC) adjusted the timing of surveys, personnel options, burial of power lines, and impact buffers.

8. Through the Lesser Prairie-Chicken Advisory Committee (LPCAC), representatives from industry, non-governmental agencies, as well as state and federal agencies addressed input and suggestions from agencies, organizations, landowners, industries, other stakeholders and the general public on the conservation plan for the LPC.

Overall, the RWP allowed for economic development to continue in a seamless manner by providing an efficient mechanism to voluntarily conserve the LPC and/or comply with the ESA. Without the RWP, there could have been significant regulatory delays in obtaining take permits, disruption to economic activity in an area vital to state and national interests, and little incentive to conserve LPC habitat on private lands. The RWP encourages participants to enact proactive and voluntary conservation activities promoting LPC conservation. Implementation was tracked through a committee structure using adaptive management. Goals and objectives associated with population levels, habitat conservation objectives, and funding streams were conducted by the adaptive management process.

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Western Association of Fish and Wildlife Agencies

INTRODUCTION

This document is the 2015 Western Association of Fish and Wildlife Agencies (WAFWA) progress report for the comprehensive conservation plan for the lesser prairie- chicken (*Tympanuchus pallidicinctus*; hereafter LPC) titled *The Lesser Prairie-Chicken Range-wide Conservation Plan* (Van Pelt 2013; hereafter RWP). The goal of the RWP is to conserve the LPC for future generations while facilitating continued and uninterrupted economic activity throughout the entire five-state LPC range (See Figure 1). The RWP identifies a two-pronged strategy for LPC conservation: (1) the coordinated implementation of incentive-based landowner programs; and (2) the implementation of a mitigation framework, which reduces threats and provides resources for off-site mitigation and conservation. The reporting period for 2015 is March 1, 2015 through December 31, 2015. As we progress into subsequent reports, WAFWA will be reporting on activities related to RWP implementation beginning January 1 through December 31 of that reporting year.

If conservation of the LPC is to show long-term success, a strong and mutually respective partnership will be necessary between the state, federal, non-governmental agencies, and private landowners and industry. The foundation of that partnership is embedded under Section 6 of the Endangered Species Act (ESA). This section clearly directs the U.S. Fish and Wildlife Service (USFWS) to cooperate to the maximum extent practicable with state fish and wildlife agencies, and provides the authority for the USFWS to carry that partnership forward. By coming to agreement on the RWP, the LPC now has a solid road map for conservation.

BACKGROUND

Because of declining population numbers of LPC, reduction in range relative to their historical occurrence, and presumed increasing scope and intensity of identified impacts, the USFWS was petitioned to list the LPC by the Biodiversity Legal Foundation in 1995 (USFWS 1997). After review, the USFWS issued its findings in 1998 that the species warranted listing, but was precluded because of actions needed for other higher priority species (USFWS 2012). The USFWS assigned the LPC a listing priority number of 8 (1 indicating the highest need for action and 12 lowest). This was revised to a priority number 2 in 2008 in part because of the belief by the USFWS that the threat of wind development and associated development of transmission lines within the occupied range had increased significantly since the previous analysis (USFWS 2012).

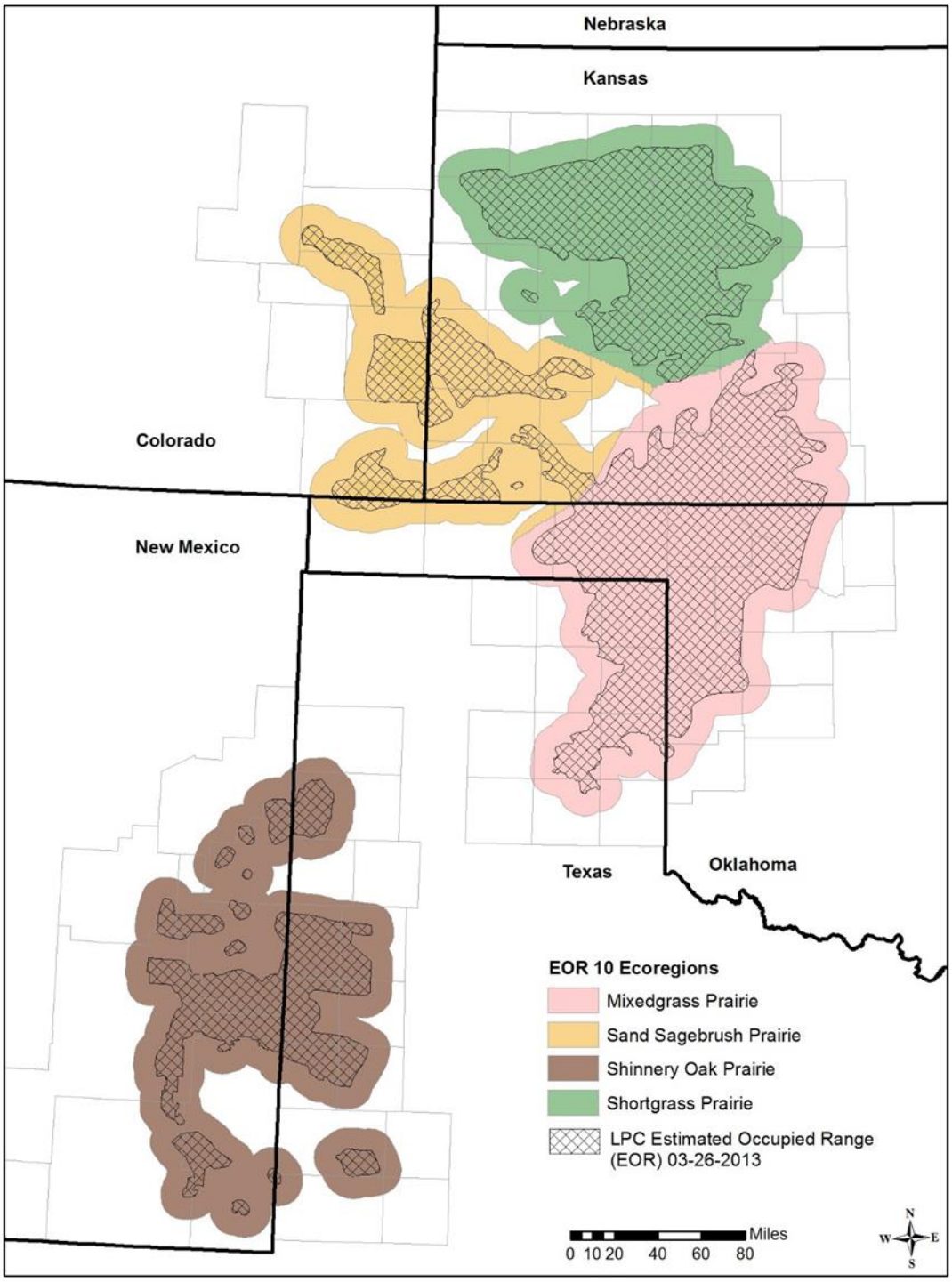

Figure 1 The current estimated occupied range (EOR) and the four ecoregions used by the lesser prairie-chicken.

On December 11, 2012, the USFWS identified factors supporting their decision for a proposed threatened status for the LPC. The primary factors identified by them included historical, ongoing, and probable future impacts of cumulative habitat loss and fragmentation. These impacts are the result of: conversion of grasslands to agricultural uses; encroachment by invasive woody plants; wind energy development; petroleum production; and presence of roads and manmade vertical structures including towers, utility lines, fences, turbines, wells, and buildings. The USFWS proposed listing the LPC as threatened with a final listing decision scheduled for no later than September 30, 2013 (USFWS 2012). Publication of the proposed rule opened a 90-day comment period that closed on March 11, 2013.

Public comments received by the USFWS during the comment period expressed concerns regarding the sufficiency and accuracy of data related to the listing proposal for the species and the positive impacts of conservation programs on LPC populations. These include state and federal programs enrolling millions of acres in LPC conservation programs such as the Natural Resource Conservation Service's LPC Initiative (LPCI) and Candidate Conservation Agreements with Assurances (CCAA).

On May 6, 2013, the USFWS announced the publication of a proposed special rule under the authority of section 4(d) of the Act. A comment period on the proposed listing rule was opened to provide an opportunity for the public to simultaneously provide comments on the proposed listing rule with a proposed special rule, and a draft range-wide conservation plan for the LPC prepared by the five state wildlife agencies in collaboration with WAFWA. This comment period was open from May 6 to June 20, 2013.

On July 9, 2013, the USFWS announced a 6-month extension of the final listing determination based on their finding that there was substantial disagreement regarding the sufficiency or accuracy of the available data relevant to their determination regarding the proposed listing rule. The Service reopened the comment period to solicit additional information. This comment period closed on August 8, 2013.

On December 11, 2013 the USFWS reopened the comment period, to solicit comments on a revised proposed special 4(d) rule and the December 11, 2012 proposed listing rule as a result of endorsing the WAFWAs' LPC Range-wide Conservation Plan. This comment period closed on January 10, 2014. However, the endorsed version of the WAFWAs' LPC Range-wide Conservation Plan (Van Pelt et al. 2013) was not available on the USFWS websites, as stated in the December 11, 2013 revised proposed special 4(d) rule. Subsequently, the USFWS reopened the comment period on January 29, 2014, to allow the public the opportunity to have access to this range-wide plan and submit comments on the revised proposed special rule and the December 11, 2012 proposed listing rule. This comment period closed on February 12, 2014.

On March 27, 2014, the USFWS announced the listing determination of threatened species status for the LPC under the ESA of 1973, as amended (USFWS 2014). This final rule implemented the federal protections provided by the ESA for the LPC. Critical habitat is prudent but not

determinable at the time of listing. In addition, the USFWS published a final special rule under section 4(d) of the ESA for the LPC. Under section 4(d) of the ESA, the Secretary of the Interior may publish a special rule that modifies the standard protections for threatened species with special measures tailored to the conservation of the species that are determined to be necessary and advisable. This 4(d) special rule does not remove or alter in any way the consultation requirements under section 7 of the Act. Under the 4(d) special rule, the USFWS provides that all of the prohibitions under 50 CFR 17.31 and 17.32 will apply to the LPC, except those noted in the rule itself. The final 4(d) special rule provides that take incidental to activities conducted by a participant enrolled in, and operating in compliance with, the LPC Interstate Working Group's RWP will not be prohibited (Van Pelt et al. 2013). The USFWS included this provision in the final 4(d) special rule in recognition of the significant conservation planning efforts of the five state wildlife agencies within the range of the LPC (e.g. Van Pelt et al. 2013).

This final 4(d) special rule also stated that take of the LPC will not be prohibited provided the take is incidental to the conditioned conservation practices that are carried out in accordance with a conservation plan developed by the Natural Resources Conservation Service (NRCS). In connection with NRCS's LPCI and related NRCS activities, efforts focused on LPC conservation consistent were required to be consistent with the provisions of the November 22, 2013 conference opinion that was developed in coordination with the USFWS. Conditioned conservation practices are NRCS standard conservation practices to which the USFWS and NRCS have added specific requirements in the form of conservation measures so that when the measure is followed, impacts to the LPC will be avoided or minimized.

Finally, the final 4(d) special rule determined that take of LPC will not be prohibited provided the take is incidental to activities that are conducted during the continuation of routine agricultural practices on cultivated lands that are in row crop, seed-drilled untilled crop, hay, or forage production. These lands must meet the definition of cropland as defined in 7 CFR 718.2, and in addition, must have been cultivated (meaning tilled, planted, or harvested) within the 5 years preceding the proposed routine agricultural practice that may otherwise result in take. Thus, this provision does not include take coverage for any new conversion of grasslands into agriculture.

On September 1, 2015, in the US District Court in the Western District of Texas ruled to vacate the listing decision by the USFWS in response to a suit filed by the Permian Basin Petroleum Association and four New Mexico counties. The suit claimed, in part, that the USFWS did not fully evaluate voluntary conservation efforts for LPC under the USFWS Policy for Evaluation of Conservation Efforts (PECE) prior to making the decision to list the species as threatened under the ESA.

The RWP was developed in response to concerns about LPC habitat threats which are impacting LPC populations, and the proposed listing under the ESA. Along with the existing conservation efforts already being implemented, the RWP represents another mechanism to implement conservation to benefit LPC. The RWP represents an opportunity to enroll participants who

agree to avoid, minimize and mitigate actions which may be detrimental to LPC. Landowners may enroll properties to be managed for the benefit of LPC. Properties may generate credits for mitigation. When complete avoidance is not possible, industry participants may enroll and pay fees to be used to mitigate impacts. When taken as a whole, the RWP along with other existing and planned conservation efforts can effectively ameliorate threats to LPC and lead to the conservation of the species.

BIOLOGICAL GOALS AND OBJECTIVES

USFWS defines biological goals as the broad, guiding principles that clarify the purpose and direction of the conservation components for conservation tools (65 FR 35241). For the RWP, the biological goals and objectives are designed to address the potential impacts of the proposed activities while taking into account the overall conservation needs of LPC and its habitat. In general, WAFWA will address the biological goals by: (1) Conserving LPC and their habitat in the service areas; and (2) mitigating the impacts of take contemplated by the RWP by conserving and managing priority LPC habitat areas identified throughout the service areas in the Southern Great Plains Crucial Habitat Assessment Tool (SGP CHAT). Priority areas within the SGP CHAT are categorized by 1 and 2 representing the highest priority, focal areas and connectivity zones while SGP CHAT categories 3 and 4 represent lower priority habitats. In addition to these general objectives, the RWP's conservation strategy strives for the implementation of activities to provide the necessary conservation benefit to LPC that can inform the USFWS with the necessary information to evaluate conservation progress.

CONSERVATION STRATEGY

This RWP describes a conservation strategy, which when implemented, will provide the population and habitat needed to expand and sustain LPC. The strategy identifies a desired population goal deemed adequate to provide for a well distributed LPC population dispersed throughout each of four ecoregions within a 10-year period. To meet the population goal, the RWP identifies habitat goals that provide for good representation of adequately sized habitat patches to provide for resiliency in populations, and with enough patches to provide for redundancy to support populations that persist in the long term. The RWP also identifies needed connectivity among habitat patches that will allow for genetic and demographic support among populations and will allow for potential movement of the species given uncertainties from climate change. The RWP provides for coordination and enhancement of programs to improve habitat on private lands through landowner incentive programs, and promotes the avoidance and minimization of impacts to important habitat patches. Where avoidance and minimization is not possible, the RWP identifies processes to mitigate impacts from developments. Finally, the RWP requires monitoring and adaptive management actions.

A key component of the conservation strategy is applying the concept of focal (core) areas. This concept as applied to LPC is based on identifying the areas of greatest importance to the species, and focusing habitat enhancement, maintenance, conservation, and protection in these areas. In

addition, within the RWP a subset of lands within focal areas were identified as potential "strongholds." These are areas meeting the definition described by the USFWS (2012b) and are a much smaller component of focal areas but provide permanent LPC conservation areas. This accomplishes:

1. It concentrates limited resources for species conservation in the most important areas, allowing for the restoration, enhancement, and maintenance of large blocks of habitat needed by LPC.
2. It identifies areas where development should be avoided, which also helps identify areas where development is of less concern for LPC. This provides developers with the guidance they typically seek for their development planning purposes and helps avoid conflicts over impacts to the species.

The conservation strategy employs various tools to achieve its management objectives with an emphasis on focal areas and connectivity zones. With the exception of New Mexico, over 95% of the current LPC range is on private lands. To be successful, the conservation strategy must emphasize delivery of habitat improvement in focal areas and connectivity zones by maximizing incentives to encourage landowners to engage in LPC habitat improvements and address stressors, such as development, especially if development impacts areas where habitat improvement is ongoing or development occurs at such a pace that the habitat improvement fails to keep up with the habitat degradation. This has to be either economically neutral or economically advantageous to the landowner. The strategy identified existing programs available to help provide these improvements and then worked with implementation teams and others to identify how to coordinate and maximize the delivery of these programs, especially in focal areas. Another important component of the strategy is identifying approaches and tools to avoid, minimize, and compensate through off-site mitigation the potential threats to LPC. This is accomplished through a mitigation framework that offers assurances for continued operations for developments in the future as long as enrolled participants are following identified guidelines and standards. This mitigation framework includes a metric system to quantify impact units and mitigation units.

WAFWA Mitigation and Metrics System

The WAFWA Mitigation Framework incentivizes avoidance and minimization of impacts to LPC habitat from development. The metrics system within this framework provides a pathway to mitigate for impacts to habitat through a biologically-based system that incorporates space, time and habitat quality to define both habitat impact units and habitat offset units. A habitat impact is defined as: potential LPC habitat that has been rendered unusable by LPCs based on direct or indirect habitat loss related to development. A habitat offset is defined as: an area of potential LPC habitat that is conserved and managed or restored to compensate for impacted habitat. Impacts are considered permanent, unless remediation back to baseline occurs. The mitigation system also utilizes a 2:1 mitigation ratio to ensure that offsets are greater than impacts, resulting in a net conservation benefit for the LPC.

The WAFWA Mitigation Framework functions as a platform to balance impact and habitat offset units in that a portion of the offset units are allocated at the sign-up based on current acreage and habitat quality. Additional offset units are generated annually and the quantity is reflective of potentially usable acreage and habitat quality. The landowner is incentivized to manage for quality habitat because their annual payment is based on the acreage and Habitat Evaluation Guide (HEG) score of the enrolled property. If the participant does not follow the recommended management plan for the property, the offset units will be reduced, as will the annual payment to the participant. This performance-based system ensures participants are not paid in advance for un-generated offset units.

Offset units will be generated by enrolling a property into an agreement with WAFWA or one of its technical service providers. Participants may enroll in short-term (5-10 year) agreements or in long-term agreements requiring an easement. The value of 25% of the habitat offset units will be targeted towards permanent conservation to support long-term conservation and population strongholds. The remaining 75% of the conservation efforts will be targeted towards short-term contracts (5-10 years), which represent permanent conservation that may shift around on the landscape within the targeting goals of the RWP and the SGP CHAT. Finally, the WAFWA mitigation system incentivizes the remediation of impacts that are not permanent on the landscape by providing the opportunity to generate offset units that can count toward new developments elsewhere. The 25/75 ratio of long and short-term offset units will be evaluated through the adaptive management process and may need to be adjusted in the future.

ADAPTIVE MANAGEMENT

Adaptive management is defined as a formal, structured approach to dealing with uncertainty in natural resource management, using the experience of management and the results of research as an ongoing feedback loop for continuous improvement. Adaptive approaches to management recognize that the answers to all management questions are not known and that the information necessary to formulate answers is often unavailable. Adaptive management also includes, by definition, a commitment to change management practices when deemed appropriate within the guidelines of the RWP.

Adaptive management is a dynamic process that helps reduce uncertainty in natural resource management by incorporating into flexible conservation plans new information as it becomes available. Adaptive management strategies allow for mutually agreed-upon changes to the conservation measures to occur in response to changing conditions or new information, including those identified during monitoring. The primary reason for using adaptive management in the RWP is to allow for changes in the conservation measures that may be necessary to reach the stated long-term goals. Under adaptive management, the mitigation and conservation activities implemented under the RWP will be monitored to identify whether or not they are producing the required results. Additionally, adaptive management activities affecting the implementation of the RWP will be influenced by emerging science and RWP implementation that fills existing knowledge gaps. Those two types of information will be used to guide adjustments in

implementation of the RWP. To date, the adaptive management process in the RWP can generally be broken into two categories. The first category is directed at ensuring the program maintains its progress toward LPC habitat and populations goals. The second is directed at enhancing participation by industry by avoidance and minimization of impacts on LPC populations and habitat by industry development, operations and maintenance

The RWP identifies a series of activities or situations that will trigger the adaptive management process or specific conservation actions for LPC, as well as the timelines that those activities or situations will be evaluated (see Table 10 on page 110-121 in the RWP). There are eight individual variables in that list which are to be evaluated on an annual scale:

1) Administrative fee—WAFWA reports on the sustainability of the administrative endowment in the annual reports (see the financial summary). In 2015, WAFWA did not adjust the administrative fee.
2) Individual technical service provider (TSP) compliance—Starting in May 2014, WAFWA has held four technical service provider training courses and has trained 243 individual TSPs on the use of spatial data available on the SGP CHAT website and the process for conducting field habitat evaluations. Certified TSPs submit habitat evaluations to the WAFWA GIS lab for review. These evaluations include photo points allowing for visual confirmation of t collected data. No TSP compliance issues were identified in 2015.
3) Population size—WAFWA conducts annual population monitoring and a detailed description is included in this report. Populations are evaluated on a three-year moving average, and 2016 will be the first window for evaluating the average for adaptive management triggers.
4) Conservation Practice Costs—As identified in the RWP, WAFWA established the LPC Fee Structure Working Group (LPCFSWG) and held the inaugural meeting on November 18, 2014. It was determined, more information was needed on how payments tied to practices were perceived by landowners based on their acceptance of contracts. After another year of RWP implementation, another meeting of the LPCFSWG was held on October 19, 2015. Upon presenting the information, WAFWA began development of a proposal recommending changes in conservation practice costs and the proposal was shared with the working group on December 7, 2015. The LPCFSWG accepted the proposed changes and forwarded it to the LPCAC for action in 2016. The outcome of the proposal will be reported in the 2016 annual report.
5) Emerging science—The RWP identified a Science Subcommittee or work group, (LPCSWG), that reviews and informs the LPC Advisory Committee on LPC science-related issues. Their reviews were incorporated into adaptive changes forwarded to the LPCAC and are summarized below.
6) Tangible mitigation unit offset ratio— The mitigation unit offset ratio in the RWP considers both acres and potential habitat quality of acres impacted and conserved. This combination of acres and habitat quality are represented as annual habitat units. This report contains an annual analysis of the acres impacted by industry development, habitat quality of those impacted acres and compares that to the acres conserved and the habitat quality of those acres. The comparisons are conducted on the scale of ecoregions, SGP CHAT categories, and reporting units.

7) Quality of the offset acreage—The habitat metric system defined in the RWP evaluates habitat quality for offset acreage on an annual basis. A summary of habitat quality is included in this report.

8) Habitat restoration goals—The RWP uses a system of focal areas and connectivity zones with goals of 70% suitable habitat in the focal areas and 40% in the connectivity zones. To achieve those goals, habitat must be restored for LPC. Many LPC conservation programs across the region, now use the SGP CHAT to target conservation efforts for. This report will include an annual evaluation of those goals considering the restoration efforts of all conservation programs that provide data for that analysis. The strength of this approach is that common targeting helps leverage conservation efforts and funding with efforts from partner organizations.

Rigorous evaluations of habitat quantity, sustainability of the conservation endowment, conservation practices, avoidance of high priority CHAT categories, and strongholds are scheduled for 2018. WAFWA also committed to expedited timelines for permanent conservation targeting strongholds and will be evaluated after the 2016 reporting period. However, this report contains information on the progress towards each of those goals.

In addition to the evaluation periods defined in the RWP, WAFWA also brought several other adaptive management issues before committees defined in the RWP to enhance RWP implementation. Several of these efforts were initiated in 2014 with review by the LPCAC and LPCSWG, with final decisions occurring in early 2015. However, the details of these decisions were not incorporated into the 2014 annual report. These efforts included:

1) *Development of a SGP CHAT layer identifying areas where no lek surveys are required*
   - Reviewed and approved by the Science Subcommittee on November 14, 2015
   - Approved by the LPCIC at the WAFWA winter meeting in Jan 2015
   - Reviewed by the LPCAC for concurrence on February 17, 2015

2) *Lek survey protocol changes*
   - Extend survey dates for ground and aerial surveys to March 15-May 7
   - Require one of the passes for ground surveys be in April
   - Shorten daily survey period to 1.5 hours past sunrise for both aerial and ground surveys
   - These recommendations were made by the LPCSWG on September 14, 2014.
   - Approved by the LPCIC at the WAFWA winter meeting in Jan 2015
   - Reviewed by the LPCAC for concurrence on February 17, 2015

3) *Allow for above ground electric distribution lines in areas without lek surveys*
   - Areas within 1 mile of incorporated areas (towns) are exempted from the lek survey requirement and distribution line burial requirements except within 1.25 miles of known active leks, and
   - For spur or terminal electric distribution lines outside of the 1-mile buffer around incorporated areas are exempted from the burial requirement if they:

- extend to any type of non-linear structure with a defined impact buffer and,
- extend no further than 200 m from an existing distribution line and no more than 200 m from a primary or secondary road.

• This proposal was brought before the LPCIC in December 2014, and WAFWA held a conference call with USFWS to discuss options to address the needs of the Electric Cooperatives over the holidays. Based on those discussions, and the analysis of the data involving leks and incorporated towns, the LPCIC decided to approve this proposal at the WAFWA winter meeting in January 2015.
• Reviewed by the LPCAC for concurrence on February 17, 2015

4) *Impact buffer changes*
• An impact buffer of 220 ft. (67 m) was applied to all railroads.
• The impact buffer for an off-site tank battery was reduced from 656 ft. (200 m) to 436 ft. (133 m).
• The LPCSWG reviewed and approved these recommendations on September 14, 2014.
• Approved by the LPCIC at the WAFWA winter meeting in Jan 2015
• Reviewed by the LPCAC on February 17, 2015

In 2015, WAFWA established a regular system of conference calls for its committees and formalized the process for review of adaptive management proposals. This process includes:

1. The proposals being reviewed by the LPCAC to determine if review by the LPCSWG or LPCFSWG are warranted. If so, those subcommittees review the proposal and provide feedback back to the LPCAC.
2. The LPCAC considers all relevant information and makes a recommendation to the LPCIC.
3. The LPCIC considers the recommendation from the LPCAC and the input from the subcommittees to make a final decision on the proposal.

The following adaptive management proposals went through the 2015 and were approved by the LPCIC:

1) *Electric substation impact buffer proposal*
• Sunflower Electric Cooperative submitted a proposal on June 2, 2015 requesting that WAFWA reconsider the impact buffers for small (<5 acres) electric substations and switching stations on the grounds that these impacts did not differ substantially from those of small compressor stations in terms of the acreage of the facility, noise levels or structure height. They requested that they buffer for this impact buffer be reduced to 200 meters.
• The LPCAC reviewed this proposal and sent it to the LPCSWG on June 17, 2015.
• The Science Subcommittee reviewed the proposal and recommended that the Advisory committee support it on June 25, 2015.

• The LPCAC agreed to recommend to the LPCIC approve the proposal on July 17, 2015.
• The LPCIC reviewed that information and approved the proposal at the WAFWA summer meeting on July 18, 2015.

2) *Spatial scale, precision and evaluation unit proposal*

• WAFWA brought this proposal forward to the Advisory Committee on July 13, 2015 to set spatial accuracy standards for mapping of proposed developments and evaluation units, as well as for spatial accuracy and gaps in aerial and ground-based lek surveys.
• The committee decided it did not warrant review by either of the subcommittees and made a recommendation to the LPCIC to approve the proposal on July 18, 2015.
• The LPCIC conditionally approved the proposal at the WAFWA summer meeting, but asked the Advisory Committee to remand it back to the Science subcommittee for additional information on an allowable level of gaps in aerial lek survey coverage.
• The LPCSWG reviewed an amendment on the aerial survey gaps on September 18, 2015. The LPCSWG asked for changes to that amendment. Those changes were incorporated and the subcommittee finalized its recommendation to the LPCAC on October 22, 2015.
• The LPCAC reviewed the Survey gap amendment on October 27, 2015 and recommended that the LPCIC approve the amendment.
• The LPCIC approved the survey gap amendment on Dec 8, 2015.

3) *Impact buffer proposal*

• WAFWA received a proposal from a company to consider adding an impact buffer for solar developments on May13, 2015.
• The LPCAC discussed the solar request on July 13 and referred it to the Science Subcommittee.
• During the discussion of the small electric substation proposal on June 25, 2015, members of the LPCSWG suggested that request to add impact buffers for different types of industrial sites could result in a lot of work for the committees. The members suggested they move forward with the substation proposal, but also revisit the RWP to determine what criteria were already included in the plan that could be applied as a basis for all types of industrial facilities.
• WAFWA staff worked with Interstate Working Group members to draft a broader impact buffer proposal that used already defined buffer distances in the RWP based on criteria for facility size, noise levels and structure height. The Science Subcommittee reviewed that impact buffer proposal on September 18, 2015.
• The LPCSWG finalized a recommendation to approve the Impact buffer proposal on September 30, 2015.
• The LPCAC reviewed and approved the proposal on October 27, 2015.

4) *Electric Distribution Proposal*

• A group of electric cooperatives approached WAFWA staff in spring 2014 to discuss their concerns with requirements for burial of electric distribution lines under the RWP, noting that they were the only industry required to bury infrastructure. WAFWA agreed to assist the Coops in an effort to develop a proposal that might identify instances where above ground distribution lines might have no impact or minimal impact on LPC. The coops provided spatial information on distribution lines and electric meter locations and about their needs. WAFWA staff used that information with the range-wide lek observation database it manages to craft that proposal.

• On October 27, 2015, the LPCAC reviewed the electric distribution proposal and remanded it to the LPCSWG to review. The review by the subcommittee was still ongoing as of Dec 31, 2015 when the reporting period ended.

INDUSTRY PARTICIPATION

The RWP is designed to include conservation measures that eliminate and/or reduce threats by land uses including mineral, oil/gas, and, wind-energy developments, agricultural practices, and civil infrastructure (including transmission and distribution lines, radio/cell towers, water lines, and roads) on state and private property. Below we summarize these conservation measures.

Lek surveys for project clearance

Under the RWP, participant companies may conduct lek surveys to address restrictions under the conservation measures in the WCA and the WAFWA Oil and Gas Candidate Conservation Agreement with Assurances (CCAA). Those conservation measures restrict activities during the breeding season where humans are present during the hours of 3 am to 9 am, noise levels for facilities constructed and mitigated for under the WCA and CCAA, and off road travel in rangeland or planted grass. They also require the marking of fences. Participants have the option of considering an area occupied with active leks and following those restrictions or conducting lek surveys as defined in the lek survey protocol, which covers both aerial and ground-based surveys (see Appendix H in the RWP and adaptive management section).

To receive a project clearance determination from WAFWA, survey data are submitted to WAFWA. Those data are checked to confirm they meet the lek survey protocol requirements. Project clearance surveys will have the appropriate buffers added (1 mile for ground surveys and 200m for aerial surveys), which are included in the lek survey layer on the CHAT website and available for public use for project planning. WAFWA updates this layer annually once all lek survey data is received and summarized in August. WAFWA uses this layer, and all lek survey information received, to assess survey coverage of proposed development projects. The survey coverage determines if breeding season restrictions apply. Surveys are considered valid for five breeding seasons.

In the spring of 2015, 53 companies, and state and federal agencies conducted independent lek surveys for project clearance. In addition, a cooperative effort funded through contributions of the members of the Oklahoma Independent Producers Association and Oklahoma began lek surveys intended to cover the EOR+10 within the state of Oklahoma. The total coverage of these 2015 surveys was 9,212,151 acres within the EOR+10 (Table 1, Figure 2). The total area covered by surveys considered as "active" (2011-2015) is 41% of the EOR+10 (Table 2). Companies, state and federal agencies conduct lek surveys based on their own needs and many, if not most, of these surveys are non-random. Inferences on these data for local, regional, or range-wide LPC populations should not be made.

All lek detections from project clearance surveys are included in the WAFWA lek database, along with lek locations from the range-wide population surveys and those reported from state and other data sources. If a new detection is recorded in an area that was surveyed in a prior year without detections, that new lek location supersedes the previous data and breeding season restrictions apply within 1.25 miles of that location for a minimum of five breeding seasons from the last detection. This database currently includes 2,501 lek observations recorded between 2005 and 2015, with 355 observations from the 2015 survey season (Figure 3). Of those leks observed between 2005 and 2015, 1,916 were in CHAT 1 (76.6%), 217 were in CHAT 2, 295 were in CHAT 3, and 65 in CHAT 4 and 8 were outside of the EOR10.

Table 1. Summary of acreage covered by lek surveys performed for project clearance in 2015 by ecoregion and CHAT category.

Ecoregions	CHAT	Year	Acres	% of area
Shortgrass Prairie	1	2015	73,884	3.9%
Shortgrass Prairie	2	2015	18,098	9.9%
Shortgrass Prairie	3	2015	43,420	2.5%
Shortgrass Prairie	4	2015	54,981	1.1%
Shortgrass	**total**	**2015**	**190,383**	**2.2%**
Sand Sagebrush Prairie	1	2015	278,728	17.6%
Sand Sagebrush Prairie	2	2015	20,911	8.5%
Sand Sagebrush Prairie	3	2015	413,416	22.0%
Sand Sagebrush Prairie	4	2015	126,412	2.9%
Sand Sagebrush	**total**	**2015**	**839,467**	**10.4%**
Mixed Grass Prairie	1	2015	1,030,877	40.0%
Mixed Grass Prairie	2	2015	495,076	44.4%
Mixed Grass Prairie	3	2015	2,276,490	43.9%
Mixed Grass Prairie	4	2015	471,229	12.5%
Mixed Grass	**total**	**2015**	**4,273,672**	**33.8%**
Shinnery Oak Prairie	1	2015	558,876	53.4%
Shinnery Oak Prairie	2	2015	505,057	56.6%
Shinnery Oak Prairie	3	2015	2,168,855	36.7%

Shinnery Oak Prairie	4	2015	675,841	21.3%
Shinnery Oak	**total**	**2015**	**3,908,628**	**35.4%**
EOR+10	1	2015	1,942,366	27.4%
EOR+10	2	2015	1,039,141	42.6%
EOR+10	3	2015	4,902,181	33.2%
EOR+10	4	2015	1,328,463	8.3%
EOR+10	**Grand total**	**2015**	**9,212,151**	**22.8%**

Table 2. Summary of acreage covered by lek surveys performed for project clearance in 2011-2015 (current active survey area).

Ecoregions	CHAT	Year	Acres	% of area
Shortgrass Prairie	1	2011-2015	134,716	7.2%
Shortgrass Prairie	2	2011-2015	18,098	9.9%
Shortgrass Prairie	3	2011-2015	75,131	4.2%
Shortgrass Prairie	4	2011-2015	72,834	1.5%
Shortgrass	**total**	**2011-2015**	**300,779**	**3.5%**
Sand Sagebrush Prairie	1	2011-2015	858,566	54.2%
Sand Sagebrush Prairie	2	2011-2015	97,795	39.9%
Sand Sagebrush Prairie	3	2011-2015	732,317	38.9%
Sand Sagebrush Prairie	4	2011-2015	349,052	8.1%
Sand Sagebrush	**total**	**2011-2015**	**2,037,731**	**25.4%**
Mixed Grass Prairie	1	2011-2015	1,956,256	75.9%
Mixed Grass Prairie	2	2011-2015	1,037,903	93.0%
Mixed Grass Prairie	3	2011-2015	4,599,565	88.7%
Mixed Grass Prairie	4	2011-2015	1,209,288	32.1%
Mixed grass	**total**	**2011-2015**	**8,803,012**	**69.6%**
Shinnery Oak Prairie	1	2011-2015	769,037	73.5%
Shinnery Oak Prairie	2	2011-2015	655,420	73.4%
Shinnery Oak Prairie	3	2011-2015	3,218,669	54.4%
Shinnery Oak Prairie	4	2011-2015	902,092	28.4%
Shinnery Oak	**total**	**2011-2015**	**5,545,218**	**50.3%**
EOR+10	1	2011-2015	3,718,575	52.5%
EOR+10	2	2011-2015	1,809,217	74.2%
EOR+10	3	2011-2015	8,625,683	58.5%
EOR+10	4	2011-2015	2,533,267	15.7%
EOR+10	**total**	**2011-2015**	**16,686,741**	**41.3%**

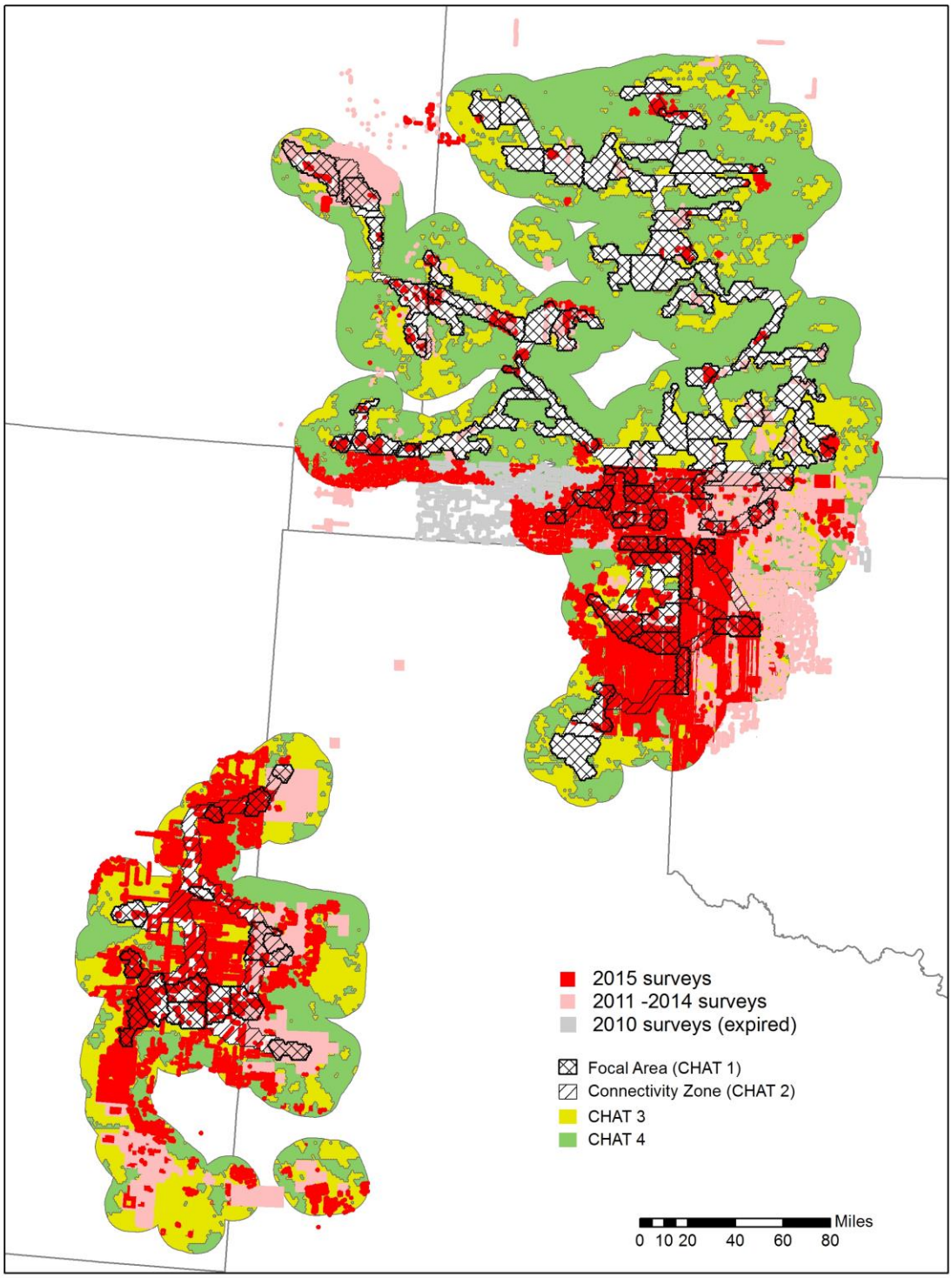

Figure 2. Map of project clearance lek surveys conducted in 2015, 2011-2014, and 2010 across the estimated occupied range of the lesser prairie-chicken with a 10-mile buffer (EOR+10).

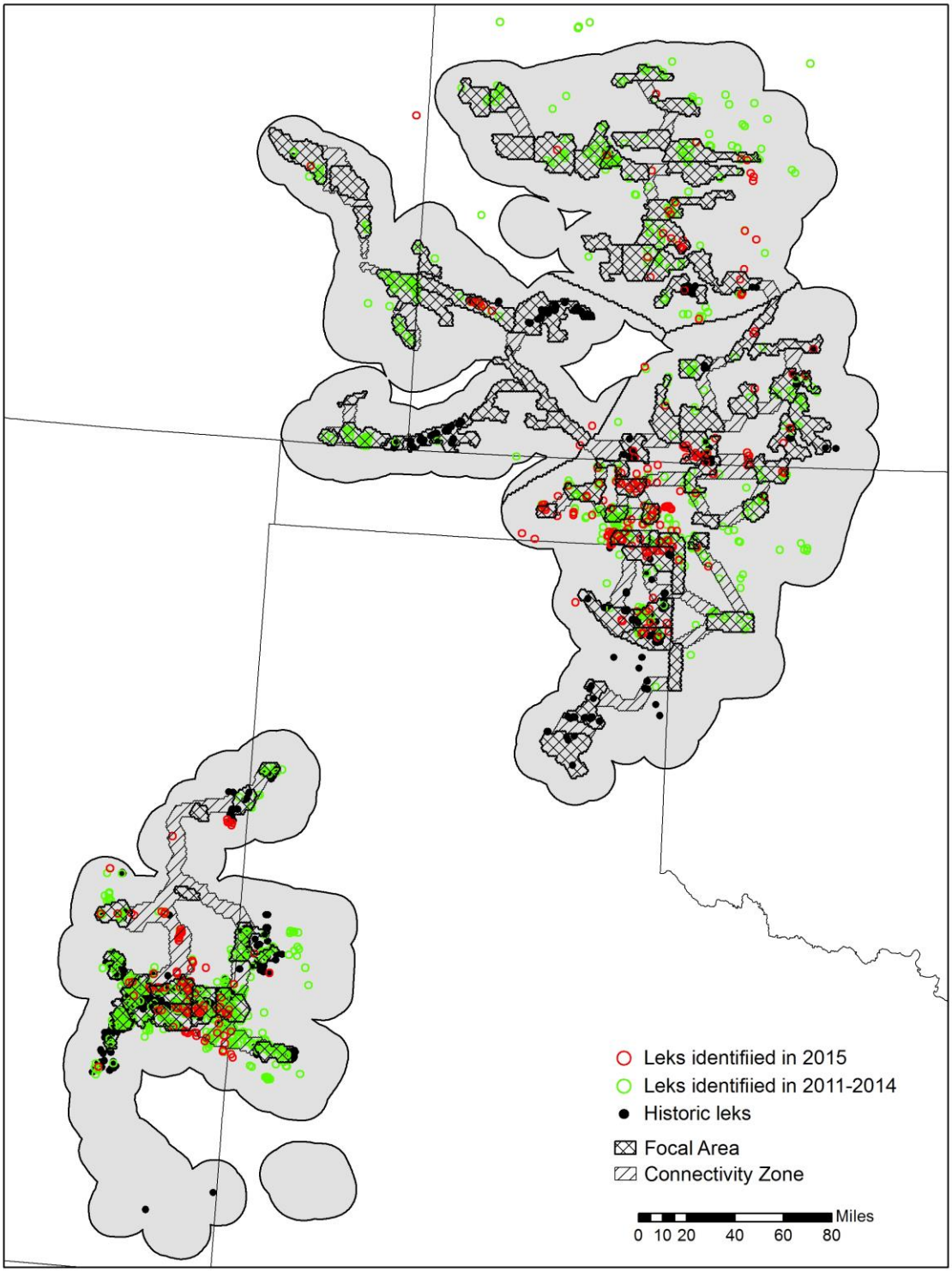

Figure 3. Map of leks identified in 2015 compared with those identified in 2011-2014 (still considered active) and leks last observed in 2010 or prior which are considered historic leks.

Industry Enrollment Audit

The WAFWA is currently conducting a spatial audit of all enrollments for the WCA and CCAA agreements. In 2014, prior to the listing decision, millions of acres were enrolled by companies over a period of six weeks. The spatial data for parcel enrollments was provided by the companies in a variety of different formats including legal descriptions, GIS shapefiles, Google Earth.kml/kmz files, CAD files and even hand drawn maps. Each of these data types required different methodologies to compile the data into a single database. Legal descriptions and hand drawn maps required digitizing. GIS shapefiles were submitted in a variety of different projections. Google Earth files and CAD files do not have a projection and require geo-referencing. At the time of these enrollments, WAFWA had two full-time staff and occasional interns to incorporate these data into a single database, while also addressing project submissions and mitigation of those projects. In order to process enrollments and invoice the companies for their enrollment fees, WAFWA allowed the participant companies to declare the number of acres enrolled and used this acreage for billing.

The CCAA and WCA also cover non-parcel based point and linear data such as electric lines and pipelines, as well as industrial sites such as compressor stations, trucking sites, gas plants, etc. Each of these enrollment types use a fixed enrollment rate that is not based on a declared acreage. These data were also submitted in a variety of data sources, and required incorporation and consolidation into a single database. These enrollments also required buffering to define the enrolled acres.

Following the listing decision, WAFWA began incorporating and consolidating those enrollments into a single GIS database. That process resulted in differences in the declared enrolled acreage and the GIS acreage for parcel enrollments. These differences can arise from differences in spatial projections, digitizing errors, calculation errors from both WAFWA and from the companies, including some related to industry specific software for managing parcel data. However, WAFWA staff were primarily focused on implementing the agreements and developing processes for that implementation. In 2015, WAFWA staff began comparing and resolving differences between the declared acreage in the accounting databases and the spatial databases. This process involved reviewing the initial enrollment data to confirm the declared acreage was consistent with enrollment information, reviewing the projected or digitized spatial data in the WAFWA database to ensure it was incorporated correctly, and sharing both data sources with the participant company to confirm.

The review process has been completed and the data sources results have been shared with the participant companies. Across all companies, the current actual GIS acreage was 1,913,080 acres more than the declared acreage. Differences between declared acreages and actual GIS acres for individual companies range from declared being 300,600 acres over to 88,000 acres under what is calculated in GIS, with a mean difference of 4,500 acres over. Eighty-two companies have more GIS acres than they declared on enrollment. Sixty-nine companies actually have less GIS acres than they declared on enrollment. Twelve companies had less than 1 acre of difference between the declared and the GIS acreage.

The main reason causing the differences between declared and GIS acreages involved double submitted/overlapping parcels. Enrollment in the RWP is steady and actually increasing, but because of the variation with the spatial data submitted in year one, looking strictly at the total number of acres reported as enrolled in the CCAA and WCA programs in the 2014 report versus this report it gives a false impression of an overall loss of 876,152 acres (499,738 less CCAA and 376,152 less WCA). In reality the WCA program enrolled 412,257 new acres, and when the CCAA program was re-opened in September of 2015 it enrolled 52,372 new acres and received 634,739 acres via transfers from existing WCA enrollments. This results in a net increase of 464,629 acres of new enrollment. Efforts to finalize the enrollment audit during the 2016 reporting period will be stressed so that a consistent measure of enrollment can be obtained.

Differences in enrollment acres will be resolved on an individual basis with each company. In cases where the GIS acreage is less than the declared acreage, companies will be given the option to either add parcels to bring the GIS acreage in line with the declared acreage on which the enrollment fees were based or crediting the difference towards their remaining enrollment fees. In cases where the GIS acreage is greater than the declared acreage, companies will be given the option of paying the additional enrollment fees or removing parcels from that enrollment that have not been developed during that period of enrollment so that the spatial extent of their enrollment matches the area they are paying enrollment fees.

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Another issue identified with this spatial audit is addressing mitigation projects that are not associated with enrolled parcels. During the initial RWP implementation, millions of acres of enrolled parcels required digitizing to incorporate into the WAFWA spatial database. During that time, companies were also submitting new development projects for mitigation. Without a spatial database to compare project locations and enrollment, WAFWA had to rely on companies to ensure their projects submitted were on or associated with enrolled parcels. WAFWA has identified 129 projects that were not on enrolled parcels that were submitted to WAFWA and mitigation payments were provided to acquire conservation offset units. Some of these projects are associated with enrolled properties, while others were submission errors. WAFWA has contacted each company and requested documentation to confirm which projects are submission errors. Companies will be given the opportunity to enroll these submission error parcels to ensure coverage of operation and maintenance activities for those projects.

Several changes in project submittal methodology were initiated in 2015 to ensure these complications do not continue to occur. When new parcels are submitted to WAFWA for enrollment (or transfer), the GIS calculated acreage is compared against the declared acres and the GIS acres are confirmed with the company, if differences are recognized. Once confirmed as accurate, it is the GIS acres that are sent to accounting to be used for billing. To ensure new projects are located on enrolled parcels, projects are intersected with the enrollment layer. If the project is not on a parcel, the project is attributed as such and the company is notified of this status. Before the project can be finalized, the company needs to enroll the parcel the project is on, or identify a nearby parcel the project is extracting from (in the case of horizontal well bores).

WAFWA Conservation Agreement(*WCA)* Participation by Industry

The WAFWA conservation agreement (WCA) covers oil and gas, pipelines, wind energy, electric distribution and transmission and other activities (See Sec. 10 of the WCA). In March of 2014 there were 79 companies enrolled in the WCA. As of December 15, 2015, there were 68 companies enrolled with active WCA contracts (signed Certificates of Participation) and 22 inactive WCA contracts where the acres were transferred to the CCAA. WAFWA maintains those WCA contracts as inactive, so that the companies may enroll new properties as they acquire them. Four companies were purchased by or merged with other companies that were also enrolled in the program and one company elected to terminate its agreement after paying all three years of enrollment fees. There were 14 new companies that enrolled in the WCA during 2015 (company names highlighted in yellow in Table 3). These new enrollments included 19 oil and gas companies, two rural electric cooperatives, one pipeline and two wind companies. Certificates of Participation for this agreement have been scanned and made available to USFWS on a secure website.

Table 3. Companies enrolled under the WAFWA Conservation Agreement with Assurances and the status of those enrollments as of December 31, 2015. New enrollments during 2015 are highlighted in yellow. The status of the enrollments is recorded as active, inactive, sold/merged, or terminated. All inactive agreements represent transfers to the CCAA. All sold/merged agreements represent sales or mergers with other companies that were enrolled in the agreement.

Company	Status
Alfalfa Electric Cooperative, Inc.	Active
American Electric Power Service Corporation	Active
Anadarko E&P Onshore LLC	Active
Bailey County Electric Cooperative, Association	Active
Bluestem Wind Energy, LLC	Active
BP America	Active
Central Valley Electric Cooperative, Inc.	Active
Chaparral Energy LLP	Active
Cimarex Energy Co.	Active
Cimarron Electric Cooperative	Active
Coral Coast Petroleum, LC	Active
Deaf Smith Electric Cooperative Inc.	Active
Dolomite Resources Corporation	Active
E R Operating Company	Active
Eagle Exploration	Active
Eagle Oil & Gas	Active
Edison Operating Company, LLC	Active
Enterprise Products Operating	Active
Forestar Petroleum Corporation	Active

Gore Oil Company, Inc.	Active
Grand Mesa Pipeline, LLC	Active
Greenbelt Electric Cooperative, Inc.	Active
Hess Oil Company	Active
Indian Exploration Company, LLC	Active
ITC Great Plains LLC	Active
John O. Farmer, Inc.	Active
Jones Energy LLC	Active
Kaiser-Francis Oil Company	Active
Kiwash Electric Cooperative, Inc.	Active
Lyntegar Electric Cooperative, Inc.	Active
Magellan Midstream Partners, LP	Active
MarkWest OK Gas Company, LLC	Active
Nadel and Gussman Operating LLC	Active
Ninnescah Rural Electric Coop.	Active
North Plains Electric Cooperative	Active
Northfork Electric Cooperative	Active
Northwestern Electric Cooperative	Active
OGE Energy Corp.	Active
Opal Resources	Active
OXY USA, Inc.	Active
P.O. & G. Operating LLC	Active
Peregrine Petroleum Partners, Ltd.	Active
Pioneer Resources, Inc.	Active
Prairie Wind Transmission	Active
Ramsey Property Management	Active
Raydon Exploration	Active
Raymond Oil Company, Inc.	Active
Red Oak Energy Inc.	Active
Regency Energy Partners LP	Active
Roosevelt County Electric Cooperative	Active
Samuel L. Gary Jr. & Associates, Inc.	Active
Slawson Exploration Company	Active
Southern Star Central Gas Pipeline, Inc.	Active
Stratakan Exploration, LLC	Active
Sunflower Electric Power Corporation	Active
Superior Pipeline Co.	Active
T.H. McElvain Oil & Gas LLP	Active
Texakoma Exploration & Production, LLC	Active
Toto Energy, LLC	Active
Tower Assets Newco IX, LLC	Active
Tri-County Electric Cooperative	Active

Unit Petroleum Company	Active
VAL Energy	Active
Versado Gas Processors, LLC	Active
Western Farmers Electric Cooperative	Active
Western Gas Partners, LP	Active
W.R. Williams, Inc.	Active
Xcel Energy Inc.A59A2:A69	Active
Access Midstream	Sold/Merged
Apache Corporation	Inactive
RES Americas-Bluestem	Sold/Merged
Broadview Energy	Terminated
Centurion Pipeline	Inactive
COG Operating, LLC	Inactive
Conoco Phillips	Inactive
Continental Resources, Inc.	Inactive
DCP Midstream LP	Inactive
Devon Energy Corporation - Kansas	Inactive
Eagle Rock Energy Services, LP	Sold/Merged
Eagle Rock Field Services, LP	Sold/Merged
Enable Midstream Partners	Inactive
Energy Transfer Partners	Inactive
Enervest Operating LLC	Inactive
Jayhawk Pipeline LLC	Inactive
Kirkpatrick Oil Company Inc.	Inactive
Landmark Resources, Inc.	Inactive
Linn Operating, Inc.	Inactive
Mewbourne Oil Company	Inactive
Midcoast operating, LP	Inactive
ONEGAS, Inc.	Inactive
ONEOK Partners, LP	Inactive
Plains All American Pipeline	Inactive
Samson Resources	Inactive
SemGroup Corporation	Inactive
Tapstone Energy, LLC	Inactive

The current enrollment area totals for the 68 companies in the WCA is 2,550,605.8 acres. The majority of those acres (53.3%) are in the Mixed Grass Ecoregion, followed by the Shinnery Oak Prairie Ecoregion (26.6%), the Sand Sagebrush Ecoregion (12.5%), the Shortgrass Prairie Ecoregion (7.6%). All these numbers are subject to change based on the final findings of the enrollment audit described above. These numbers are down 12.9 % from the 2,927,020 acres reported in 2014 (Table 4). This difference overwhelmingly reflects acreage that was transferred

to the CCAA or changes in acreages related to the enrollment audit. Companies that transferred into the CCAA referenced a desire for stronger legal assurances associated with a CCAA permit instead of the WCA permit that is dependent of a 4(d) rule. There was only one instance where acres were terminated from the WCA during 2015, totaling 289 acres (<0.01%). Figures 4 and 5 depict the distribution of the WCA enrollments across the extent of the RWP.

Table 4. Summary of acreage enrolled in the WAFWA Conservation Agreement by Ecoregion and CHAT category

Ecoregions	CHAT	WCA
Mixed Grass Prairie	1	81,553.8
Mixed Grass Prairie	2	72,000.9
Mixed Grass Prairie	3	687,080.1
Mixed Grass Prairie	4	519,049.4
Mixed Grass Prairie	**total**	**1,359,684.1**
Sand Sagebrush Prairie	1	76,734.5
Sand Sagebrush Prairie	2	5,829.5
Sand Sagebrush Prairie	3	50,830.5
Sand Sagebrush Prairie	4	184,970.0
Sand Sagebrush Prairie	**total**	**318,364.5**
Shinnery Oak Prairie	1	28,321.8
Shinnery Oak Prairie	2	33,304.8
Shinnery Oak Prairie	3	318,406.0
Shinnery Oak Prairie	4	297,962.1
Shinnery Oak Prairie	**total**	**677,994.7**
Shortgrass Prairie	1	27,938.6
Shortgrass Prairie	2	5,086.4
Shortgrass Prairie	3	29,846.2
Shortgrass Prairie	4	131,691.3
Shortgrass Prairie	**total**	**194,562.6**
Ecoregion Totals		**2,550,605.8**

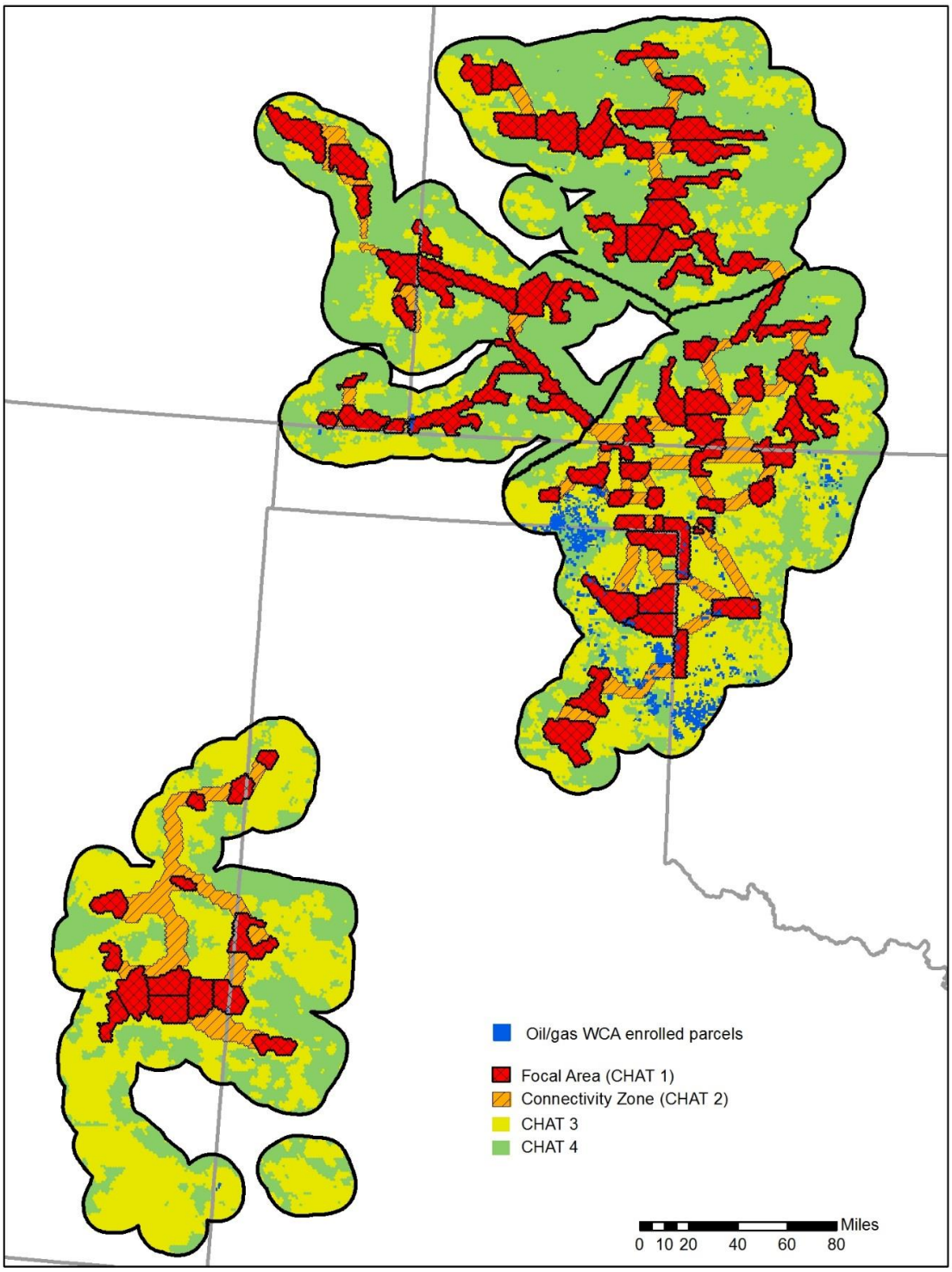

Figure 4. Map of oil and gas enrollments in the WAFWA Conservation Agreement as of December 31, 2015.

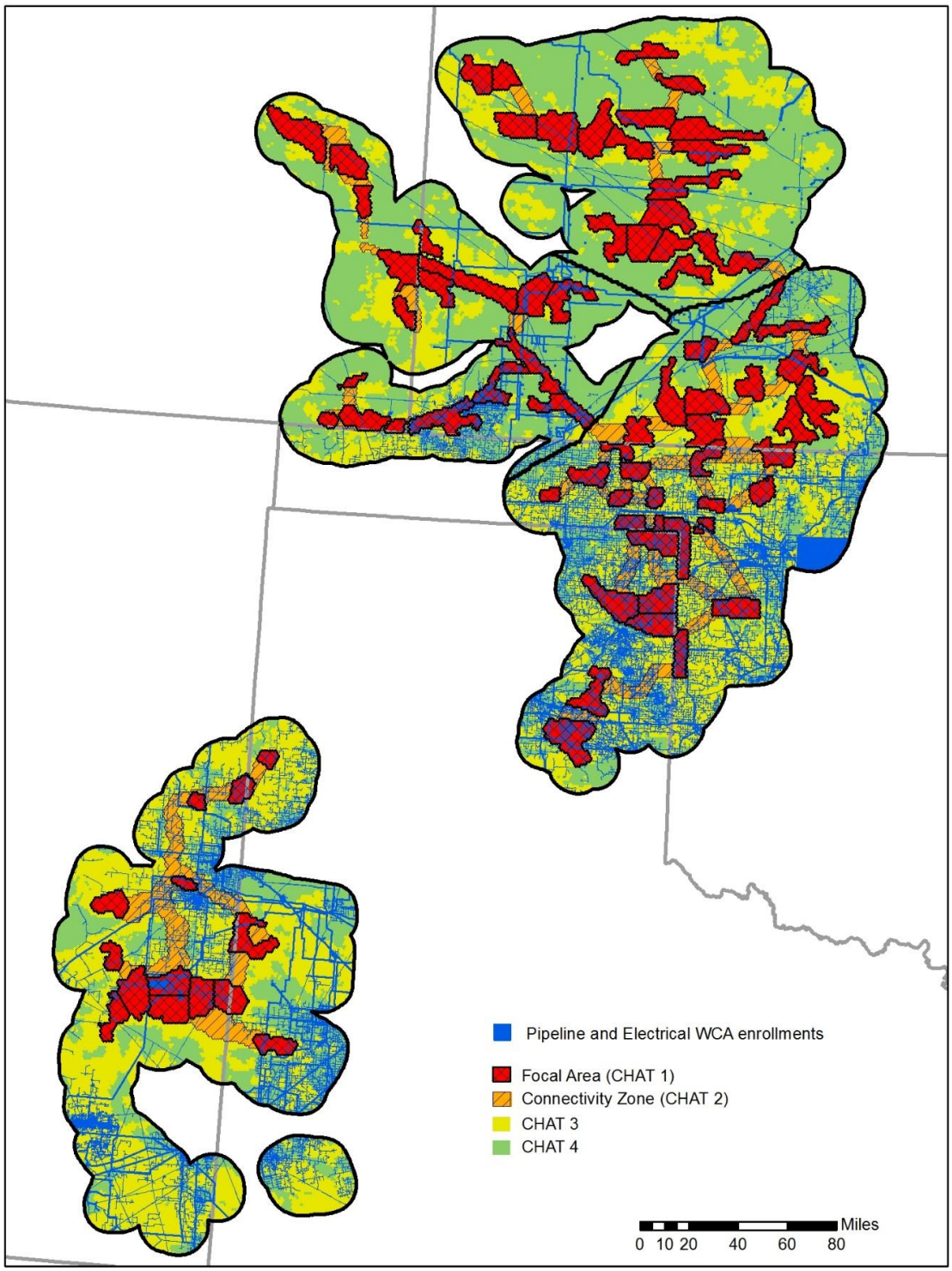

Figure 5. Map of electric and pipeline enrollments in the WAFWA Conservation Agreement as of December 31, 2015

The 68 companies participating in the WCA through the RWP currently have a total of 2,550,605.8 acres across the EOR+10. These enrollments represent oil and gas leases, wind developments, pipelines, gas plants electric lines and telecommunications towers. Oil and gas leases, wind developments and telecom sites are enrolled as parcels. Linear impacts such as pipelines and electric lines are buffered by 50 feet (15.25 meters) to define the enrolled acreage. This generally approximates the largest right of way width for these linear projects. The majority of the enrollments are oil and gas leases followed by electric lines, pipelines, and wind energy respectively. Table 5 shows acres enrolled through the WCA by industry type, SGP CHAT, and ecoregion.

Table 5. Summary of acres enrolled in the WAFWA Conservation Agreement by ecoregion, CHAT category, and industry type.

CHAT	Mixed Grass Prairie		Sand Sagebrush Prairie		Shinnery Oak Prairie		Shortgrass Prairie	
	Industry	Acres	Industry	Acres	Industry	Acres	Industry	Acres
1	Electric	44,546	Electric	56,047	Electric	27,122	Electric	24,818
	Oil & Gas	26,598	Oil & Gas	4,029	Oil & Gas	329	Oil & Gas	1,396
	Pipeline	10,411	Pipeline	16,658	Pipeline	871	Pipeline	1,725
	Total	**81,554**	**Total**	**76,734**	**Total**	**28,322**	**Total**	**27,939**
2	Electric	37,984	Electric	5,344	Electric	32,435	Electric	4,433
	Oil & Gas	25,005	Oil & Gas	63	Oil & Gas		Oil & Gas	383
	Pipeline	9,012	Pipeline	422	Pipeline	869	Pipeline	270
	Total	**72,001**	**Total**	**5,829**	**Total**	**33,305**	**Total**	**5,086**
3	Electric	375,010	Electric	40,451	Electric	308,619	Electric	27,218.9
	Oil & Gas	264,471	Oil & Gas	1,735	Oil & Gas	1,427	Oil & Gas	1,453.7
	Pipeline	47,599	Pipeline	8,645	Pipeline	8,360	Pipeline	1,173.6
	Total	**687,080**	**Total**	**50,831**	**Total**	**318,406**	**Total**	**29,846**
4	Electric	349,136	Electric	165,784	Electric	292,168	Electric	120,084.8
	Oil & Gas	117,281	Oil & Gas	1,292	Oil & Gas		Oil & Gas	5,468.3
	Pipeline	52,632	Pipeline	17,893	Pipeline	5,794	Pipeline	6,138.2
	Total	**519,049**	**Total**	**184,970**	**Total**	**297,962**	**Total**	**131,691**
	Mixed Grass Total	1,359,684	Sand Sagebrush Total	318,364	Shinnery Oak Total	677,995	Shortgrass Total	194,563

WCA COMPLIANCE

A component of the RWP is to ensure implementation of conservation actions. In this section we summarize actions taken by WAFWA to monitor compliance with the RWP.

WCA suspensions for non-payment of enrollment fees

The recent declines in the oil and gas market have severely impacted that industry. Due to that slowdown, three companies were suspended for non-payment of enrollment fees during 2015. One of those suspensions was resolved when the company paid their past due balance. The other two remain unresolved, but WAFWA is offering to negotiate payment plans to get those companies out of suspension. Those payment plans would still require companies pay mitigation costs prior to any new development, and are designed to ensure the endowment fund maintains its expected rate of return. The total outstanding 2015 enrollment fee balance for the remaining

suspensions is $16,304.71. This outstanding balance is less than 0.004% of the total amount invoiced by WAFWA for the WCA and CCAA enrollments and mitigation in 2014-15.

Summary of WCA non-compliance

In 2015, WAFWA implemented the first phase of compliance monitoring. This phase included site visits by WAFWA staff on a random sample of 10% of all projects where mitigation was completed regardless of project type, across all ecoregions. This random compliance monitoring was widely outreached to all participants to ensure that all companies were aware that their compliance could be monitored. For each visit, the staff recorded information to confirm that the project was constructed and mapped correctly according to WAFWA standards, whether or not the project was within 1.25 miles of a known active lek or if the area within 1.25 had currently lek clearance surveys, the presence or absence of unmitigated infrastructure associated with the project that is not in our database, noise levels, evidence of off-road travel or broadcast herbicide use, and presence of escape ramps and fence markers where appropriate. This monitoring will continue year-round in future years, but in 2015 all monitoring occurred after the breeding season due to the fact that WAFWA was still filling field staff positions in June.

Out of the 41 random projects chosen, 32 were associated with parcels enrolled under the CCAA and monitoring results from monitoring will be reported in the CCAA section. Six were associated with parcels enrolled under the WCA and three were of unknown enrollment status. These three projects were mitigated for by participant companies in 2014 during the initial implementation period for the RWP program, but are not on properties currently in WAFWA databases as enrolled in the CCAA or WCA. The status of these projects is still being addressed through an audit of all enrollments. WAFWA implemented procedures to ensure that all mitigated projects were associated with enrolled properties after the mitigation was completed on these three projects.

Of the six WCA projects monitored for compliance, all were oil and gas wells, and all six were constructed. No incidences of non-compliance were recorded.

WAFWA plans to implement a phase two of compliance monitoring that utilizes existing public project permitting data to search for projects occurring on enrolled parcels that may not be submitted to us for analysis and mitigation. The implementation of phase two will begin in the fall of 2016.

WCA emergency and non-emergency operations and LPC mortality reporting

Emergency and non-emergency operations reporting is an issue WAFWA is having ongoing difficulties with reporting. The agreements specify two different reporting timelines which creates confusion for companies. In one section it requires companies to report within 30 days, while another specifies a reporting deadline of October 1. The agreements also do not specify a specific format, so we often receive reports that do not even specify which agreement the property is enrolled under. This is an issue we intend to resolve over the coming year. Our

intention is to incorporate an emergency operations notification into the WAFWA Conservation Toolkit and require companies to report these instances within 30 days using a predefined format to ensure we get consistent and correct information. It is unlikely that this portion of the Toolkit will be completed during the 2016 breeding season, so we are implementing an interim web-based solution that was reviewed by USFWS in 2015. This interim solution will not have geospatial capabilities to automatically determine if the location reported is within 1.25 miles of leks or to produce other spatial summary information. We hope to include those options for the 2017 breeding season.

Only three companies reported emergency operations in 2015 and we have not separated these reports by agreement type.

The first company reported two instances of emergency operations where transfer pumps shut down and they were required to respond to prevent a spill. These two occasions were on April 24, 2015 from 3:00 am to 5:00 am and on May 12, from 3:00 am to 5:30 am. Both locations were in the Mixed Grass region.

The second company reported a single incident of emergency operations where a natural gas pipe line developed a leak in a wheat field in the Mixed Grass region. The leak was reported at 9:00 am on March 17th. The site was excavated and repaired by March 18.

The third company misinterpreted the language on page 75 of the CCAA and page 4 of the WCA which states "Emergency operations that are meant to address direct human or environmental safety concerns or emergency operations that relate directly to operational continuity are allowed." To allow for emergency visits related solely to operational continuity. WAFWA interprets the agreement to cover emergency operations for operational continuity only when those situations may result in threats to environmental and human health and safety. The company reported 41 emergency operations in the Sand Sagebrush Eco-region prior to the October 1 reporting date and was unable after the fact to confirm these represented a threat to environmental and human health and safety. The company recognized the oversight and has communicated with field staff these visits are not allowed under the agreement.

No companies reported non-emergency operations within 1.25 miles of leks in 2015, or instances of LPC mortality or injury in 2015.

CCAA *INDUSTRY PARTICIPATION*

The CCAA covers oil and gas and related activities such as roads, pipelines and electric service for oil and gas facilities. As of December 31, 2015, there were 134 companies enrolled and four additional CCAA contracts where companies were sold or merged with other companies already enrolled in the CCAA. Of the 134 enrolled companies, two of these were new companies added to the program in 2015 (Table 6, highlighted in yellow). Both purchased acreage already enrolled in the program by another company. Certificates of Inclusion, with contact information, for this agreement have been scanned and made available to FWS on a secure website.

Table 6. Companies enrolled under the Range-wide Oil and Gas Candidate Conservation Agreement with Assurances and the status of those enrollments as of December 31, 2015. Companies highlighted in yellow were new contracts added in 2015

Company Name	**Status**
Anadarko Minerals, Inc.	Active
Anadarko Petroleum Corporation	Active
Apache Corporation	Active
Ares Energy Ltd.	Active
Beren Corporation	Active
Berexco LLC	Active
BP America	Active
Castelli Exploration, Inc.	Active
Central Operating Inc.	Active
Centurion Pipeline L.P.	Active
Chisholm Partners II, LLC	Active
Cholla Production, LLC	Active
Cimarex Energy Co.	Active
CMX, Inc.	Active
Coats Energy, Inc.	Active
COG Operating, LLC	Active
Conoco Phillips	Active
Continental Resources, Inc.	Active
Corlena Oil Company	Active
Crawley Petroleum Corporation	Active
Culbreath Oil & Gas Co., Inc.	Active
Cynosure Energy LLC	Active
DaMar Resources, Inc.	Active
Daystar Petroleum Inc.	Active
DCP Midstream LP	Active
Devon Energy Corporation	Active
Diehl Oil, Inc.	Active
Dorchester Minerals Operating LP	Active
Duncan Oil Properties, Inc.	Active
Eagle Rock Energy Services, LP	Active
Eagle Rock Field Services, LP	Active
Eagle Rock Mid-Continent Operating, LLC	Active
Eagle Rock Operating Company, LLC	Active
Edison Operating Company, LLC	Active
Edminston Oil Company, Inc.	Active

Elevation Resources LLC	Active
Empire Energy E&P LLC	Active
Enable Midstream Partners	Active
Encino Operating, LLC	Active
Energex LLC	Active
Energy Alliance Company, Inc.	Active
Energy Transfer Partners	Active
Enervest Operating LLC	Active
EOG Resources, Inc.	Active
Eternity Exploration LLC	Active
Fasken Oil and Ranch	Active
Forestar Petroleum Corporation	Active
Griffin Management LLC	Active
IA Operating, Inc.	Active
Jayhawk Pipeline LLC	Active
JMA Energy Company, LLC	Active
Jolen Operating Company	Active
Jones Energy LLC	Active
Joshi Technologies International, Inc.	Active
Kenneth W. Cory, Ltd.	Active
Kinder Morgan Inc.	Active
Kirkpatrick Oil Company Inc.	Active
Laddex Ltd.	Active
Landmark Resources, Inc.	Active
LB Exploration, Inc.	Active
Le Norman Operating LLC	Active
Legacy Reserves Operating LP	Active
Lighthouse Oil & Gas LP	Active
Linn Operating, Inc.	Active
M&M Exploration, Inc.	Active
Magellan Midstream Partners, LP	Active
Marathon Oil Company	Active
MarkWest OK Gas Company, LLC	Active
Maverick Brothers Resources, LLC	Active
McGinness Oil Co. of Kansas, Inc.	Active
Meridian Energy Inc.	Active
Merit Energy Company, LLC	Active
Mewbourne Oil Company	Active
MIDCO Exploration, Inc.	Active

Midcoast Operating	Active
MidCon Energy Operating LLC	Active
Midnight Hour, LLC	Active
Mikol Oil, LLC	Active
Murfin Drilling Co., Inc.	Active
Nadel and Gussman Operating LLC	Active
Nadel and Gussman Permian LLC	Active
O'Benco IV LP	Active
Ol' Miss, LLC	Active
ONE Gas Inc.	Active
ONEOK Partners, LP	Active
Oolite Energy Corporation	Active
Osage Investors I, LLC	Active
Osage Oil, LLC	Active
Occidental Permian	Active
Paladin Energy Corp.	Active
Panhandle Topeka, LLC	Active
Pickrell Drilling Company, Inc.	Active
Pintail Petroleum, Ltd.	Active
Pioneer Natural Resources USA, Inc.	Active
Pioneer Oil Company, Inc.	Active
Plains All American Pipeline	Active
QEP Energy Company	Active
Questa Energy Corporation	Active
Range Resources	Active
Red Oak Energy Inc.	Active
Redland Resources, LLC	Active
Rio Petroleum, Inc.	Active
Samson Resources	Active
Samuel L. Gary Jr. & Associates, Inc.	Active
Sandridge Expl. & Prod. LLC	Active
SemGroup Corporation	Active
Shakespeare Oil Company	Active
Stanolind Operating Inc.	Active
Strand Energy LLC	Active
Strat Land Exploration Co.	Active
T.H. McElvain Oil & Gas LLLP	Active
Tabula Rasa Partners LLC	Active
Tandem Energy Corporation	Active

Tapstone Energy, LLC	Active
Tengasco Inc.	Active
Texakoma Exploration & Production, LLC	Active
Texland Petroleum, LP	Active
Thomason Petroleum Inc.	Active
Toto Energy, LLC	Active
Trey Resources Inc.	Active
Triad Energy Inc.	Active
Unit Petroleum Company	Active
Versado Gas Producers	Active
Viking Resources, Inc.	Active
Vincent Oil Company	Active
W.R. Williams, Inc.	Active
Ward Petroleum Corporation	Active
Western Gas Partners, LP	Active
Western Operating Company	Active
White Exploration, Inc.	Active
Whiting Petroleum Corporation	Active
Williford Energy Company	Active
Younger Energy Company	Active
Zinszer Oil Company, Inc.	Active
Access Midstream Partners	Sold/Merged
Highmount Operating LLC	Sold/Merged
Oxy, USA, Inc.	Sold/Merged
Regency Energy Partners LP	Sold/Merged

As with the WCA, all CCAA enrollments are currently being audited to confirm the accuracy of the spatial data submitted by the participant companies. The 134 companies in the CCCA have enrolled a total of 7,876,547 acres (Table 7). The majority of that enrollment (53.3%) is in the Mixed Grass ecoregion, followed by the Sand Sagebrush ecoregion (321.7%), the Shinnery Oak Prairie ecoregion (10.4%), the Shortgrass Prairie Ecoregion (4.7%) (Figures 6,7). All the enrolled CCAA acreage figures are subject to the enrollment audit process described above.

Table 7. Summary of acreage enrolled in the Range-wide Oil and Gas Candidate Conservation Agreement with Assurances by Ecoregion and CHAT category.

Ecoregions	CHAT	CCAA
Mixed Grass Prairie	1	773,561.3
Mixed Grass Prairie	2	428,855.1
Mixed Grass Prairie	3	2,195,143.9
Mixed Grass Prairie	4	801,625.9
Mixed Grass Prairie	**total**	**4,199,186.2**
Sand Sagebrush Prairie	1	778,692.8
Sand Sagebrush Prairie	2	35,994.4
Sand Sagebrush Prairie	3	353,832.9
Sand Sagebrush Prairie	4	1,326,589.4
Sand Sagebrush Prairie	**total**	**2,495,109.4**
Shinnery Oak Prairie	1	21,442.9
Shinnery Oak Prairie	2	26,746.0
Shinnery Oak Prairie	3	398,365.8
Shinnery Oak Prairie	4	368,726.6
Shinnery Oak Prairie	**total**	**815,281.4**
Shortgrass Prairie	1	70,054.8
Shortgrass Prairie	2	17,691.1
Shortgrass Prairie	3	78,237.7
Shortgrass Prairie	4	200,986.6
Shortgrass Prairie	**total**	**366,970.2**
EOR+10	**total**	**7,876,547.1**

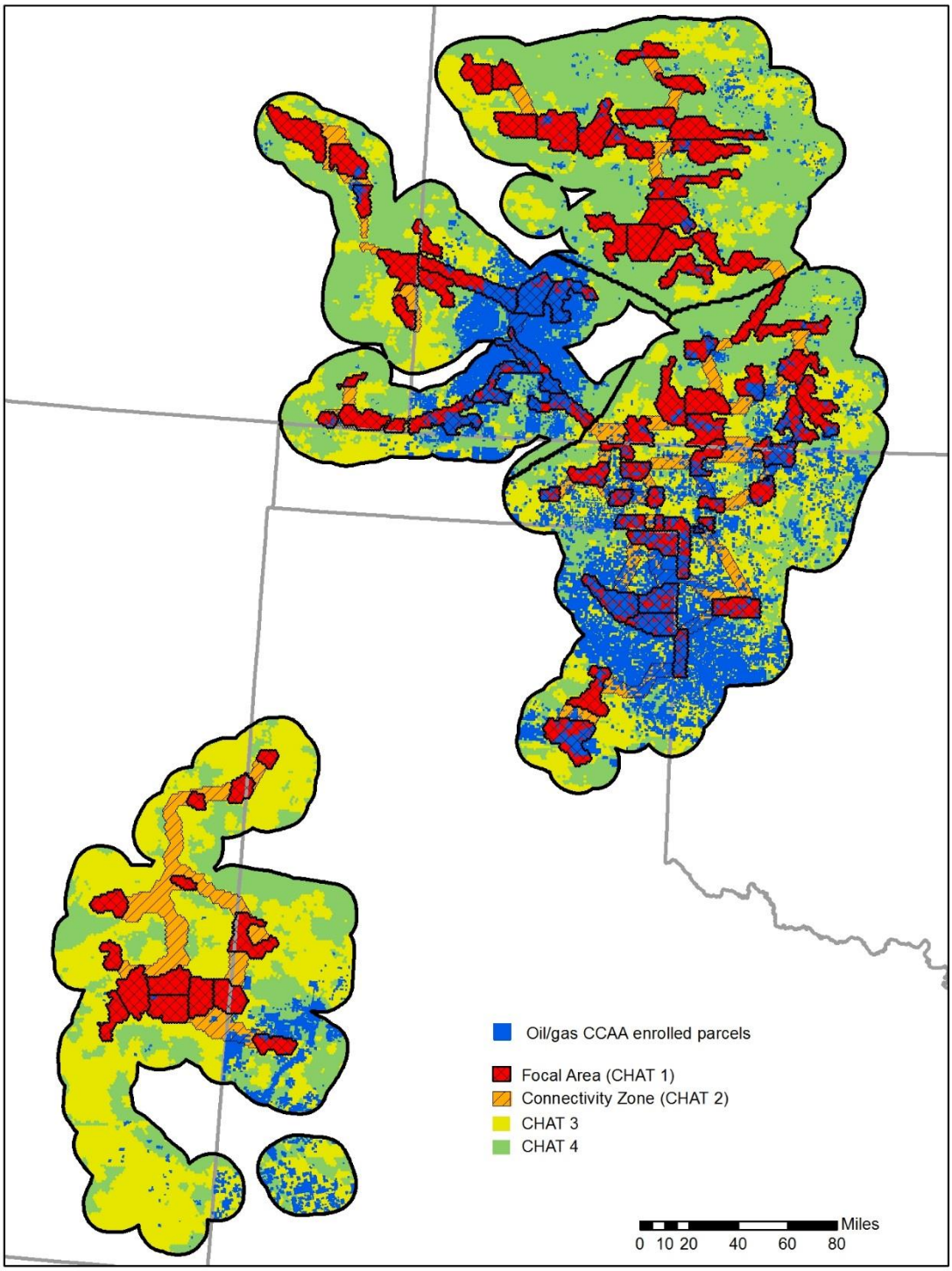

Figure 6. Map of oil and gas enrollments in the Range-wide Oil and Gas Candidate Conservation Agreement with Assurances as of December 31, 2015

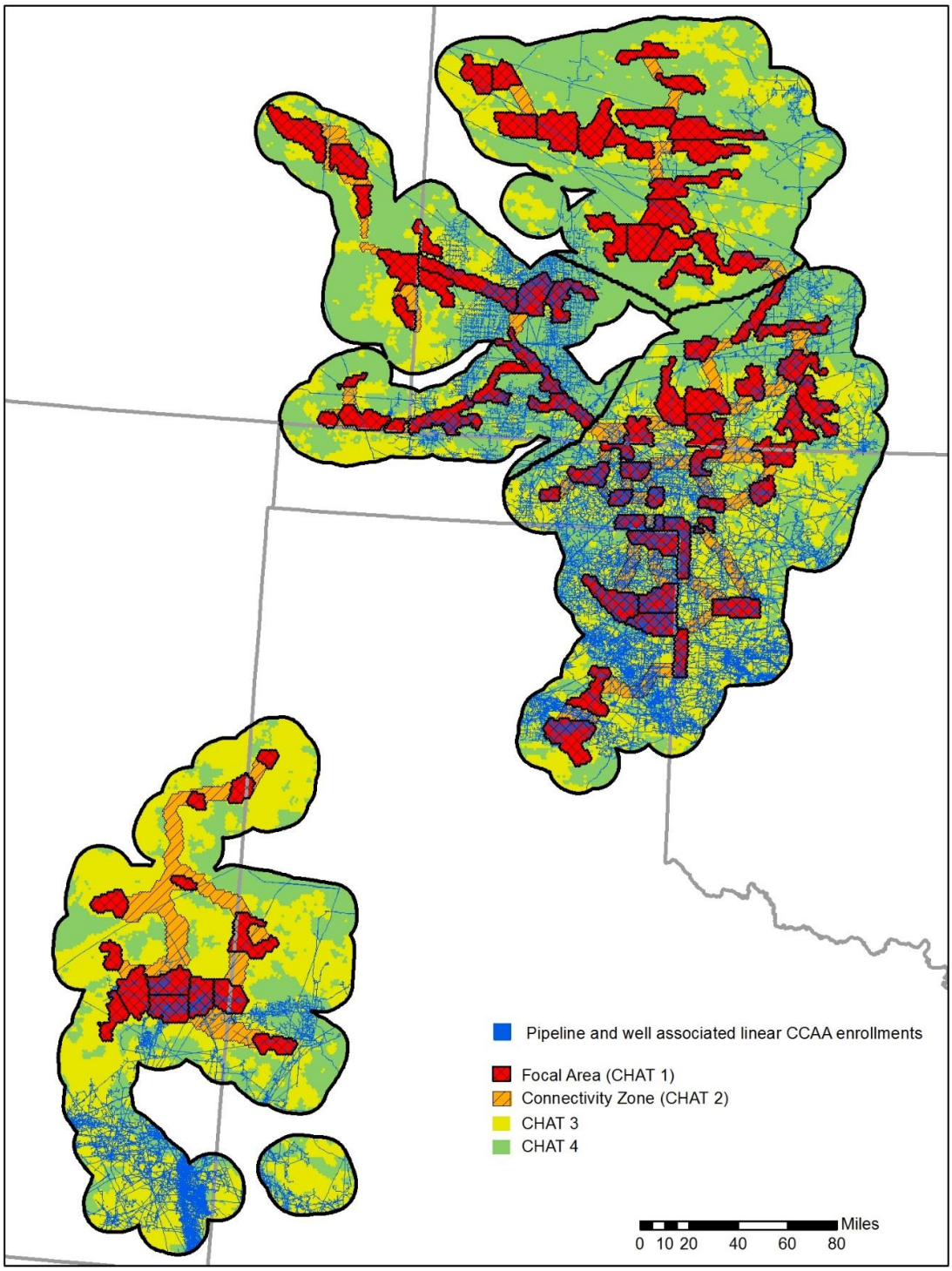

Figure 7. Map of electric and pipeline enrollments in the Range-wide Oil and Gas Candidate Conservation Agreement with Assurances as of December 31, 2015

Table 8 shows the distribution of CCAA enrollment acres by ecoregion CHAT category, and industry type.

Table 8. Summary of acres enrolled in the Range-wide Oil and Gas Candidate Conservation Agreement by ecoregion, CHAT category, and industry type.

CHAT	Mixed Grass Prairie		Sand Sagebrush Prairie		Shinnery Oak Prairie		Shortgrass Prairie	
	Industry	Acres	Industry	Acres	Industry	Acres	Industry	Acres
1	Electric	0	Electric	0	Electric	0	Electric	0
	Oil & Gas	702,769	Oil & Gas	739,037	Oil & Gas	8,678	Oil & Gas	65,555
	Pipeline	70,792	Pipeline	39,656	Pipeline	12,765	Pipeline	4,500
	Total	**773,561**	**Total**	**778,693**	**Total**	**21,443**	**Total**	**70,055**
2	Electric	0	Electric	0	Electric	0	Electric	0
	Oil & Gas	381,331	Oil & Gas	34,923	Oil & Gas	23,696	Oil & Gas	16,621
	Pipeline	47,524	Pipeline	1,071	Pipeline	3,050	Pipeline	1,070
	Total	**428,855**	**Total**	**35,994**	**Total**	**26,746**	**Total**	**17,691**
3	Electric		Electric	0	Electric	0	Electric	0
	Oil & Gas	1,961,601	Oil & Gas	328,786	Oil & Gas	305,528	Oil & Gas	72,302
	Pipeline	233,543	Pipeline	25,047	Pipeline	92,838	Pipeline	5,936
	Total	**2,195,144**	**Total**	**353,833**	**Total**	**398,366**	**Total**	**78,238**
4	Electric	0	Electric	0	Electric	0	Electric	0
	Oil & Gas	664,247	Oil & Gas	1,248,439	Oil & Gas	305,052	Oil & Gas	174,533
	Pipeline	137,379	Pipeline	78,150	Pipeline	63,675	Pipeline	26,453
	Total	**801,626**	**Total**	**1,326,589**	**Total**	**368,727**	**Total**	**200,987**
	Mixed Grass Total	**4,199,186**	**Sand Sagebrush Total**	**2,495,109**	**Shinnery Oak Total**	**815,281**	**Shortgrass Total**	**366,970**

CCAA COMPLIANCE

A component of the RWP is to ensure implementation of conservation actions. In this section we summarize actions taken by WAFWA to monitor compliance with the RWP.

CCAA *suspensions for non-payment of enrollment fees*

The recent declines in the oil and gas market have severely impacted that industry. Due to that slowdown, twelve companies were suspended for non-payment of enrollment fees during 2015. Five of those suspensions were resolved when the companies paid their past due balances. The other seven remain unresolved, but WAFWA is offering to negotiate payment plans to get those companies out of suspension. Those payment plans would still require that companies pay mitigation costs prior to any new development, and are designed to ensure that the endowment fund maintains its expected rate of return. The total outstanding 2015 enrollment fee balance for the remaining suspensions is $164,680.55. That outstanding balance is 0.36% of the total amount invoiced by WAFWA for WCA and CCAA enrollments and mitigation in in 2014-15.

Summary of CCAA non-compliance

In 2015, WAFWA implemented the first phase of compliance monitoring. This phase included site visits by WAFWA staff on a random sample of 10% of all completed projects regardless of project type. All participants were notified beforehand of the required compliance monitoring. For each visit, the staff recorded information to confirm that the project was constructed and mapped correctly according to WAFWA standards, whether or not the project was within 1.25 miles of a known active lek or if the area within 1.25 had currently lek clearance surveys, the presence or absence of unmitigated infrastructure associated with the project that is not in our database, noise levels, evidence of off-road travel or broadcast herbicide use, and presence of escape ramps and fence markers where appropriate. This monitoring will continue year-round in future years, but in 2015 all monitoring occurred after the breeding season due to the fact that WAFWA was still filling field staff positions in June.

Out of the 42 random projects chosen, 32 were enrolled under the CCAA. All of these projects were Two instances of non-compliance were recorded. The first instance involved unmarked fences within 1.25 miles of a lek in the Mixed Grass region. A compliance notice was issued to the company on October 27, 2015. The company marked these fences, provided documentation and WAFWA followed up with a field visit to confirm the work was completed. The non-compliance issue was then considered resolved on December 4, 2015. The second instance involved an open fracking pit without an escape ramp in the Shinnery Oak region. These water sources do not have vertical sides, but slick plastic liners can make it difficult for animals to exit the water source. A compliance notice has been issued for this issue recommending a ramp that will not compromise the plastic liner. However, due to changes in staff within the company was not issued until January 11, 2016. The company responded on February 26, 2016, stating that the pumpers were asked to add escape ramps, but the site was sold to another company before photos were recorded and the site is no longer under their control. The company stated that they were unclear about the definition of open water sources, but would ensure that these escape ramps would be included in future fracking pits. This issue is considered resolved.

One other CCAA compliance issue was voluntarily reported and resolved by a company. The company submitted two new oil and gas well pads to WAFWA for mitigation, but sent the projects to the wrong email. The company did not receive a habitat evaluation (HEG) packet or a receipt for mitigation, but went ahead and developed those locations without that documentation. Through discussions with WAFWA, the company realized their mistake and informed WAFWA of the project on December 22. WAFWA reviewed its records on the projects, and issued a compliance notice on January 27, 2016. The company responded on February 8, 2016, stating that they now understood the process of project submission, although they had no plans to develop any other projects under the program because they only had a single section enrolled in the program. The company also agreed to pay mitigation fees for both projects. The company was invoiced for the mitigation fees on February 9, 2016. Once paid, WAFWA will consider the issue resolved. WAFWA recognizes that project submission through email has some potential

for projects to be lost in submission. This is one of the reasons why we are developing web and mobile applications for project submission and habitat assessment. We expect those applications to be implemented by summer 2016.

WAFWA plans to implement a phase two of compliance monitoring in 2015 that utilizes existing public project permitting data to search for projects occurring on enrolled parcels that may not be submitted to us for analysis and mitigation. The implementation of phase two will begin in the fall of 2016.

CCAA emergency and non-emergency operations and LPC mortality reporting

Emergency and non-emergency operations reporting is an issue WAFWA is having ongoing difficulties with reporting. The agreements specify two different reporting timelines which creates confusion for companies. In one section it requires companies to report within 30 days, while another specifies a reporting deadline of October 1. The agreements also do not specify a specific format, so we often receive reports that do not even specify which agreement the property is enrolled under. This is an issue that we intend to resolve over the coming year. Our intention is to incorporate emergency in the WAFWA Conservation Toolkit and require companies to report these instances within 30 days using a predefined format to ensure we get all the correct information. It is unlikely that this portion of the Toolkit will be completed during the 2016 breeding season, so we are implementing an interim web-based solution that was reviewed by FWS in 2015. This interim solution will not have geospatial capabilities to automatically determine if the location reported is within 1.25 miles of leks or to produce other spatial summary information. We hope to include those options for the 2017 breeding season.

Only three companies reported emergency operations in 2015 and we have not separated these reports by agreement type.

The first company reported two instances of emergency operations where transfer pumps shut down and they were required to respond to prevent a spill. These two occasions were on April 24, 2015 from 3:00 am to 5:00 am and on May 12, from 3:00 am to 5:30 am. Both locations were in the Mixed Grass region.

The second company reported a single incident of emergency operations where a natural gas pipe line developed a leak in a wheat field in the Mixed Grass region. The leak was reported at 9:00 am on March 17th. The site was excavated and repaired by March 18.

The third company misinterpreted the language on page 75 of the CCAA and page 4 of the WCA which states “Emergency operations that are meant to address direct human or environmental safety concerns or emergency operations that relate directly to operational continuity are allowed.” To allow for emergency visits related solely to operational continuity. WAFWA interprets the agreement to cover emergency operations for operational continuity only when those situations may result in threats to environmental and human health and safety. The company reported 41 emergency operations in the Sand Sagebrush region prior to the October 1

reporting date and was unable after the fact to confirm that these represented a threat to environmental and human health and safety. The company recognized the oversight and has communicated with field staff that these visits are not allowed under the agreement in subsequent years.

No companies reported non-emergency operations within 1.25 miles of leks in 2015, or instances of LPC mortality or injury in 2015.

RWP CONSERVATION PROGRAM

The RWP offers two basic enrollment options for landowners which includes non-offset and offset generating conservation agreements. There are also two types of conservation plans that are available to landowners regardless of which agreement type is being developed. The first is a rangeland conservation plan which utilizes livestock grazing as the primary management practices. The other option is a planted grass management plan which typically utilizes disturbance other than regular domestic livestock grazing to create and maintain suitable vegetative conditions for LPC (e.g. disking and prescribed fire).

The non-offset generating agreements do not provide payments but the participant was exempt from take prohibitions for the conservation practices being applied as prescribed while the LPC was federally protected under the ESA. WAFWA assumes that these take exemptions will be reinstated by the USFWS if the LPC regains federal protections in the future. WAFWA accepts landowner requests for non-offset agreements continuously and processes them as quickly as possible. Any property that falls within a WAFWA Service Area is eligible to enroll in a non-offset generating conservation agreement. WAFWA does not monitor compliance on these sites because the agreements merely provide the landowner with some assurances that their management practices are exempt from the take prohibitions of the ESA. If the USFWS identifies a potential take on the property it will be their responsibility to determine whether the WAFWA management plan was being followed as prescribed or not.

The offset generating agreements offered by WAFWA provided the same take exemptions as the non-offset agreement when the LPC was federally-protected under the ESA. However, these agreements also provide various types of payments to landowners for implementing conservation practices that are beneficial to LPC. Enrolled properties produce mitigation credits to offset industry impacts elsewhere in the same Service Area. Basic eligibility requirements dictate that a property must fall within a WAFWA service area and contain at least 160 acres in one contiguous block. Additionally, the acreage must not be contained within an existing federally-funded contract for implementation of similar conservation practices. Landowners can offer eligible acreage for 5 or 10-year term agreements or ask that it be considered for a permanent conservation site. Sites that require restoration work, such as range planting or brush management, must be enrolled for at least a 10-year term. WAFWA continuously accepts landowner offers of eligible property for all of the offset generating agreement options. However, enrollment is competitive and depends on availability of mitigation funds and other competing

offers. Properties that do get enrolled in an offset generating agreement must be managed in compliance with a WAFWA-approved conservation plan. WAFWA assesses compliance using landowner self-reporting forms and annual vegetation clippings to determine forage utilization.

When a WAFWA biologist makes their initial visit to a property, a checklist is completed to identify which LPC threats currently exist on the site. The biologists evaluate such things as the presence of invasive vegetation, harmful infrastructure, grazing pressure, and presence of LPC non-habitat. If the biologist goes on to develop a conservation plan for the property, it must attempt to address each of the LPC threats identified on the threats checklist. WAFWA biologists can address those threats through the use of 28 different conservation practices that must be prescribed to the standards described in the range-wide plan. The practices and their standards mimic those approved in the USFWS' biological opinion of the NRCS' Lesser Prairie-Chicken Initiative with three exceptions: the grazing applied through the RWP will be prescribed at 33% total utilization rather than 50%; all trees will be felled when brush management is prescribed; and there will be no chemical treatment of sand sagebrush.

WAFWA Non-Offset Agreements

During this reporting period, WAFWA did not receive any landowner requests for non-offset agreements. WAFWA did prepare one non-offset agreement during the last reporting period which is still being implemented by the landowner. The associated conservation plan includes prescribed grazing and prescribed fire on 8,912 acres in the mixed grass service area.

WAFWA Conservation Funding Strategy

Currently, a ratio of 75/25 is used to split the WAFWA offset generating agreements between term contracts and perpetually conserved sites. The term contracts can be for a 5 or 10-year duration. When these term contracts expire, WAFWA will find another term contract with equal or greater value to replace the one that is expiring. The perpetually conserved sites are high quality habitats or sites with potential to be restored to those conditions. The perpetually conserved sites adhere to the USFWS conservation banking policy (USFWS 2003). Management funding will be available in perpetuity for both conservation options because only endowment interest is committed for that purpose.

The 75/25 split was chosen as the initial ratio for two primary reasons. First, WAFWA will be able to affect a far greater number of acres with the majority of funding being targeted toward term contracts. Applying beneficial conservation practices on the maximum possible acreage provides the best opportunity to stabilize or increase the LPC population. This approach has proven to be successful at recovering the LPC as demonstrated by the range expansion and population growth observed in Kansas shortly after the implementation of the Conservation Reserve Program (Rodgers and Hoffman 2005). Secondly, a dynamic approach provides WAFWA with some flexibility to adapt to changing environmental conditions that may influence the ability of a specific site to support LPC. The 75/25 ratio will be evaluated periodically through the adaptive management process described in the LPC range-wide plan.

WAFWA Term Contracts

During this reporting period WAFWA received nine new applications for term contracts. Through those applications, landowners offered 70,527 acres, with the greatest amount coming from the mixed grass service area. WAFWA did not extensively advertise the program during this reporting period because there more than enough applications already on file to meet industry demands. It is likely WAFWA will do some targeted promotion of the program during the next reporting period to generate some new applications.

When contracts are needed to offset industry impacts, all applications are ranked using an established set of criteria. Those ranking criteria were developed by the IWG and can be viewed on the WAFWA website (http://www.wafwa.org/initiatives/grasslands/lesser_prairie_chicken/). Offers are made to landowners based on their ranking score and the availability of funds. Prior to the end of this reporting period, a total of eight new contracts had been offered to landowners across the LPC range. Those offered contracts contained 67,512 acres, with the majority located in the mixed grass service area (Table 9).

Table 9. Summary of term applications received and offered contracts for the WAFWA offset unit generation program. Data are summarized the end of the current reporting period (March 1, 2015 – December 31, 2015).

Service Area	New Applications[a]	New Application Acres	Open Applications on File	Open Application Acres	Contracts Offered During Reporting Period	Acreage Contained in Offered Contracts
Sand Sagebrush	0	0	7	29,883	0	0
Shortgrass	2	4,585	5	7,099	4	10,009
Mixed Grass	6	60,810	30	220,877	3	42,032
Shinnery Oak	1	5,133	9	20,620	1	15,471
Range-Wide	**9**	**70,527**	**51**	**278,480**	**8**	**67,512**

[a] New applications are those received from landowners during this reporting period.
[b] Open applications are those still being considered for funding and includes new applications received during the reporting period as well as those previously received.

Of the eight contracts offered during this reporting period, seven were for rangeland conservation plans and one was for a planted grass management plan. Two contracts from the initial offering were declined by the landowners for various reasons. Four contracts for rangeland conservation plans were executed prior to the end of the reporting period (i.e. contractual agreements signed). Those four contracts are all 10 years in duration and contain 57,427 acres, of which 45,825 are non-impacted. The remaining two contract offers were executed after the current reporting period and will be included in the next annual report. At the end of this reporting period, WAWFA was administering 10 term contracts that are all 10 years in duration. Those contracts include eight rangeland conservation plans and two planted grass conservation plans that encompass 95,187 acres, of which 76,859 are non-impacted by development (Table 10, Appendices A-B).

Table 10. Acreage summary of WAFWA term contract offers declined and executed during this reporting period (March 1, 2015 – December 31, 2015). Summary figures for total active contracts on December 31, 2015 are also reported.

Service Area	Contracts	Raw Acres[a]	Non-impacted Acres[b]	CHAT 1 Raw Acres	CHAT 2 Raw Acres	CHAT 3 Raw Acres	CHAT 4 Raw Acres
Sand Sagebrush							
declined	0	0	0	0	0	0	0
executed	0	0	0	0	0	0	0
total active	1	12,689	9,998	12,689	0	0	0
Shortgrass							
declined	1	1,106	978	1,106	0	0	0
executed	1	4,029	4,009	0	4,029	0	0
total active	2	5,142	5,052	1,113	4,029	0	0
Mixed Grass							
declined	1	3,709	3,667	0	3,084	625	0
executed	2	37,941	29,799	26,657	536	605	10,143
total active	4	61,251	49,234	42,165	536	823	17,726
Shinnery Oak							
declined	0	0	0	1,106	0	0	0
executed	1	15,457	12,018	13,440	0	2,001	16
total active	3	16,105	12,576	14,088	0	2,001	16
Range-Wide							
declined	2	4,815	4,645	1,106	3,084	625	0
executed	4	57,427	45,825	40,097	4,565	2,606	10,159
total active	10	95,187	76,859	70,055	4,565	2,824	17,743

[a] *Includes acreage impacted by development*
[b] *Excludes acreage impacted by development utilizing the impact buffers established in the RWP*

WAFWA Permanent Conservation Acquisitions

The WAFWA has multiple options to provide permanent conservation for the LPC and each one results in a conservation property that complies with the USFWS conservation banking guidelines (USFWS 2003). The options available to WAFWA include purchasing mitigation credits directly from USFWS-approved conservation banks, fee-title acquisition of property from willing sellers, and purchase of privately-owned development rights through acquisition of perpetual conservation easements that are held by a third party organization. WAFWA has pre-defined eligibility criteria based on a property's location, size, mineral ownership, and proximity to known LPC lek sites. Properties that meet the initial eligibility requirements are ranked using criteria that prioritize properties that will provide the greatest benefit to LPC. The ranking criteria prioritize properties based on size, existing developments, LPC habitat potential, proximity to other permanent conserved sites, and proximity to known LPC let sites. A packet of information

is prepared for each property that gets through the ranking process and the information is presented to the LPCIC at either their summer or winter meeting. The LPCIC reviews all the available options collectively and chooses which ones to pursue based on mitigation needs, ranking scores, available funding, and cost.

During this reporting period, the WAFWA secured its first permanent conservation site. WAFWA acquired title to a 1,604-acre track of Texas native rangeland on June 26, 2015, that lies approximately three miles from the Yoakum Dunes Wildlife Management Area (WMA) in the Shinnery Oak Service Area. The property falls primarily in CHAT 1 (68%), with some in CHAT 2 (32%). WAFWA donated a conservation easement on the acquired tract to The Nature Conservancy, which was recorded on that same day. The deed to the property was later transferred to the Texas Parks and Wildlife Department (TPWD) on June 29, 2015. The TPWD signed a management agreement with WAFWA on the same day that allows mitigation units to be generated from the portion of the property where management is being applied. That currently consists of 1,563 acres because the perimeter fence does not currently encompass all of the acquired property. The WAFWA conservation plan developed for the property addresses all the identified threats to the LPC by prescribing conservation practices which the TPWD is required to implement. A property-specific non-wasting endowment was also established by WAFWA to fund all of the practices prescribed in the conservation plan in perpetuity. The WAFWA permanent conservation site is now being managed by the TPWD in conjunction with their Yoakum Dunes WMA. The WMA now totals 15,980 acres, of which 12,239 are contained within perpetual conservation easements. All but 241 acres in that complex has been acquired by the TPWD within the last three years with the primary goal of LPC conservation.

WAFWA Habitat Restoration Efforts

The WAFWA conservation agreements are not only maintaining existing LPC habitat, but they are facilitating the restoration of areas that are not likely currently occupied by the species. There are 15,911 acres of restoration prescribed through those agreements, which equates to 15.1% of all the contracted acreage (Table 11). The prescribed restoration practices include three levels of brush management which targets the removal of invasive woody vegetation (e.g. eastern red cedar and mesquite). WAFWA also prescribes range planting which is used to convert non-native grasslands or cropland to native vegetation which provides more suitable LPC habitat. During this reporting period, brush management was completed on 8,214 of the 15,911 prescribed acres. The remaining restoration treatments contained in the active WAFWA agreements are scheduled to occur over the next few years.

Table 11. Acreage of restoration completed and prescribed through WAFWA conservation agreements through the end of the 2015 reporting period.

Service Area	Brush Management (Heavy)	Brush Management (Moderate)	Brush Management (Light)	Brush Management (Chemical)	Range Planting	Total
Sand Sagebrush						
Completed During Reporting Period	0	0	0	0	0	0
Completed Since Inception of RWP	0	0	0	0	0	0
Total Prescribed	0	0	0	0	0	0
Shortgrass						
Completed During Reporting Period	0	0	0	0	0	0
Completed Since Inception of RWP	0	0	0	0	0	0
Total Prescribed	0	0	0	0	0	0
Mixed Grass						
Completed During Reporting Period	0	260	377	0	0	637
Completed Since Inception of RWP	0	260	377	0	0	637
Total Prescribed	1,011	768	377	0	0	2,156
Shinnery Oak						
Completed During Reporting Period	0	0	0	7,577	0	7,577
Completed Since Inception of RWP	0	0	0	7,577	0	7,577
Total Prescribed	0	4,843	1	8,272	640	13,756
Range-Wide						
Completed During Reporting Period	0	260	377	7,577	0	8,214
Completed Since Inception of RWP	0	260	377	7,577	0	8,214
Total Prescribed	1,011	5,611	377	8,272	640	15,911

Quality of WAFWA Contracted Properties

The 11 conservation properties enrolled in the RWP range in size from 323 acres to 27,672 acres. Two of those agreements totaling 648 acres include planted grass conservation plans which prescribe restoration of cropland to native grasses and maintenance of restored or existing planted grass stands through regular disturbance activities. Nine of the agreements include rangeland conservation plans that prescribe domestic livestock grazing as the core conservation practice. The majority of the acreage being managed through the existing agreements occurs in the highest priority areas (CHAT 1). At the end of this reporting period there had been 31 LPC lek observations recorded on these properties or within three miles of their boundary during the last five years. That is a high number considering that none of the acreage within three of the enrolled properties has been surveyed for LPC and only partial acreage has been surveyed within two of the other enrollments. The habitat quality of these sites was also high in 2015, with a weighted average of 0.62 across all sites (range = 0.49 to 1.00; Table 12). Those values were derived by scoring the HEG criteria using on-site vegetation sampling data and spatial land cover information. The HEG includes four components consisting of foliar cover, plant species composition, presence of tall woody vegetation, and availability of potentially suitably habitat within 1-mile radius of the site (Van Pelt et al. 2013).

Table 12. Property-specific information for each of the 11 WAFWA-contracted sites that produced mitigation offset units during the 2015 reporting period.

WAFWA Site ID	Service Area	Conservation Plan Type	Expiration Year	Primary CHAT	Total Acres	Active Lek Observations within 3 mi. (2011-2015)	2015 Habitat Evaluation Guide Score (0-1)[a]
CZ016	Sand Sagebrush	Rangeland	2024	1	12,689	0	0.78
CZ035	Shortgrass	Rangeland	2024	1	1,113	3	0.50
CZ033	Shortgrass	Rangeland	2024	2	4,029	0	0.45
CZ008	Mixed Grass	Rangeland	2024	1	2,052	3	0.49
CZ038	Mixed Grass	Rangeland	2024	1	21,258	0	0.49
CZ037	Mixed Grass	Rangeland	2024	4	10,269	0	0.54
CZ036	Mixed Grass	Rangeland	2024	1	27,672	0	0.67
CZ014	Shinnery Oak	Planted Grass	2024	1	323	1	0.90
CZ003	Shinnery Oak	Rangeland	2024	1	15,457	12	0.45
CZ026	Shinnery Oak	Rangeland	Perpetual	1	1,563	11	0.86
CZ013	Shinnery Oak	Planted Grass	2024	1	325	1	1.00

[a] Values are averaged across all of the evaluation units and weighted by the non-impacted acreage within each one.

WAFWA Conservation Agreement Summary

At the conclusion of this reporting period, WAFWA had 105,662 acres across the LPC range under some type of conservation agreement (Appendix A-B). Most of that acreage is generating conservation offset units with the majority occurring in the highest priority areas (CHAT 1 & CHAT 2) where recent LPC observations have been recorded (see Table 12). Through the WAFWA conservation agreements, there has already been 8,214 acres restored to more suitable LPC habitat, with another 7,697 prescribed during the next four years. The 11 term and permanent conservation sites are distributed across the four service areas fairly proportional to the distribution of industry impacts. This is required because the conservation properties have to mitigate industry impacts at that scale. Thus, the vast majority of the acreage contracted for mitigation purposes falls within the mixed grass service area where the majority of the RWP industry impacts have occurred to date (see Table 12).

Non-WAFWA Conservation Programs Administered within LPC Range

A critical component of the RWP was coordination among the various agencies and organizations that were already managing public land acreage or delivering private land conservation programs in LPC range. During development of the RWP those entities were engaged by the IWG through a series of targeted meetings and representatives from each agency or organization were included on several committees to help provide input about various plan components. The IWG also established state-specific implementation teams including

representatives from those entities to coordinate local delivery of private land LPC assistance programs. At that time, the members of the implementation teams reviewed their current cross-agency coordination, identified opportunities for improvements, and discussed how landowners could be provided with "one stop shopping". Most of the agencies and organizations operating in LPC range are now using the WAFWA crucial habitat assessment tool to target their private land conservation programs due in part to those coordination efforts. Those WAFWA partners have also worked collectively to promote and explain the various conservation options and put more boots on the ground to assist landowners. Additionally, all of the partnering conservation entities are now collectively working toward the population and habitat goals established in the RWP. The current effort of our partners is summarized in this section along with a synopsis of our collective achievements.

Lesser Prairie-Chicken Conservation Initiative and Other NRCS Programs

In 2010, NRCS launched the Lesser Prairie-Chicken Conservation Initiative (LPCI). The objective of this initiative is "to increase the abundance and distribution of the LPC and its habitat while promoting the overall health of grazing lands and the long-term sustainability of ranching operations." The USFWS completed a biological opinion of the LPCI on August 13, 2014. The opinion now provides a description of 28 conservation practices that could be implemented through the program that the USFWS deems to be benign or beneficial to LPC.

Two of the 28 approved practices are considered core conservation practices. The primary core conservation practice is upland wildlife habitat management (645) and prescribed grazing (528) is considered a secondary core management practice when livestock are present. Implementation of core practices is required in order to develop a landowner's conservation plan that will focus on improving habitat and reducing threats to LPC. This is important because implementing LPCI under 645 ensures all other LPCI practices are implemented specifically to benefit LPC.

Three of the practices applied under 645 are applied broadly and provide substantial benefit to LPC. Those practices include the other core practice of prescribed grazing (528), brush management (314), and range planting (550). Those practices, when applied as designed, either create new habitat or ensure that existing habitat is providing usable cover for all of the LPC life stages. There are many other practices being applied through LPCI that provide benefit to LPC but only the acreages associated with those 3 listed practices will be summarized.

A total of 179,805 acres of prescribed grazing (528) were applied through LPCI during 2015 (Table 13, Appendices A-B). Additionally, a total of 9,438 acres were treated with brush management (314) and range planting (550) was applied to 47 acres during 2015. Many of those acres were previously unusable by LPC and all of the acres were at least in a degraded condition prior to treatment. In addition to the applied practices that occurred in 2015, there were another 114,438 newly contracted acres added to the program where practices will be applied in subsequent years.

Producers identified as having LPC habitat or potential LPC habitat who are not part of LPCI, but participate in other NRCS programs, will also be using conservation practices as described in the biological opinion. Producers in this situation are not required to implement these practices under a management plan developed in accordance with the core practice of upland wildlife habitat management (645) but the practices they implement generally still provide benefit to LPC. The acres from those other NRCS programs (e.g. EQIP) were not available at the time of this report but it should be noted that NRCS is applying beneficial conservation on a far greater number of acres than reported just for LPCI.

Conservation Reserve Program (CRP)

The CRP is a voluntary program for agricultural landowners administered by the Farm Service Agency (FSA) that incentivizes landowners to take cropland out of production and maintain it in permanent vegetation (e.g. native grasses and forbs). The conversion of these lands back to permanent vegetation promotes habitat connectivity, which helps address LPC threats like climate change and extreme weather events. The program also addresses the threat of excessive grazing utilization of grassland habitat by providing millions of acres of grass that isn't regularly grazed by domestic livestock. Participants in the program are required to maintain the prescribed vegetation conditions which includes control of noxious weeds. They are also required to implement some type of periodic management to promote wildlife habitat. The various management practices that can be implemented include shallow disking, prescribed burning, herbicide usage, inter-seeding with legumes and forbs, and periodic managed grazing. The USFWS completed a biological opinion of the CRP on April 14, 2014, which states that effective implementation of the program is anticipated to result in a positive LPC population response by reducing or eliminating adverse effects.

There is fluidity in CRP enrollment as individual contracts expire at the end of a 10 or 15-year term and new contracts get enrolled in other locations. In the past, periodic new sign-up periods have been successful at enrolling sufficient acreage to replace expirations and as such, the total acres enrolled in the program has remained fairly constant since 1998 (U.S. Fish & Wildlife Service 2014). These acres provide important habitat for LPC and support a large proportion of the range-wide population, especially in the shortgrass service area (Fields 2004, Rodgers and Hoffman 2005, McDonald et al. 2014). Currently, there are nearly 3,229,850 acres enrolled within the range of the LPC (Table 13; Appendices A-B). Of those acres, there are 780,439 that lie within the boundaries of CHAT 1 and CHAT 2 which equates to 7.9% of that total area enrolled in the CRP. The total 2015 CRP enrollment in LPC range is 80,808 acres less than one year prior. The annual decrease is due to expirations that occurred over the last year that were not replaced in their entirety with new sign-ups. However, the FSA placed high priority on landowner offers for new enrollments and re-enrollments within CHAT 1 and CHAT 2 during the last sign-up. So, despite fewer CRP acres across the range of the LPC it is possible that there could have been an increase in the higher priority areas due to improved targeting. WAFWA was not able to acquire enrollment figures summarized at that scale in 2014 so that cannot be

verified. However, WAFWA will now be able to track enrollment acreages at all the various scales in future reports.

Partners for Fish and Wildlife Program

The USFWS Partners for Fish and Wildlife (PFW) Program restores, improves and protects fish and wildlife habitat on private lands through partnerships between the USFWS, landowners and others. The objectives of this national program are to: 1) Restore, enhance and manage private lands for fish and wildlife habitat, 2) Significantly improve fish and wildlife habitat while promoting compatibility between agricultural and other land uses, 3) Restore declining species and habitats; and 4) Promote a widespread and lasting land use ethic.

The PFW program applies habitat practices on private lands to address threats to the LPC. This program utilizes practices and targets limiting factors similar to NRCS programs. Projects are designed to benefit LPC and other wildlife while also supporting working lands including farming and ranching operations. Typical conservation practices directed to LPC habitat conservation include invasive species removal, fence marking or removal, native vegetation planting, prescribed fire, prescribed grazing, and brush control. Through the PFW, the USFWS provides technical assistance and financial incentives to landowners that improve habitat on their property for LPC and other species. Cooperating landowners agree to use funds for approved wildlife-related projects, and manage and maintain the project area for at least 10 years. The program provides technical and financial assistance through a 10-year cost-share agreement. Landowners agree to maintain the conservation practices for the duration of the agreement.

The USFWS provided data from their PFW program in New Mexico, Texas, Oklahoma, and Kansas. During this reporting period, the USFWS had contracted for habitat restoration and improvement on 8,770 acres in the Mixed Grass Service Area (Table 13, Appendices A-B). Mechanical removal of eastern red cedar and prescribed grazing were the two primary practices that were implemented. No data from the Colorado PFW program were supplied to WAFWA for the last reporting period.

Candidate Conservation Agreement

Candidate Conservation Agreements (CCA) are formal, voluntary agreements between the USFWS and one or more parties to address the conservation needs of a candidate species. Participants voluntarily commit to implement specific actions designed to remove or reduce threats to the covered species. They can be entered into by industry or landowners and strong participation can be sufficient to preclude the need to list a species. There are no payments, specific permits, or assurances associated with a CCA and they are entered into primarily by federal agencies or other entities operating on federally-owned lands. Candidate Conservation Agreements with Assurances (CCAA) are formal agreement between the USFWS and non-federal entities. A CCAA differs from a CCA in that it includes a permit that provides assurances that the holder will never be required to implement additional conservation measures beyond

those in the agreement. These assurances apply even if the species is eventually listed under the Endangered Species Act.

Landowner CCAs and CCAAs require the development of site-specific management plans for addressing LPC threats in the following manner:

- Agricultural conversion: Landowner commits to refrain from plowing additional rangeland as long as they are in the program.
- Loss of CRP: Landowner commits to re-enrolling or maintaining expired CRP in grass as long as they are in the program.
- Woody invasive species: Landowner commits to addressing the spread of these species as funding sources become available.
- Shrub control: Agreements restrict sand shinnery control but allow for shinnery oak suppression using reduced rate chemical application.
- Altered fire regimes: Agreements use prescribed fire as a potential option for management and provide cost share options for its application.
- Collision: Agreements require fence marking in the vicinity of known leks.
- Design grazing management plans for incompatible grazing regimes to meet habitat specific goals for individual ranches. This may include stocking rates, rotation patterns, grazing intensity and duration, and contingency plans for varying prolonged weather patterns including drought.
- Climate Change: Increased habitat quality, quantity, and connectivity through the above actions to improve the ability of the LPC to move and respond to climate change.
- Extreme weather events: Increased habitat quality, quantity, and connectivity improves the ability of the LPC to move and respond to weather events like droughts and storms.
- Predation: Increased habitat quantity and improved habitat quality decrease predation on nests, juveniles and adults.
- Disease: Increased habitat quality results in improved physical condition of individual LPC.

The availability of CCAs and CCAAs provide an incentive for landowners to participate in conservation actions that benefit the species prior to a listing and sometimes when a listing decision is vacated by a judge. Prior to the threatened listing of the LPC there was a CCA available to landowners operating on public land in New Mexico and CCAAs available to all other landowners in New Mexico, Texas, and Oklahoma. The New Mexico CCA and CCAA are administered by the Center of Excellence for Hazardous Materials Management (CEHMM). The Oklahoma and Texas CCAAs are administered by ODWC and TPWD, respectively. Enrollment in the CCA and all of the CCAAs stopped on the effective listing date of the LPC which was May 12, 2014. Enrollment in the Oklahoma CCAA reopened shortly after the threatened listing was vacated on September 1, 2015, by the U.S. District Court Western District of Texas. That CCAA is now believed to be at the 400,000 acreage cap so no new enrollments are being accepted by ODWC. None of the other landowner CCA/CCAAs had been reopened at the time of this report. Currently, implementation is occurring on 886,281 acres enrolled in the landowner

CCA in New Mexico and 2,027,920 acres enrolled in all three CCAAs within the WAFWA action area (Table 13, Appendices A-B).

Non-CCAA Private Land Conservation Programs Delivered by State Wildlife Agencies

Most of the state wildlife agencies operating within the range of the LPC deliver non-CCAA private land conservation programs. Those programs are funded from a variety of sources including license fee funds from the wildlife agency constituents. The available conservation programs generally allow the agencies to cost-share with private landowners for conservation practices such as brush management, range planting, prescribed fire, fence marking and removal, prescribed grazing, livestock deferment, etc. WAFWA acquired data from 3 of the 5 state wildlife agencies operating within LPC range including the Kansas Department of Wildlife, Parks, and Tourism (KDWPT), Oklahoma Department of Wildlife Conservation (ODWC), and Colorado Parks and Wildlife (CPW). The collective conservation efforts of all our agency partners operating in LPC range will be summarized in subsequent years. The available data indicated that the state wildlife agencies applied conservation practices to at least 7,124 acres within the range of the LPC within Colorado, Kansas, and Oklahoma (Table 13, Appendices A–B).

Public Lands and Conservation Easements Identified as Potential Strongholds

Several land trusts and government agencies are managing public land for the benefit of LPC or delivering conservation easements within LPC range. Those sites were identified as potential stronghold sites in the RWP and cover 466,474 acres (Table 13, Appendices A-B). Those sites include properties under private ownership as well as those owned and managed by state and federal agencies. It is believed that a relatively small number of those acres already meet all of the criteria established by the USFWS for a stronghold (USFWS 2012; i.e. long-term protection from development; appropriate management, connectivity, etc.). However, the exact spatial extent of any qualifying acreage has not yet been identified by WAFWA. So, in the coming months WAFWA will be trying to identify the exact location of qualifying stronghold acreage and identify any previously unknown acres that are permanently protected. Having that information will allow WAFWA to more accurately summarize the total amount of acreage on the landscape that can be counted towards the stronghold goals established in the RWP. WAFWA is committed to getting at least one stronghold established within each of the four Service Areas through the collective efforts of all entities who have secured qualifying acreage.

Other Public Lands and Non-Government Organization Land Ownership

There are an additional 3,186,585 acres of land within the range of the LPC owned by public entities or non-government conservation organizations, excluding those sites that have already been identified as potential strongholds in the RWP (Table 13, Appendices A–B. These acreages are owned by U.S. Department of Defense; Non-Government Organizations; State Land Boards; State Parks, Recreation, and Wildlife Agencies; U.S. Fish & Wildlife Service; U.S. Bureau of Land Management; U.S. Forest Service; Privately Owned Parks; U.S. National Park Service; Agricultural Research Service; U.S. Bureau of Reclamation; and City or County Government. These acres are managed for a multitude of purposes and some of the properties currently

provide benefits to LPC. There is potential to improve LPC habitat on some of these properties through partnerships with the landowners. WAFWA and its state wildlife agency members readily pursue those opportunities when they arise.

Table 13. Public land and conservation program acreage within each LPC service area by CHAT category, 2015.

Service Area – Location	WAFWA Term Contracts	WAFWA Permanent Conservation Agreements[a]	WAFWA Non-Offset Agreements	Conservation Reserve Program	NRCS Lesser prairie-chicken initiative[b]	USFWS Partners for Fish & Wildlife	State Wildlife Agency Private Land Programs[c]	New Mexico Ranching CCA	New Mexico Ranching CCAA	Texas Ranching CCAA[d]	Oklahoma Ranching CCAA[e]	Potential Stronghold Acreage[f]	Other Public Land Acreage[g]	Total[h]
Shinnery Oak														
CHAT 1	14,088	1,057	0	109,470	60,015	0	ND	ND	ND	48,262	NA	360,780	53,957	647,629
CHAT 2	0	396	0	131,336	9,008	0	ND	ND	ND	17,433	NA	0	91,847	250,020
CHAT 3	2,001	110	0	674,777	21,344	0	ND	ND	ND	110,937	NA	12,348	1,565,585	2,387,102
CHAT 4	16	0	0	200,659	2,013	0	ND	ND	ND	21,751	NA	0	540,588	765,027
Total		*1,563*	*0*	*1,116,243*	*92,381*	*0*	*ND*	*886,281*	*1,044,181*	*198,383*	*NA*	*373,128*	*2,251,978*	*5,964,138*
Mixed Grass														
CHAT 1	42,165	0	1,038	116,727	43,999	ND	0	NA	NA	241,985	146,995	28,448	46,311	667,668
CHAT 2	536	0	0	62,772	5,366	ND	0	NA	NA	33,055	39,839	71	18,276	159,915
CHAT 3	823	0	966	277,883	16,115	ND	0	NA	NA	81,093	158,094	1,610	160,371	696,955
CHAT 4	17,726	0	6,908	127,096	2,420	ND	55	NA	NA	56,598	27,696	0	31,480	269,979
Total	*61,266*	*0*	*8,912*	*584,477*	*67,900*	*8,770*	*55*	*NA*	*NA*	*412,731*	*372,624*	*30,129*	*256,438*	*1,803,302*
Sand Sagebrush														
CHAT 1	12,689	0	0	159,877	9,758	0	4,250	NA	NA	NA	NA	33,884	166,388	386,846
CHAT 2	0	0	0	20,758	0	0	0	NA	NA	NA	NA	0	13,673	34,431
CHAT 3	0	0	0	346,915	136	0	0	NA	NA	NA	NA	4,280	190,375	541,706
CHAT 4	0	0	0	428,559	396	0	40	NA	NA	NA	NA	16,152	255,026	700,173
Total	*12,689*	*0*	*0*	*956,108*	*10,289*	*0*	*4,290*	*NA*	*NA*	*NA*	*NA*	*54,316*	*625,463*	*1,663,155*
Shortgrass														
CHAT 1	1,113	0	0	167,931	8,082	0	302	NA	NA	NA	NA	8,901	18,803	205,132
CHAT 2	4,029	0	0	11,569	0	0	220	NA	NA	NA	NA	0	0	15,818
CHAT 3	0	0	0	160,761	975	0	788	NA	NA	NA	NA	0	23,430	185,954
CHAT 4	0	0	0	232,762	178	0	1,469	NA	NA	NA	NA	0	10,473	244,882
Total	*5,142*	*0*	*0*	573,023	*9,235*	*0*	*2,779*	*NA*	*NA*	*NA*	*NA*	*8,901*	*52,707*	*651,787*
Range-wide														
CHAT 1	70,055	1,057	1,038	554,005	121,854	ND	4,552	ND	ND	290,248	146,995	432,013	285,460	1,903,069
CHAT 2	4,565	396	0	226,434	14,375	ND	220	ND	ND	50,489	39,839	71	123,797	460,186
CHAT 3	2,824	110	966	1,460,335	38,570	ND	788	ND	ND	192,029	158,094	18,238	1,939,761	3,811,715
CHAT 4	17,743	0	6,908	989,076	5,006	ND	1,564	ND	ND	78,348	27,696	16,152	837,568	1,980,061

Service Area – Location	WAFWA Term Contracts	WAFWA Permanent Conservation Agreements[a]	WAFWA Non-Offset Agreements	Conservation Reserve Program	NRCS Lesser prairie-chicken initiative[b]	USFWS Partners for Fish & Wildlife	State Wildlife Agency Private Land Programs[c]	New Mexico Ranching CCA	New Mexico Ranching CCAA	Texas Ranching CCAA[d]	Oklahoma Ranching CCAA[e]	Potential Stronghold Acreage[f]	Other Public Land Acreage[g]	Total[h]
Grand Total	**95,187**	**1,563**	***8,912***	**3,229,850**	**179,805**	***8,770***	**7,124**	**886,281**	**1,044,181**	**611,115**	***372,624***	**466,474**	**3,186,585**	**10,098,471**

ND = no data provided; NA = not applicable

[a] The WAFWA acquired 1,604 acres but the existing perimeter fence does not currently encompass the entire property. The fence will be moved to the correct boundary in the near future so that a WAFWA management plan can be implement across the entire property.

[b] These figures represent the acres of prescribed grazing (528) that were implemented in 2015. This practice is a core conservation practice that is supposed to occur on every contracted LPCI acre. The acreage contained within other NRCS programs was not available for this report but those efforts also provide benefit to the LPC.

[c] Data were provided by the Kansas Department of Wildlife, Parks, & Tourism; Oklahoma Department of Wildlife Conservation; and Colorado Parks and Wildlife. The acreages are not unique because they are summed across numerous conservation practices that could have overlapped.

[d] An additional 60,511 acres are enrolled outside the CHAT areas because the eligibility area for the program is larger than the CHAT boundary.

[e] An additional 21,375 acres are enrolled outside the CHAT areas because the eligibility area for the program is larger than the CHAT boundary.

[f] Includes acreages from properties identified as potential strongholds in the WAFWA range-wide plan (Van Pelt et al. 2013).

[g] This category includes other protected or publicly owned properties not identified as potential strongholds in the range-wide plan. These acreages are owned by U.S. Department of Defense, Non-Government Organizations, State Land Boards, State Parks, Recreation, and Wildlife Agencies, U.S. Fish & Wildlife Service, U.S. Bureau of Land Management, U.S. Forest Service, Privately Owned Parks, U.S. National Park Service, Agricultural Research Service, U.S. Bureau of Reclamation, and City or County Government.

[h] Some of the acreages overlap the same areas and no data were available for some of the listed programs or the EQIP which also provides benefit to LPC.

Summary of all Conservation Efforts Being Delivered in LPC Range

It is evident that an enormous amount of effort has been put into conserving the LPC across its range (see Table 13, Appendices A–B). There are numerous voluntary conservation programs being delivered on private lands by multiple government agencies and non-government organizations. However, some of the reported non-mitigation acreages overlap on the same area so it is not possible to identify the total number of unique acres enrolled in private land conservation programs across the range. Additionally, the WAFWA has not yet been able to acquire enrollment data for some of the programs. Despite those imprecisions, it is likely that during 2015 there was at least 6.4 million acres of private land enrolled in voluntary conservation programs across the LPC range. This amount equates to approximately 16% of the 40 million acre LPC action area (CHAT 1 – CHAT 4). It is also apparent the private land programs are generally being targeted towards the higher priority LPC areas as evidenced by the high enrollment in CHAT 1 and CHAT 2 categories relative to the proportion of the range those areas occupy (see Table 13; Appendices A-B). The good conservation practices being implemented by landowners outside of these voluntary conservation programs should not be overlooked either. Private landowners are managing thousands of additional acres across the LPC range in a way that is beneficial to the species without participating in any of the available programs. Their efforts should not be discounted just because they can't be easily quantified.

There are also millions of acres of publicly-owned land and conservation easements within the range of the LPC. Many of those tracts are being managed in a way that is beneficial to LPC and some of them even meet all of the criteria to be counted towards a stronghold as defined by the USFWS (USFWS 2012). WAFWA has not yet been able to identify exactly how many of those acres fall into each of those categories. However, there are roughly 466,000 acres across the LPC range that meet at least some of the qualifying stronghold criteria (Van Pelt et al. 2013;

Table 13; Appendices A-B). WAFWA will likely be able to count some of that acreage towards strongholds along with the 1,563 acres of permanent conservation we acquired during this reporting period. These sites occupy roughly 6.1% and 1.2% of CHAT 1 and the entire LPC range, respectively. In addition to those areas, there are nearly 3.2 million more acres of land within the LPC range owned by a government entity. These acreages were not identified in the RWP as potential strongholds because they are not generally owned by entities that identify conservation as their primary mission or the site does not have much potential to provide LPC habitat. The acreage in this category with LPC habitat potential does provide some opportunity to benefit the species. Thus, WAFWA and our member state wildlife agencies will seek to work with the entities who own or operate those lands when opportunities arise to improve or maintain habitat for LPC.

WAFWA MITIGATION TRACKING

The WAFWA mitigation framework incentivizes avoidance and minimization of impacts to LPC habitat from development. The metrics system within this framework also provides a pathway to mitigate for new impacts to habitat through a biologically-based system that incorporates project location, duration, affected acreage, and habitat quality (*see* Van Pelt et al. 2013). The system utilizes a 2:1 mitigation ratio to ensure that mitigation offsets are greater than impacts which results in a net conservation benefit for the LPC. Offsetting mitigation units must be secured from the same service area as a planned impact and assigned to the project before construction can start. In addition, the offsetting conservation must occur in a location that is of equal or higher priority for LPC conservation as defined by the CHAT.

Industry sites annually produce mitigation impact units in perpetuity based on a one-time assessment that is completed prior to construction. The annual impact units are entered into the mitigation ledger each year and must be continually balanced with conservation forever. WAFWA is able to provide perpetual conservation for each of the impact sites because the mitigation fees are assessed after an endowment multiplier has been applied to the impact units. That endowment multiplier is currently set at 25 which is based on a 4% expected rate of return on WAFWA investments. The mitigation fees are assessed on the endowment impact units after the multiplier has been applied. Thus, the assessed mitigation fees produce enough interest to provide for annual payments to landowners who are implementing offsetting conservation actions.

Conservation offset units are generated from WAFWA term and permanent conservation sites. One-half of the expected annual conservation offset units are immediately generated upon execution of a management agreement. The true number of annual units produced in year one of an agreement is calculated using vegetation data collected during the breeding season (March 15 – July 15). The difference between the calculated year one total and the initial release is then generated and available to offset industry projects. In subsequent contract years, all of the annually generated conservation offset units are released upon completion of the breeding season vegetation monitoring. The maximum rate that offset units may be generated is 1.25 units per acre per year where the habitat quality is perfect (HEG = 1.0) and the property falls within a focal area.

Remediation offset units are generated one-time upon removal of an existing impact's infrastructure and completion of native grass seeding activities. If the remediated impact was previously mitigated through the plan the resulting remediation offset units are calculated using the mitigation impact multipliers that are utilized for industry sites. So, the resulting remediation offset units will equal the impact units that were originally calculated for the site if the habitat quality has not changed. If the remediated site was not previously mitigated through the plan, the remediation offset units are calculated using the mitigation offset multipliers that are utilized for conservation sites. Using the offset multipliers results in half the remediation units that would be generated by using the impact multipliers (i.e. 2:1 mitigation ratio).

Participating companies can use conservation offset units, remediation offset units, or a combination of the two to mitigate future impacts. The two types of offset units have the same mitigation value, but they do have different utility. Conservation offset units are purchased by industry participants on a first-come first-served basis. Construction of a project being mitigated with conservation offset units must begin within one year of the units being assigned. If construction has not started by that date, WAFWA can reallocate the conservation offset units to another project and credit the company's account with the original purchase amount. The company will then have to resubmit their project and get different offset units assigned to it before they can begin construction of their project. Remediation offset units are reserved for the company that completed the restoration work. The company that owns the resulting remediation offset units can use them toward a future mitigation need or continue purchasing conservation offset units. The RWP requires that remediation units be used to offset impacts that occur in reporting units that exceed the impact goals for CHAT 1 (30%) and CHAT 2 (60%). Appendices C-D track progress to date. So, a participant may choose to bank their remediation offset units if they anticipate having future projects within an area that is approaching or currently exceeding the established impact goal. A company can also sell their remediation offset units directly to another WAFWA participant who has a need for that type of mitigation

The discontinuation of the SGP CHAT impact estimator tool for mitigation

During 2014-15, WAFWA allowed participant companies to use the impact estimator tool on the CHAT website for project mitigation. There were serval reasons behind that decision including, the fact that WAFWA was still hiring and training staff to implement the program, a lack of trained company staff and technical service providers to conduct field habitat assessments, and the fact that companies needed time to incorporate the mitigation process into their development timeline. The impact estimator tool allowed for a rapid desktop calculation of mitigation costs without field sampling that generally overestimated the impact units and mitigation costs by 340% on average based on a comparison of estimated mitigation costs and actual mitigation costs from field habitat assessments. This level of overestimate was built into the tool in an effort to minimize the change of under estimating mitigation costs, and the tool underestimated the mitigation costs for projects in only 5.1% of cases. WAFWA then debited the estimated mitigation cost from the company's account, confirmed that sufficient offset units were available to for the project, and allowed the company to begin construction. A field habitat assessment was

conducted after the fact and the estimated impact and offset unit and mitigation costs were credited or debited based on that assessment.

This short-term solution was phased out as of September 1, 2015. Participant companies were notified in July 2015 that mitigation using the impact estimator tool would no longer be an option, and were given a deadline of November 1, 2015 to conduct field habitat assessments for any projects that used the impact estimator tool. After that deadline, all estimates were either rectified with field data or were recorded as actual impacts in the WAFWA credit tracking ledger. There were a total of 70 projects that had outstanding estimates that were converted to final impact costs on November 15, 2015. Since that date, WAFWA has been notified that one of these projects was in fact cancelled before construction and the credits and mitigation were refunded. The result using this tool for mitigation is that impacts were overestimated during the first two years of implementation, but resulted in a net conservation benefit because projects were offset with additional conservation based on that estimate. The CHAT impact estimator tool remains available on the website only for use as a project siting tool to help companies compare estimated mitigation costs and minimize impacts to LPC habitat.

Industry Impact Unit Generation

Impact unit generation and mitigation fees are summarized at the reporting unit scale in Appendices E-F. In this report, we will discuss impact generation at the scale of ecoregions, CHAT categories, and agreement types.

The range-wide total was 409 projects that had 6,643 annual impact units and $8,245,375.31 in mitigation fees. By ecoregion, the Mixed Grass Prairie had the most projects (45.2%), annual impact units (81.4%) and mitigation fees (87.5%). The Shinnery Oak ecoregion had the second most impacts with 26.2% of the projects, 10.6% of the annual impact units, and 7.9% of the mitigation fees. The Shortgrass Prairie had 15.9% of the projects, 3.4% of the annual impact units, and 2.6% of the mitigation fees. The Sand Sagebrush ecoregion had had the least impacts with 12.7% of the projects, 4.6% of the annual impact units, and 2.0% of the mitigation fees.

The total number of projects processed and mitigated for was down 43% from 2014. This decrease in mitigation projects can be attributed to the downturn in oil and gas markets which began in June 2014 and resulted in a 70% decline in oil prices. The number of active drilling rigs has also declined by roughly 70% since June 2014.

Overall, the CCAA has a much larger share of the total number of projects (68.7%), but it accounts for a lower percentage of the annual impact units (32.5%) and the mitigation fees (31%). This is because the CCAA projects are primarily oil and gas wells which have smaller impact buffers than many of the WCA projects such as compressor stations and electric transmission lines. In 2015, WAFWA instituted new practices to attribute any new projects outside of enrolled parcel boundaries to the correct agreement type as they are submitted. Table 14 summarizes the impact unit generation and by agreement type.

Table 14. Summary of projects mitigated for under the Lesser Prairie-Chicken Range-wide Conservation Plan during 2015 reporting period by ecoregion and agreement type with the potential (full impact buffer) and actual impact acres (new impact area), annual impact units and mitigation fees.

Ecoregion/Agreement Type	# of project	Potential Acres	Impact Acres	Annual Units	Cost
Mixed Grass Prairie	**185**	**21,226.5**	**5,399.6**	**5,407.5**	**$7,211,145.39**
CCAA	131	4,074.7	2,106.1	1,613.1	$2,152,638.86
WCA	41	16,619.3	2,937.5	3,591.8	$4,792,935.82
Unknown	13	532.6	3,56.0	202.6	$265,570.71
Sand Sagebrush Prairie	**52**	**1,613.6**	**979.9**	**304.6**	**$168,940.57**
CCAA	50	1,551.5	955.3	304.2	$168,750.42
Unknown	2	62.1	24.6	0.4	$190.15
Shinnery Oak Prairie	**107**	**15,446.7**	**7090.8**	**703.4**	**$651,852.73**
CCAA	92	2,904.7	326.5	193.1	$190,738.39
WCA	15	12,542.0	6,764.3	510.3	$461,114.34
Shortgrass Prairie	**65**	**1,801.2**	**1,266.7**	**227.6**	**$213,436.62**
CCAA	8	230.9	142.4	47.6	$43,217.35
WCA	8	204.7	120.7	34.0	$43,843.03
Unknown	49	1,365.6	1003.6	146.0	$126,376.24
Grand Total	**409**	**40,088.0**	**14,737.0**	**6,643.1**	**$8,245,375.31**
CCAA	**281**	**8,761.9**	**3,530.2**	**2,158.0**	**$2,555,345.02**
WCA	**64**	**29,634.1**	**10,070.7**	**4,248.1**	**$5,427,885.18**
Unknown	**64**	**1,960.2**	**1,384.2**	**349.0**	**$392,137.10**

Table 14 also includes 64 entries for projects with unknown agreement types, and WAFWA is currently working with participant companies to attribute those projects to the correct agreement. While these projects were mitigated for, they are outside of the boundaries of enrolled parcels and the CCAA and WCA agreement include language that allows for some impact activities outside of those boundaries (See CCAA Appendix 1, page 56 and WCA Exhibit B, page 1).

The impact acres recorded in Table 14 represent the acres of new impact by subtracting the acres of overlap from prior impact buffers from total number of acres within the impacts buffer of projects developed during 2015. The CCAA permit includes a limit of 1,866,855 acres of LPC habitat that may be impacted over the 30-year life of the permit, or 62,228.5 acres per year. If we assume that all of the unknown projects currently under review in the enrollment audit are CCAA projects, there are a maximum of 2,507 impact acres under the CCAA and 4,136 under the WCA from the 2015 developments.

While oil and gas wells are the most common type of impact, the larger impact buffers of compressor stations, communications towers, and electric transmission lines often generate more annual impact units and mitigation fees per project. These projects are more common on WCA enrollments than CCAAs. The larger the impact buffer, the more important it is to site these projects to take advantage of pre-existing impact buffers and cropland to minimize impacts on LPC habitat and mitigation fees. Electric distribution lines are an example of a smaller scale project that produces few annual impact units or mitigation fees. These projects have smaller impact buffers and are often sited within pre-existing impact buffers along roads. Table 15 breaks impact unit generation and mitigation fees down further to demonstrate the effect of impact type.

Table 15. Summary of 2015 projects by impact type, CHAT and agreement type.

CHAT/contract/industry	Count	Potential Acres	Impact Acres	Annual Units	Cost
CHAT 1	**50**	**6,286.46**	**3,356.03**	**4,157.04**	**$5,382,802.79**
Unknown type	6	179.85	118.35	38.18	$30,895.25
Tank Battery	1	13.72	3.89	0.24	$196.75
Well	5	166.13	114.46	37.94	$30,698.50
CCAA	36	1,122.03	688.93	807.56	$936,769.92
Well	36	1,122.03	688.93	807.56	$936,769.92
WCA	8	4,984.58	2,548.75	3,311.30	$4,415,137.62
Compressor Station <= 5 acres	1	31.04	-	-	$0.00
Electrical Transmission Line >= 69 KV	2	4,796.60	2,414.14	3,175.73	$4,239,897.18
Well	5	156.94	134.61	135.57	$175,240.44
CHAT 2	**55**	**1,674.86**	**896.75**	**508.00**	**$671,493.34**
Unknown Type	8	213.64	166.99	24.55	$25,994.64
Tank Battery	2	27.44	10.96	0.19	$151.31
Well	6	186.20	156.03	24.36	$25,843.33
CCAA	40	1,243.99	608.50	376.52	$502,733.02
Well	40	1,243.99	608.50	376.52	$502,733.02
WCA	7	217.23	121.26	106.93	$142,765.68
Well	7	217.23	121.26	106.93	$142,765.68
CHAT 3	**117**	**4,296.14**	**2,506.10**	**1,447.58**	**$1,691,065.06**
Unknown Type	17	670.82	480.68	219.68	$266,372.13
Well	17	670.82	480.68	219.68	$266,372.13
CCAA	72	2,236.12	1,260.25	738.98	$888,482.61
Well	72	2,236.12	1,260.25	738.98	$888,482.61
WCA	28	1,389.20	765.17	488.92	$536,210.32
Cell / Radio Tower	1	345.30	32.41	14.58	$19,471.67
Compressor Station <= 5 acres	1	31.03	27.84	38.23	$51,034.65
Compressor Station > 5 acres	2	541.50	463.69	250.19	$223,056.74
Electrical Distribution Line < 69 KV	10	36.91	5.05	5.77	$6,119.20
Well	14	434.46	236.18	180.15	$236,528.06
CHAT 4	**187**	**27,830.50**	**7,978.10**	**530.45**	**$500,014.12**
Unknown Type	33	895.85	618.18	66.60	$68,875.08
Tank Battery	7	76.80	25.50	1.64	$2,089.37
Well	26	819.05	592.68	64.96	$66,785.71
CCAA	133	4,159.73	972.56	234.90	$227,359.47
Tank Battery	1	13.72	0.93	0.76	$1,014.10
Well	132	4,146.01	971.63	234.14	$226,345.37
WCA	21	22,774.92	6,387.36	228.95	$203,779.57
Compressor Station <= 5 acres	2	62.06	18.11	0.29	$386.75
Electrical Distribution Line < 69 KV	10	15.46	8.73	4.24	$3,663.44
Electrical Transmission Line >= 69 KV	3	22,554.81	6,281.05	216.32	$192,861.26
Tank Battery	2	20.76	6.94	0.16	$209.06
Well	4	121.83	72.53	7.94	$6,659.06
Grand Total	**409**	**40,087.96**	**14,736.98**	**6,643.07**	**$8,245,375.31**

When comparing the CHAT totals in Table 15, it can be demonstrated how industry is avoiding higher quality habitat. The overall number of projects is much lower in CHAT's 1-2 (105) versus the number of projects in CHAT's 3-4 (304) indicating companies may be choosing these areas over focal areas and connectivity zones. Similarly, the total acreage of new impacts is lower in the CHAT 1-2 versus CHAT 3-4 (4,252 vs 10,484 acres). However, the RWP habitat metrics result in much higher mitigation cost in CHAT 1 and 2. Mitigation totaled $6,054,296.13 in CHAT 1-2 compared to $2,191,079.18 in CHAT 3-4, indicating that while the number of projects and acreage impacted is less in CHAT 1-2, companies are paying significantly more for impacting these higher quality habitat areas. The mitigation in CHAT 1-2 is also represented by reporting unit is also represented in Table 16.

Table 16. Summary of the number of projects mitigated for in CHAT 1-2 by reporting unit, including the number of projects, potential acres impacted, the actual impact acres, annual units and mitigation cost.

Reporting Unit	Count	Potential Acres	Impact Acres	Annual Units	Cost
Mixed Grass Prairie	**79**	**7,193.7**	**3,708.0**	**4,371.7**	**$5,836,670.05**
11	1	4,039.6	2,033.1	2,674.5	$3,570,721.18
106	1	757.0	381.0	501.2	$669,176.00
107	4	124.7	98.9	78.2	$104,383.18
108	5	155.2	83.7	50.7	$67,708.40
109	36	1,117.2	500.0	328.8	$438,971.39
110	2	64.3	50.6	34.6	$46,130.24
118	1	31.0	18.7	2.9	$3,866.01
13A	5	155.2	33.3	19.8	$26,461.89
13B	3	94.3	61.5	44.4	$59,248.50
13C	6	181.0	174.1	193.2	$257,977.42
13D	9	279.3	129.9	202.9	$270,823.12
29D	2	70.9	31.0	85.9	$114,640.15
30	4	124.1	112.1	154.7	$206,562.57
Sand Sagebrush	**9**	**279.3**	**189.0**	**160.9**	**$92,979.40**
31D	2	62.1	55.2	105.5	$50,441.00
35F	7	217.2	133.7	55.5	$42,538.40
Shinnery Oak Prairie	**1**	**32.8**	**32.5**	**18.3**	**$16,304.71**
2A	1	32.8	32.5	18.3	$16,304.71
Shortgrass Prairie	**16**	**455.6**	**323.3**	**114.1**	**$108,341.97**
145	7	182.6	144.8	12.9	$10,434.12
37E	2	73.1	37.7	2.0	$1,615.53
41B	1	31.0	-	-	$0.00
41C	2	62.1	43.8	62.1	$66,270.69
42	3	75.8	66.0	4.5	$3,649.61
44	1	31.0	31.0	32.6	$26,372.02
Reporting Unit Total	**105**	**7,961.3**	**4,252.8**	**4,665.0**	**$6,054,296.13**

Companies are adapting their development strategies to incorporate the RWP habitat metrics in an effort to reduce higher mitigation costs by co-locating new projects with pre-existing development. We quantify co-location from the percent overlap between new impact acres and acres within impact buffers of existing infrastructure. Prior to the implementation of the RWP, the average project co-location was only 12% for all impact types and 42% for oil and gas developments (Van Pelt ed. 2013:136-137). For all projects mitigated for in 2015, and across all industry types, the co-location was 63%. This is up 39% since implementation for all impact types and 21% for oil and gas projects. This degree of co-location in 2015 varied widely between ecoregions, but was most effective in the Mixed Grass (74% co-location) and Shinnery Oak (54% co-location) (Table 17).

Table 17. The overall percentage that new impact areas were reduced due to co-locating the project so that it overlapped with existing impacted areas.

Ecoregion	% overlap
Mixed Grass Prairie	74.6%
Sand Sagebrush Prairie	39.3%
Shinnery Oak Prairie	54.1%
Shortgrass Prairie	29.7%
Mean	63.2%

Interestingly, the percent of co-location almost perfectly corresponds to the unit values or relative mitigation costs in each ecoregion. These costs are highest in the Mixed Grass followed by the Shinnery Oak, while the mitigation costs in the Sand Sagebrush and short grass are much less. This provides even more evidence the economic disincentives in the RWP are working as they were intended. This level of avoidance by RWP participants occurring across millions of acres within the LPC range is a significant benefit to LPC which is often overlooked by those following the RWP mitigation component.

Remediation of Impacts to Generate Offset Units

Offset units can also be generated by remediation of existing impacts as described in the RWP. Those remediation units are reserved for the company which generates them and can be banked for their use for future developments. In some instances, remediation offset units are required before development can occur. The RWP establishes impact goals of 30% for CHAT 1 reporting units and 60% for CHAT 2 reporting units. Some of those reporting units already exceed those goals which means that remediation must occur before participant development in those areas can be initiated (Appendix D&E, Van Pelt et.al 2013).

Within the Range Wide Plan there are two primary impact credit processes, one for projects initially mitigated for through the RWP and a second process for the remediation of projects not mitigated through the RWP (existing infrastructure).

For projects initiated within the RWP, it is required that mitigation and habitat offsets units be paid and allocated before construction begins. Companies often plan and pay mitigation months

before a project starts. When this is done, WAFWA assesses the habitat impact and then calculates the habitat units and the mitigation fee that will offset this development. The mitigation fee is deducted from the companies' mitigation account with WAFWA and the habitat units are deducted from an appropriate conservation offset site. Once the mitigation of new impacts is completed, one of the following things will occur:

1) The project gets cancelled after the mitigation was paid, but before any ground disturbances or infrastructure are installed.
    a. As development plans change for whatever reason, projects may be cancelled before any habitat impacts occurred. In these instances, the company should notify WAFWA that the project was cancelled before any impacts occurred and WAFWA will credit the company back its full mitigation payment to its account and the habitat credits will be added back to the conservation offset site they were deducted from. The net result is no mitigation fees and no habitat units used.

2) The project was started (ground disturbed or infrastructure installed) after mitigation payments were made, but the project was not completed and subsequently removed (i.e. dry well). These projects may be credited back in full after the site is verified to be reclaimed. To reclaim the site back to its original state and be credited as doing so, the company should follow the below process.
    a. The company should remove any/all infrastructure they installed, refill and level any pits, and grade the ground back to a slope and condition approximating the condition before impacts were made.

    b. The company should contact WAFWA regional biologists for a recommended native seed mixture for that site and apply the seed mix per recommendations.

    c. Once the site is repaired and the seed is distributed, the company should notify the WAFWA regional biologist to assess and verify the completed reclamation work.

    d. Once verified, the regional biologist will notify WAFWA GIS that the work was done and then WAFWA GIS will refund all of the habitat credits to the offset property they were initially deducted from and notify accounting to credit the companies account back for the full impact mitigation (less the 12.5% administration fee) paid towards the project.

The project is completed and mitigated for within the RWP, then at some future date the project may be reclaimed in a manner similar to scenario 2 (project started but not completed). After the site has been confirmed reclaimed, the company receives credit back on mitigation dollars paid (less the administration fee), the impact no longer generates annual debits in the impact ledger, and the impact units are no longer deducted from its associated conservation site. Habitat units

from the project and the conservation site are not credited back, they just stop occurring annually as they were when the project was on the landscape.

For projects that were developed on the landscape without mitigation through the RWP, there exists the opportunity for companies to remove these existing infrastructure impacts and receive habitat credits that can be applied to future projects. If a company removes the infrastructure and reseeds the area in native vegetation to reclaim the habitat, the company will receive a company specific allocation of half the habitat units identified as reclaimed by a HEG habitat evaluation of the surrounding area.

During the 2015 reporting period, there were a number of projects cancelled and credited back. Specifically, there were 36 projects cancelled before impacts occurred and nine projects reclaimed after they failed to be successful (Table 18). Each of these projects were reclaimed per the specifications, verified by WAFWA staff, and then the mitigation was credited back to the company and the impacts were credited back to the conservation offset property. There were no reclamations completed for projects not mitigated for in the RWP.

Table 18. Details on the 9 projects that were reclaimed after the project failed to be successful.

CHAT Category	# of wells	Non-impacted acres	impact units	impact fees
CHAT 1	6	176.24	183.09	$191,571.47
CHAT 2	0	0	0	0
CHAT 3	0	0	0	0
CHAT 4	3	38.27	2.93	$2,768.77
Total	9	214.51	186.02	$194,340.24

Offset Unit Generation

The 11 conservation sites produced 45,136 conservation offset units during this reporting period from 96,750 acres (Table 19). There have not yet been any existing impact sites restored through the RWP so there have been no remediation offset units generated to date. However, there are some remediation efforts planned for the next reporting period that will generate some offset units. The total number of offset units generated since inception of the RWP is 54,150 and 89.3% of them have been produced by properties located primarily in CHAT 1. The conservation sites under contract at the end of the reporting period are expected to produce 605,272 conservation offset units over the next 10 years. WAFWA maintains a surplus of offset units in each region by appropriating all available funds in the conservation endowment and targeting conservation agreements in proportion to the distribution of industry impacts. This approach minimizes the risk of any industry delays.

Table 19. Conservation and remediation offset units generated during the 2015 reporting period and cumulatively since the inception of the WAFWA range-wide plan. Data are reported for the primary CHAT category within which the site occurs.

Service Area – Primary CHAT	Conservation Offset Units Generated During Reporting Period	Remediation Offset Units Generated During Reporting Period	Cumulative Conservation Offset Units Generated	Cumulative Remediation Offset Units Produced	Cumulative Total Offset Units Produced
Sand Sagebrush					
CHAT 1	4,021	0	8,195	0	8,195
CHAT 2	0	0	0	0	0
CHAT 3	0	0	0	0	0
CHAT 4	0	0	0	0	0
Total	**4,021**	**0**	**8,195**	**0**	**8,195**
Shortgrass					
CHAT 1	511	0	658	0	658
CHAT 2	1,483	0	1,483	0	1,483
CHAT 3	0	0	0	0	0
CHAT 4	0	0	0	0	0
Total	**1,994**	**0**	**2,141**	**0**	**2,141**
Mixed Grass					
CHAT 1	24,512	0	29,054	0	29,054
CHAT 2	0	0	0	0	0
CHAT 3	0	0	0	0	0
CHAT 4	4,333	0	4,333	0	4,333
Total	**28,845**	**0**	**33,387**	**0**	**33,387**
Shinnery Oak					
CHAT 1	10,276	0	10,428	0	10,428
CHAT 2	0	0	0	0	0
CHAT 3	0	0	0	0	0
CHAT 4	0	0	0	0	0
Total	**10,276**	**0**	**10,428**	**0**	**10,428**
Range-Wide					
CHAT 1	39,320	0	48,334	0	48,334
CHAT 2	1,483	0	1,483	0	1,483
CHAT 3	0	0	0	0	0
CHAT 4	4,333	0	4,333	0	4,333
Total	**45,136**	**0**	**54,150**	**0**	**54,150**

Habitat quality of impact sites versus conservation sites

A principal concept behind the RWP is that the habitat metrics and mitigation incentivize industry to avoid important habitat areas, minimize impacts to LPC habitat. Those metrics consider both the acreage, impacted and conserved and the habitat quality of those acres. In this report, we described how companies are minimizing acreage impacts of new development by co-

locating projects with pre-existing infrastructure. But what about the habitat that is still impacted, has industry been avoiding good habitat areas and concentrating development in poorer habitat areas? We compared the habitat quality of sites impacted by new development in 2015 with sites that were conserved, and were able to affirm selection for poorer quality habitat.

This habitat quality of site comparisons uses the Habitat Evaluation Guide (HEG) score described in Appendix I of the RWP (Van Pelt, ed 2013). This robust scoring system ranks LPC habitat quality on a scale from 0 to 1, where 1 is the highest quality. This system uses a simple set of criteria to identify LPC habitat including, the percent bare ground, percent cover of seven preferred species of grasses and shrubs, percent cover of trees greater than three feet tall, and the percent suitable habitat within a one-mile radius of the evaluation site.

Of the over 2,500 habitat evaluations conducted at proposed industry impact sites across the EOR+10 for wells, tank batteries, wind turbines, and electrical lines, the mean score was 0.22 with a median of 0.15 (table 20, Figure 8). These impacts to low quality habitat were then mitigated for, producing funds used to secure and improve moderate to high quality habitat on targeted private conservation properties. At the end of the 2015 reporting period, WAFAW had 11 conservation properties across the EOR+10, which had a mean habitat score of 0.62 and a median of 0.60 (Table 21, Figure 9). This difference between the quality of the habitat being impacted and the habitat being conserved is evidence industry is minimizing their impacts by selecting low quality sites to develop and the mitigation funds from those developments is being spent to maintain and improve high quality habitat.

Table 20. Habitat Evaluation Guide (HEG) scores relating habitat quality across all evaluation units associated with industry impact areas.

Industry impact	Shortgrass	Mixed Grass	Sand sagebrush	Shinnery Oak	EOR10
Mean	0.18	0.27	0.24	0.13	0.22
Median	0.10	0.23	0.20	0.04	0.15
Standard Error	0.02	0.01	0.02	0.01	0.01
Standard Deviation	0.22	0.28	0.30	0.19	0.26
Sample Variance	0.05	0.08	0.09	0.04	0.07
Count	173.00	1,445.00	183.00	732.00	2,533.00

Table 21. Habitat Evaluation Guide (HEG) scores relating habitat quality across all evaluation units associated with conservation offset properties.

Conservation	Shortgrass	Mixed Grass	Sand sagebrush	Shinnery Oak	EOR10
Mean	0.43	0.55	0.75	0.64	0.62
Median	0.25	0.60	0.83	0.60	0.60
Standard Error	0.09	0.03	0.04	0.06	0.02
Standard Deviation	0.27	0.30	0.27	0.30	0.30
Sample Variance	0.07	0.09	0.07	0.09	0.09
Count	9.00	85.00	46.00	26.00	166.00

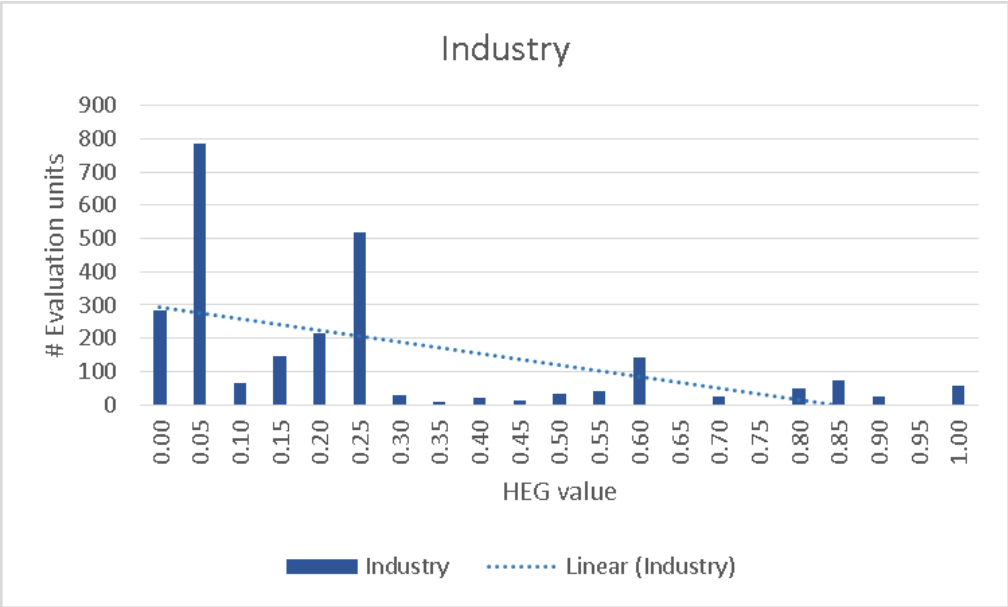

Figure 8. Plot of the habitat quality scores from evaluation units showing that most of the areas impacted were of lower quality habitat.

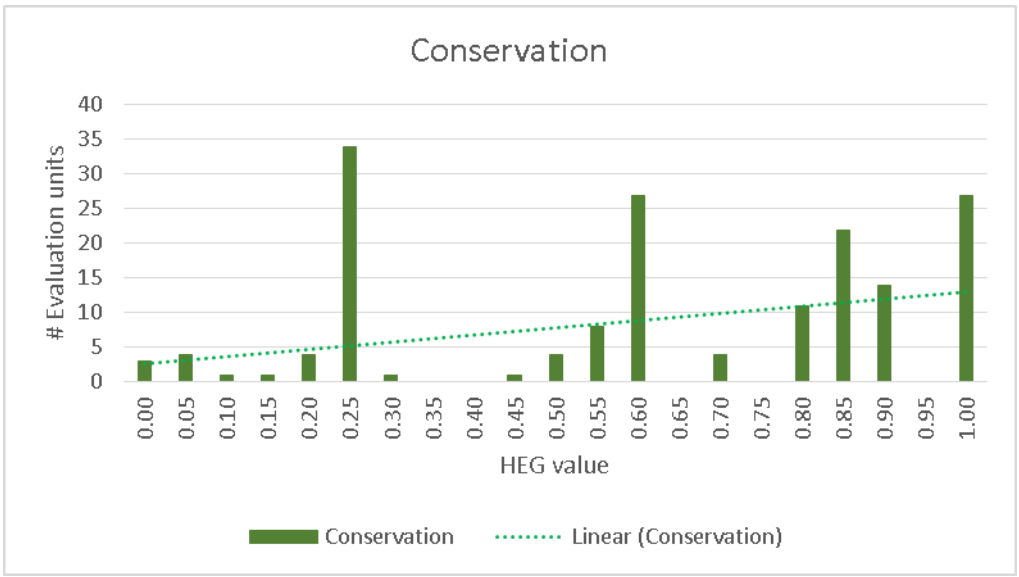

Figure 9. Plot of the habitat quality scores from evaluation units in conservation properties showing that most of the areas conserved are of higher quality habitat.

Reducing a project's new impact footprint has a direct result on the mitigation fees associated with that project. The formula for calculating mitigation fees start with the habitat quality at the site multiplied by the new impact acreage, and then the CHAT category, 25-year term, and

administration fees are factored in. Of these variables, the impact footprint is often the variable companies have the most control over. After two years of implementation, a review of all the projects assessed (including some not developed) shows that the mean cost of all the projects varies by ecoregion from $2,865 in the Shortgrass to $13,391 in the Mixed Grass for an EOR10 mean of $11,936 (Table 22). Looking at a plot of all the mitigation fees, it creates a clear trend that most of the fees are relatively low, with 39% of the projects having fees less than $1,000.00 (Figure 10). There have been a few large evaluation units that had fees calculated at $100,000 or greater, but those have been rare and tend to be associated with large transmission lines and/or wind farms. This trend of low mitigation fees is a reflection of companies avoiding good habitat and minimizing impact area.

Table 22. Summary descriptive statistics of the mitigation fees associated with projects assessed within the Range Wide Plan since implementation began in 2014.

Industry mitigation	Shortgrass	Mixed Grass	Sand sagebrush	Shinnery Oak	EOR10
Mean	$2,865.30	$13,391.16	$12,167.09	$11,150.96	$11,936.44
Median	$583.00	$3,546.15	$2,545.41	$1,076.72	$2,483.67
Standard Error	488.04	800.60	2,463.84	1,250.99	611.96
Standard Deviation	$6,419.20	$30,433.51	$33,330.17	$33,846.04	$30,799.36
Minimum	0	0	0	0	0
Maximum	$43,902.90	$393,086.38	$284,123.54	$384,102.04	$393,086.38
Sum	$495,697.04	$19,350,225.83	$2,226,577.64	$8,162,499.23	$30,234,999.74

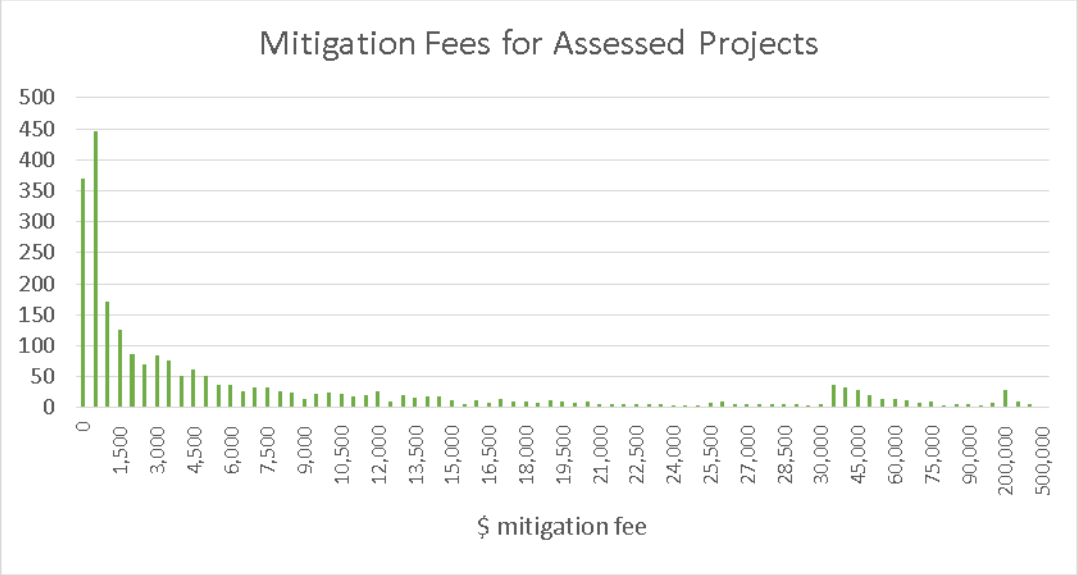

Figure 10. A histogram showing the distribution of mitigation fees for projects assessed within the Range-wide Plan.

Tracking Log

The tracking of information about a project and its implementation status within the RWP workflow is important component. During the first year of the RWP, a tracking log was created in a shared online spreadsheet. Each new project was entered as a new record row and attribute columns regarding the project stage, date it was evaluated, impact costs, impact units, and dates the project was approved and sent to accounting for completion were manually entered every time new information was collected. When inquiries were made about a specific project or how many projects were at a specific stage (Table 23), the tracking log could be accessed via the online website (USFWS had access to this log as well) and a summary of projects status and important project details (region, CHAT score, habitat impact units, mitigation cost) could be obtained. This tracking log worked well, but it was a manual process and it was not inherently linked to the GIS data so spatial queries and joins could not be done on it.

Table 23. Project stage codes used for easy reference and summarizing the status of projects. stage

	Stage description	Stage	Stage description
1	Project impact estimated	7	Project refunded (dry well)
2	Evaluation units requested	8	Existing impact reclamation
3	Evaluation Units created, HEG to field	800	Project on hold indefinitely
4	Field data returned	900	Buried infrastructure (pipeline)
5	Final cost to company for approval	9999	Canceled project
6	Impact accepted, project mitigated		

In 2015, great effort was put towards getting all the tracking information into a comprehensive GIS geodatabase. In latter 2015, a SQL table within the new geodatabase was created that had automatic daily updates of project information pulled from the GIS data. This new summary log includes most of the pertinent project level information and the automated tie to the GIS data ensures accuracy and completeness (Table 24). If additional project details are needed beyond what is in the tracking log, that information can be obtained via the project specific GIS data and related tables within the geodatabase. This new tracking log is not available via a web interface, but it is a part of the geodatabase shared with the USFWS. With the new SQL tracking log table, improvements to sorting, querying, and linking to GIS data were achieved. When the new web application currently being contracted for development is launched in the summer of 2016, the tracking log will be available through that interface.

Table 24. Subset of the new project summary log from the WAFWA RWP geodatabase.

WAFWA_ID	Project_Name	Stage	Year	Ecoregions	State	CHAT	Annual units	Cost	impact acres	full acres	Impact_Type	FACZ_Class	Enrollment	Date to accounting
OB122A_20141010_151400	Myers 12-2	6	2014	Shortgrass Prairie	KS	4	0.24	$192.68	29.76	31.03	Well	Non FA/CZ	CCAA	5/13/2015
OB122A_20141010_151700	Sharp Seed 2-3	6	2014	Shortgrass Prairie	KS	4	0.24	$196.46	29.66	31.03	Well	Non FA/CZ	CCAA	5/13/2015
OB122A_20141014_152100	Snider-Sharp 2-1	6	2014	Shortgrass Prairie	KS	4	0.03	$23.03	4.47	31.03	Well	Non FA/CZ	CCAA	5/13/2015
OB122A_20141215_112615	Luebber Trust 3#1	6	2014	Shortgrass Prairie	KS	4	0.80	$645.40	20.18	31.03	Well	Non FA/CZ	CCAA	12/4/2014
OB122A_20141215_112618	Vondracek et al 4-1	6	2014	Shortgrass Prairie	KS	4	1.35	$1,096.13	20.96	31.04	Well	Non FA/CZ	CCAA	11/2/2015
OB122A_20141215_112620	Vaughn 4-1	6	2014	Shortgrass Prairie	KS	3	38.36	$27,589.00	29.79	31.03	Well	Non FA/CZ	CCAA	11/2/2015
OB122A_20150508_135003	Boomhower 36-5	6	2014	Shortgrass Prairie	KS	4	0.57	$459.22	23.47	31.03	Well	Non FA/CZ	CCAA	5/9/2015
OP128A_20150615_111254	Opal Well A28 18-1H	5	2015	Shinnery Oak Prairie	TX	3	13.33	$11,887.65	29.64	31.04	Well	Non FA/CZ	WCA	
OP128A_20150615_111255	Opal Well A28 23-1H	5	2015	Shinnery Oak Prairie	TX	3	13.24	$11,806.71	29.43	31.03	Well	Non FA/CZ	WCA	
OP128A_20150615_111256	Opal Well A29 4-1H	5	2015	Shinnery Oak Prairie	TX	3	33.51	$29,878.40	31.04	31.03	Well	Non FA/CZ	WCA	
OX131A_20150116_121216	BRU-3372	6	2015	Shinnery Oak Prairie	TX	4	0.00	$0.00	0.00	31.03	Well	Non FA/CZ	CCAA	9/10/2015
OX131A_20150116_121219	COWNU-0903	6	2015	Shinnery Oak Prairie	TX	4	0.00	$0.00	0.00	31.03	Well	Non FA/CZ	CCAA	9/10/2015

The RWP requires to always have enough conservation credits in a region to cover new impacts occurring in the region. To track the balance of conservation offset credits and impact debits, a series of ecoregion specific ledgers was created. Within each ecoregion ledger, conservation offsets from enrolled properties create a balance of available credits. As projects are mitigated for through WAFWA, the projects are associated with a specific conservation offset property and the impact units for that project are then deducted from that properties available credits. If a mitigated project is cancelled or the well is a dry hole, then the company can receive financial credit for the site by repairing the impacts (removing infrastructure, leveling the ground, and reseeding with an approved native seed mix). Once this work is completed and verified by WAFWA staff, the company account is credited for the impact costs and the habitat units are credited back to the conservation site they were deducted from in the ledger.

The ledgers, ledger summaries, and project log are created daily with a SQL script triggered to run at 5:00 am Central Time. Inputs and outputs are fully contained within the geodatabase. Within the ledger creation script, each debit entry is assigned a conservation offset within the specific ecoregion given the following selection criteria, ranking order, and restraints (Table 25).

Table 25. The order of priorities used when the model assigns impact units to a conservation offset property.

#	Factor	Equation	Sort Order	Restraints
1	Ecoregion	Impact ecoregion = Conservation ecoregion		
2	CHAT	(Project CHAT – Conservation CHAT)	Ascending	≥ 0
3	Contract Term	(CZ Site Exp. Date – CZ Site Start Date)	Ascending	*None*
4	Days Available	(Line Entry Date – CZ Site Start Date)	Descending	≥ 0 AND < Contract Term
5	Percent Balance	(Running Balance + Impact Effect)/Site Total	Ascending	*None*
6	Running Balance	(Running Balance + Impact Effect)	Ascending	≥ 0
7	Site ID	*None*	Ascending	*None*

Once in the conservation properties in the same ecoregion as the impact are identified, factor preferences start with the CHAT score requiring the offset CHAT to be less than or equal to the project CHAT score. The contract term factor assures that conservation sites with 5-year term contracts are used before 10-year terms and then permanent sites. Subsequently, the numbers of days the contract has been available order sets the preference to use the oldest contract limiting that the number of days cannot exceed the term. The potential impact on the available conservation site balance is factored into the selection process twice, first using the percent remaining if the impact is assigned to the site (preference given to the site that would have the lower proportion of its total units impacted) and then the cumulative balance (preference give to

the site that has the least credits available that will cover the impact units needed). If all variables are between two or more sites, the decisive factor then become the minimum conservation site ID. By automating this process, we have removed the possibility of transcription errors and ensured each impact can be fully accounted moving forward (See Figure 11).

The line-by-line ecoregion ledgers that track every credit and debit, show which projects are associated with which conservation sites, and provide a running balance of that conservation sites available credit have a total of 2,716 entry rows and are available digitally to the USFWS through their remote connection to WAFWA's database.While the full ledger is available to the USFWS on a secured web site, a subset of the mixed grass ecoregion ledger for the month of December is presented in Table 26.

Table 26. A subset of the mixed grass ledger shows debit and credit entries made in December 2015. Each project transaction is linked to an associated conservation Offset Site that receives credits or has credits deducted from it. The Site Balance conveys the Offset Sites'.

Entry_Date	WAFWA_ID	ProjectName	Ecoregion	CHAT	ChargeType	DebitUnits	CreditUnit	OffsetSite	SiteBalance
12/1/2015	EO063A_20141229_104829	Franklin 22-1H	Mixedgrass Prairie	2	2014-2015 Impact	-6.57	0.00	CZ036	6964.82
12/4/2015	AP005A_20141210_131330	Fiskin 5-15-26 3H	Mixedgrass Prairie	1	2014-2015 Impact	-4.65	0.00	CZ036	6960.17
12/4/2015	SA157A_00001600_001600	Set of pipelines	Mixedgrass Prairie	3	2014-2015 Impact	-24.89	0.00	CZ036	6935.28
12/4/2015	VI187A_20141215_144915	Brown #2-28	Mixedgrass Prairie	1	2014-2015 Impact	-12.80	0.00	CZ036	6922.48
12/5/2015	EO063A_20150102_132835	Meininger 32-3H	Mixedgrass Prairie	3	2014-2015 Impact	-9.85	0.00	CZ036	6912.63
12/9/2015	SA157A_20141208_145710	London 2820 2-10H	Mixedgrass Prairie	1	2014-2015 Impact	-12.03	0.00	CZ036	6900.60
12/9/2015	SA157A_20150106_105357	CANFIELD 2821 2-2	Mixedgrass Prairie	3	2014-2015 Impact	-17.26	0.00	CZ036	6883.34
12/11/2015	EO063A_20150112_131044	Meininger 32 #4H	Mixedgrass Prairie	3	2014-2015 Impact	-26.36	0.00	CZ036	6856.98
12/14/2015	ST166A_00001644_014020	Ries 3H-233	Mixedgrass Prairie	1	Estimate Reconcile	0.00	39.05	CZ008	412.29
12/14/2015	ST166A_00001644_014020	Ries 3H-233	Mixedgrass Prairie	1	Final Impact	-41.60	0.00	CZ036	6815.38
12/14/2015	ST166A_00001651_014441	Texas Farm 1H-207	Mixedgrass Prairie	1	Estimate Reconcile	0.00	54.46	CZ038	6229.36
12/14/2015	ST166A_00001651_014441	Texas Farm 1H-207	Mixedgrass Prairie	1	Final Impact	-23.21	0.00	CZ036	6792.17
12/15/2015	CO028A_20150108_122554	MCQUIDDY F 4 HC	Mixedgrass Prairie	1	2014-2015 Impact	-34.43	0.00	CZ036	6757.74
12/17/2015	TA221A_20151130_124219	Shaw Trust	Mixedgrass Prairie	4	Final Impact	-0.76	0.00	CZ037	3494.20
12/17/2015	TA221A_20151130_124221	Stiles 17 20-17H an	Mixedgrass Prairie	4	Final Impact	-20.45	0.00	CZ037	3473.75
12/17/2015	TA221A_20151130_124243	Stiles 17 19-17H an	Mixedgrass Prairie	4	Final Impact	-6.24	0.00	CZ037	3467.51
12/17/2015	TA221A_20151130_140729	Stiles 1 21-1H	Mixedgrass Prairie	4	Final Impact	0.00	0.00	CZ037	3467.51
12/17/2015	TA221A_20151202_123742	Harper Trust	Mixedgrass Prairie	3	Final Impact	0.00	0.00	CZ036	6757.74
12/19/2015	SA157A_00001606_001606	Nightswonger 2815	Mixedgrass Prairie	4	2014-2015 Impact	-13.42	0.00	CZ037	3454.09
12/19/2015	SA157A_20141217_150146	HEIDI 2714 2-19H	Mixedgrass Prairie	4	2014-2015 Impact	-2.31	0.00	CZ037	3451.78
12/21/2015	AL204A_20151218_162024	Shonda Russell Line	Mixedgrass Prairie	4	Final Impact	0.00	0.00	CZ037	3451.78
12/22/2015	BP014A_20141216_082040	Parsell 33-4H	Mixedgrass Prairie	4	2014-2015 Impact	-22.28	0.00	CZ037	3429.50
12/29/2015	BP014A_20141227_130715	Parsell 33-5H	Mixedgrass Prairie	4	2014-2015 Impact	-26.81	0.00	CZ037	3402.69
12/31/2015	BP014A_20150115_124031	Good 121-3H	Mixedgrass Prairie	3	2014-2015 Impact	-36.18	0.00	CZ036	6721.56
12/31/2015	BP014B_20141231_110351	Jarvis Bill Sons 9H D	Mixedgrass Prairie	3	2014-2015 Impact	-11.73	0.00	CZ036	6709.83

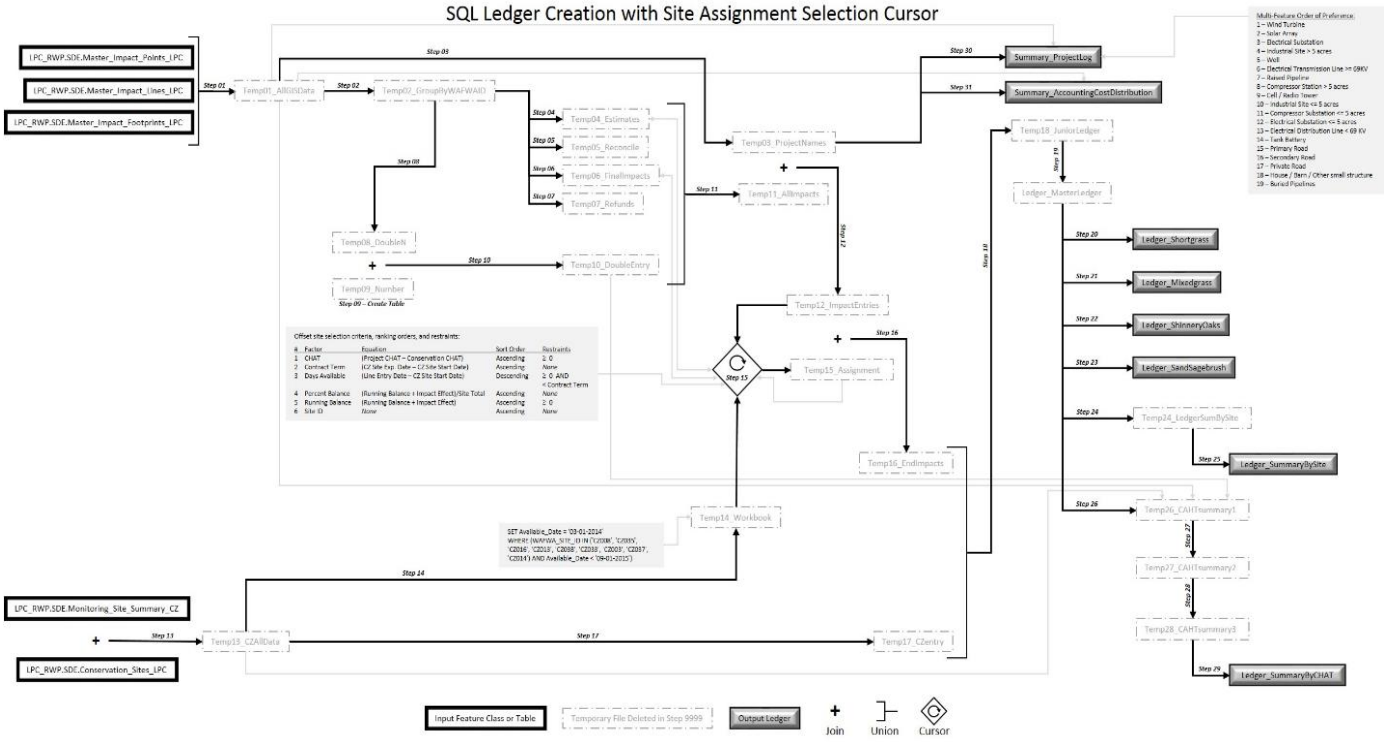

Figure 11. Schematic of the automated model used to do update the tracking log and ledger to include any project status changes made the previous day. Completed projects are automatically entered into the ledger and assigned to an appropriated and available conservation site to ensure impact offset balances are current.

Within the ledgers, the entry date references the date the action was taken, the WAFWA ID is the unique project identification code, project name is the name of the project and the ecoregion and CHAT columns identify where the project occurred. The Charge Type column identifies the type of action taken. Entries with a charge type of 2014-2015 Impact signify these impacts were made in 2014, and this is the 2015 annual re-application of that impact. Estimate Reconciles indicate that is a credit back based on an estimate, and is followed up in the ledger by a Final Impact that debits the actual habitat units for that project. Since the estimator tool was discontinued in September 2015, there are no entries with a charge type of Impact Estimate in this December portion of the ledger, but they do occur as debits in earlier months. On November 2, 2015, there are many entries for Estimates Reconciled and Final Impacts as November 1 was set as the deadline for any field work to finalize estimates. Any estimates not validated by that date were converted to Final Impacts. The other Charge Type not visible in the December subset is Conservation Credit, which indicates the addition of conservation credits added to a conservation offset property. The Conservation offset properties have WAFWA IDs that begin with CZ (for Conservation Zone) and then a unique number associated with each property. For each ledger transaction line, the debits or credits for that project are associated with a specific conservation property as indicated in the Offset Site column of the table. The last column in the table is the Site Balance, which is a running balance of that conservation site's available credits.

It can be seen near the end of the table that conservation site CZ036 has an ending balance of 6,709.83 units, CZ037 has a balance of 3,402 units, and CZ038 has a balance of 6,229.36, and CZ008 has a balance of 412.29. Like the tracking log, the ledgers were originally online and manual, but this automation has brought them into the SQL database where they can be better sorted and queried. The new web application will also link to these ledgers and provide this information for easy reference. The summary information from these ledgers through December 31, 2015, is presented here for review. The Ledger Summary by Site shows the total credits, net debits, and remaining balance for each conservation site along with the ecoregion and associated CHAT region (Table 27).

Table 27. Ledger Summary by Site; summary of conservation sites and the total credits, debits, and remaining conservation balance as of December 31, 2015 by ecoregion, CHAT category, and range wide.

Ecoregion	Conservation site	CHAT	Site Credit	Gross Debit	Refund Credit	Net Debits	Site Balance
Mixedgrass Prairie	CZ008	1	721.72	(1,366.61)	1,057.18	(309.43)	412.29
Mixedgrass Prairie	CZ036	1	15,933.30	(9,572.37)	348.90	(9,223.47)	6,709.83
Mixedgrass Prairie	CZ037	4	4,333.46	(1,489.70)	558.93	(930.77)	3,402.69
Mixedgrass Prairie	CZ038	1	12,398.70	(12,877.55)	6,708.21	(6,169.34)	6,229.36
Mixedgrass Prairie	**Region Total**	**---**	**33,387.18**	**(25,306.23)**	**8,673.22**	**(16,633.01)**	**16,754.17**
Sand Sagebrush Prairie	CZ016	1	8,195.08	(1,898.20)	804.80	(1,093.40)	7,101.68
Sand Sagebrush Prairie	**Region Total**	**---**	**8,195.08**	**(1,898.20)**	**804.80**	**(1,093.40)**	**7,101.68**
Shinnery Oak Prairie	CZ003	1	8,670.41	(1,026.57)	569.58	(456.99)	8,213.42
Shinnery Oak Prairie	CZ013	1	356.69	-	-	-	356.69
Shinnery Oak Prairie	CZ014	1	260.45	-	-	-	260.45
Shinnery Oak Prairie	CZ026	1	1,140.00	(1,347.35)	252.23	(1,095.12)	44.88
Shinnery Oak Prairie	**Region Total**	**---**	**10,427.55**	**(2,373.92)**	**821.81**	**(1,552.11)**	**8,875.44**
Shortgrass Prairie	CZ033	2	1,482.92	(914.47)	342.08	(572.39)	910.53
Shortgrass Prairie	CZ035	1	657.59	(996.91)	362.48	(634.43)	23.16
Shortgrass Prairie	**Region Total**	**---**	**2,140.51**	**(1,911.38)**	**704.56**	**(1,206.82)**	**933.69**
Rangewide Summary	**Region Total**	**---**	**54,150.32**	**(31,489.73)**	**11,004.39**	**(20,485.34)**	**33,664.98**

Within this summary table, the Conservation Site is the unique ID give to each property, the CHAT category represents the CHAT that the majority of the site is located in, Site Credit relates the amount of offset units generated and available to be applied towards impacts, Gross Debit relates the total number of impact units assigned to that property, Refund Credit relates the total number of impacts credited back to the property after estimates were reconciled or projects were cancelled. Net Debits are the balance between Gross Debits and Refund Credits and represent the actual number of impact units debited from the conservation site, and Site Balance is the amount of remaining habitat credits for a given conservation site. Figure 12 shows the number of habitat unit credits per conservation property and the number of habitat units assigned and debited from that property.

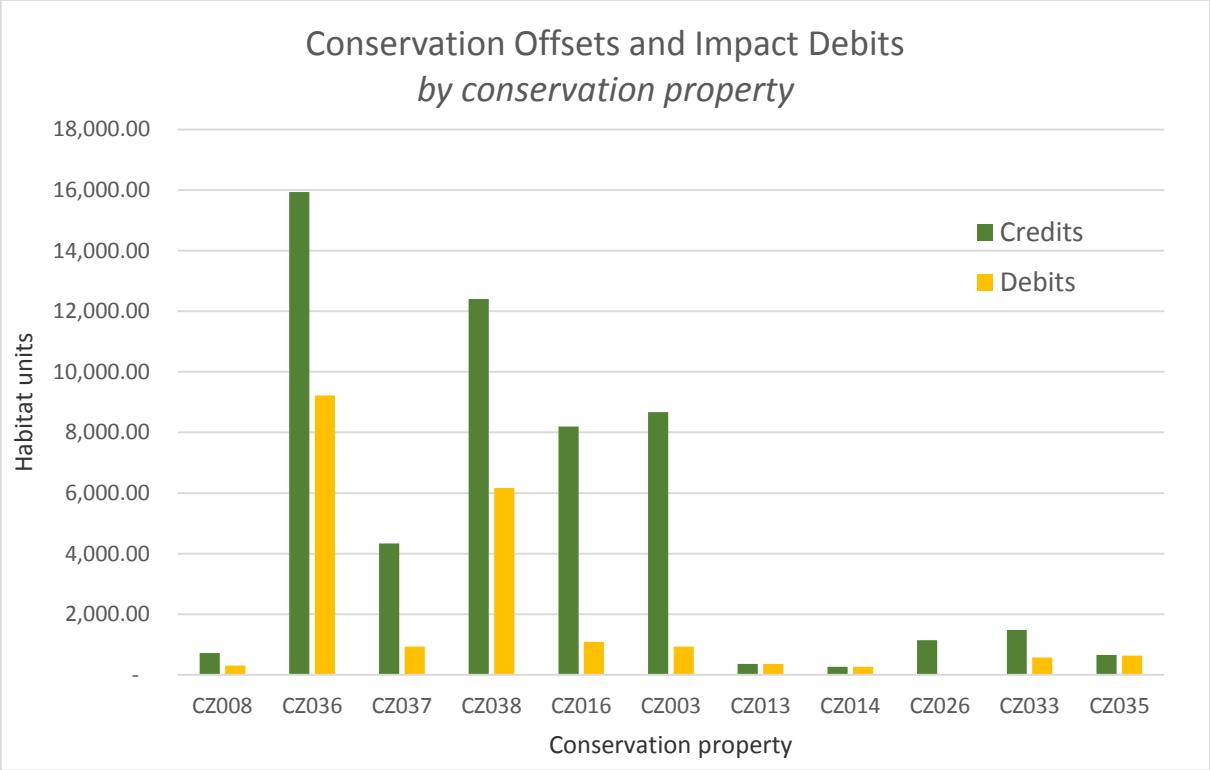

Figure 12. Graph showing the number of habitat unit credits per conservation property and the number of habitat units assigned and debited from that property.

Another way to summarize the ledgers, are totaling the conservation credits and impact debits to the ecoregion and CHAT level, but not at the conservation property level. For this CHAT level summary, it should be remembered impacts from one CHAT level can be offset by credits in a higher level CHAT, and create negatives in CHAT levels 2-4 that are accounted for by the surplus credit balance in CHAT 1. Table 28 and Figure 13 summarizes these credits and debits to the ecoregion level and shows that each ecoregion has a positive balance.

Table 28. An ecoregion and CHAT level summary of credits and impact debits shows there is a large enough credit balance in CHAT1 to offset the negative balance in lower CHAT levels, resulting in positive ecoregion level balances throughout the range as of December 31, 2015.

Ecoregion	CHAT	Conservation Credits	Gross Debit	Refund Credits	NetDebits	Current Balance
Mixedgrass Prairie	CHAT 1	29,053.72	-9,507.11	2,553.91	-6,953.20	22,100.52
Mixedgrass Prairie	CHAT 2	-	-2,582.07	1,188.08	-1,393.99	-1,393.99
Mixedgrass Prairie	CHAT 3	-	-11,727.35	4,372.30	-7,355.05	-7,355.05
Mixedgrass Prairie	CHAT 4	4,333.46	-1,489.70	558.93	-930.77	3,402.69
Mixedgrass Prairie	**Region Total**	**33,387.18**	**-25,306.23**	**8,673.22**	**-16,633.01**	**16,754.17**
Sand Sagebrush Prairie	CHAT 1	8,195.08	-1,409.43	579.01	-830.42	7,364.66
Sand Sagebrush Prairie	CHAT 2	-	0.00	0.00	0.00	0.00
Sand Sagebrush Prairie	CHAT 3	-	-361.45	173.37	-188.08	-188.08
Sand Sagebrush Prairie	CHAT 4	-	-127.32	52.42	-74.90	-74.90
Sand Sagebrush Prairie	**Region Total**	**8,195.08**	**-1,898.20**	**804.80**	**-1,093.40**	**7,101.68**
Shinnery Oak Prairie	CHAT 1	10,427.55	-18.29	0.00	-18.29	10,409.26
Shinnery Oak Prairie	CHAT 2	-	0.00	0.00	0.00	0.00
Shinnery Oak Prairie	CHAT 3	-	-1,686.18	540.90	-1,145.28	-1,145.28
Shinnery Oak Prairie	CHAT 4	-	-669.45	280.91	-388.54	-388.54
Shinnery Oak Prairie	**Region Total**	**10,427.55**	**-2,373.92**	**821.81**	**-1,552.11**	**8,875.44**
Shortgrass Prairie	CHAT 1	657.59	-996.91	362.48	-634.43	23.16
Shortgrass Prairie	CHAT 2	1,482.92	-42.16	29.27	-12.89	1,470.03
Shortgrass Prairie	CHAT 3	-	-568.34	151.19	-417.15	-417.15
Shortgrass Prairie	CHAT 4	-	-303.97	161.62	-142.35	-142.35
Shortgrass Prairie	**Region Total**	**2,140.51**	**-1,911.38**	**704.56**	**-1,206.82**	**933.69**
Rangewide Summary	CHAT 1	48,333.94	-11,931.74	3,495.40	-8,436.34	39,897.60
Rangewide Summary	CHAT 2	1,482.92	-2,624.23	1,217.35	-1,406.88	76.04
Rangewide Summary	CHAT 3	-	-14,343.32	5,237.76	-9,105.56	-9,105.56
Rangewide Summary	CHAT 4	4,333.46	-2,590.44	1,053.88	-1,536.56	2,796.90
Rangewide Summary	**Region Total**	**54,150.32**	**-31,489.73**	**11,004.39**	**-20,485.34**	**33,664.98**

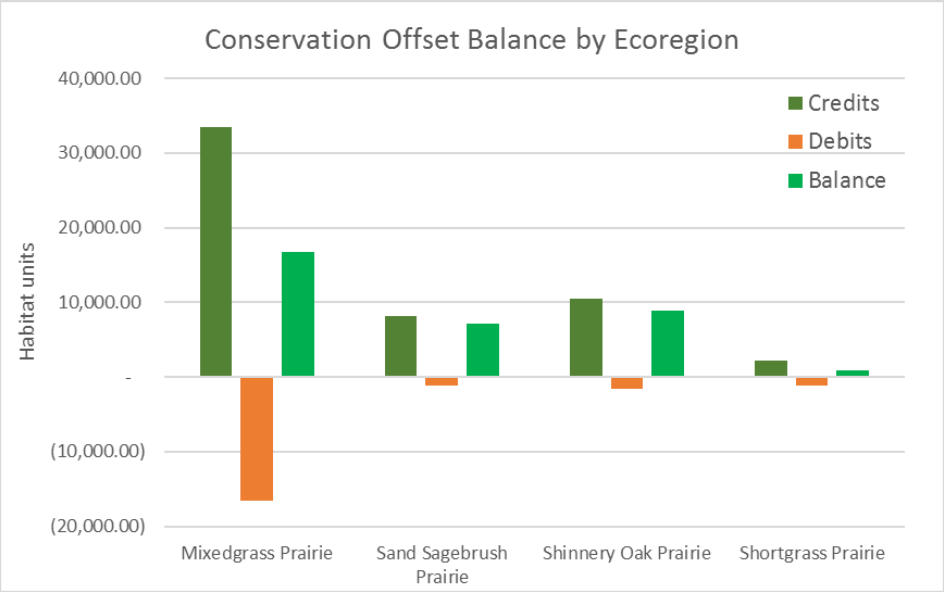

Figure 13. Graph of the overall conservation credits, impact debits, and remaining credit balance per ecoregion

Reporting units and development level thresholds

Within the RWP, the maximum recommended development level within reporting units was established to define acceptable limits of development related impacts within focal area and connectivity zones. A development proportion threshold of 30% was established for focal areas, and a threshold of 60% was established for connectivity zones. These thresholds are defined as a percentage of the total reporting unit area that is covered by existing infrastructures impact buffers. This area of impact is calculated twice a year (July and January) and includes impact buffers around, the latest download of vertical structure data, the latest IHS well data, new RWP wells, tank batteries, and all known roads and electrical distribution/transmission lines as updated and represented within the RWP. The totals of these impact buffers are then divided by the reporting unit area to identify the percentage of impact.

Each reporting unit has a unique ID number associated with it (Figures 14 and 15) so that they can be related back to tables conveying the percent of impact within each unit. Appendix E and F show the percentages of impact within each reporting unit in focal areas and the reporting units of connectivity zones respectively. The percentages of impact based on the January 2016 assessment are presented graphically in Figures 16 and 17 to help illustrate the areas that are either above, below, or approaching the threshold. There are currently seven focal areas reporting units over the 30% threshold, five in the sands sagebrush and two in the mixed grass. The highest impacted focal area is calculated at 39.1% (unit 14) followed by two units with 34% impact (35F, 31C). Unit 14 is an anomaly in that it is only nine square miles after it was separated from its larger unit when the units were being delineated. Due to its small size, the primary road running through it and the existing wells, it has been over the 30% threshold since it was created. For all focal areas over the threshold, remediation of existing infrastructure must occur to balance any new impact areas before a project can be approved. No new RWP projects that created new impact areas were approved within the focal areas over the threshold. There are three focal areas that are near the threshold with between 28% 30% impact. There are no connectivity zones over the 60% threshold, with the highest impact to a connectivity zone calculated at 53%.

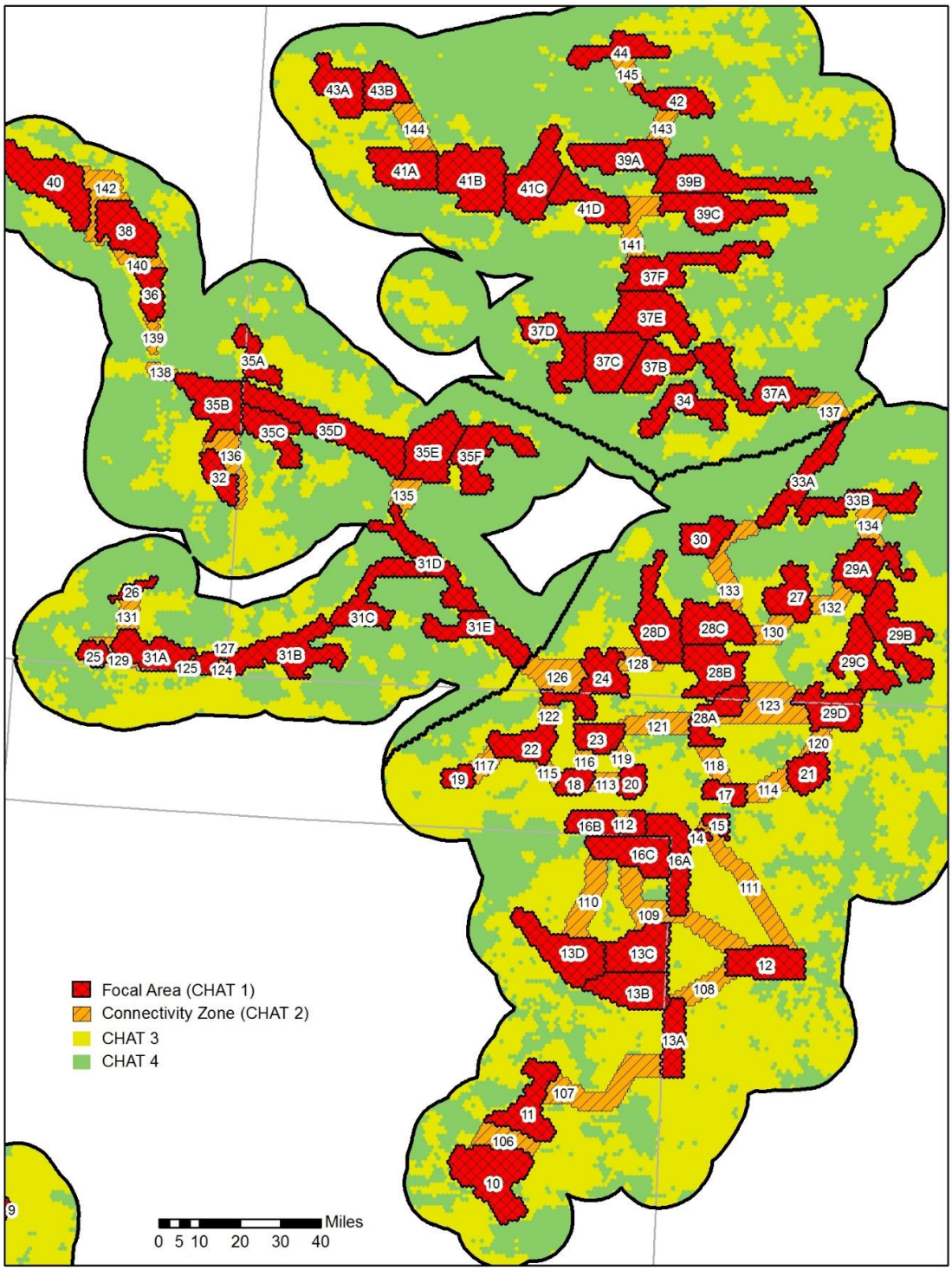

Figure 14. A map of the reporting unit numbers for focal area and connectivity zones in the shortgrass, sand sagebrush, and Mixed Grass regions of the range.

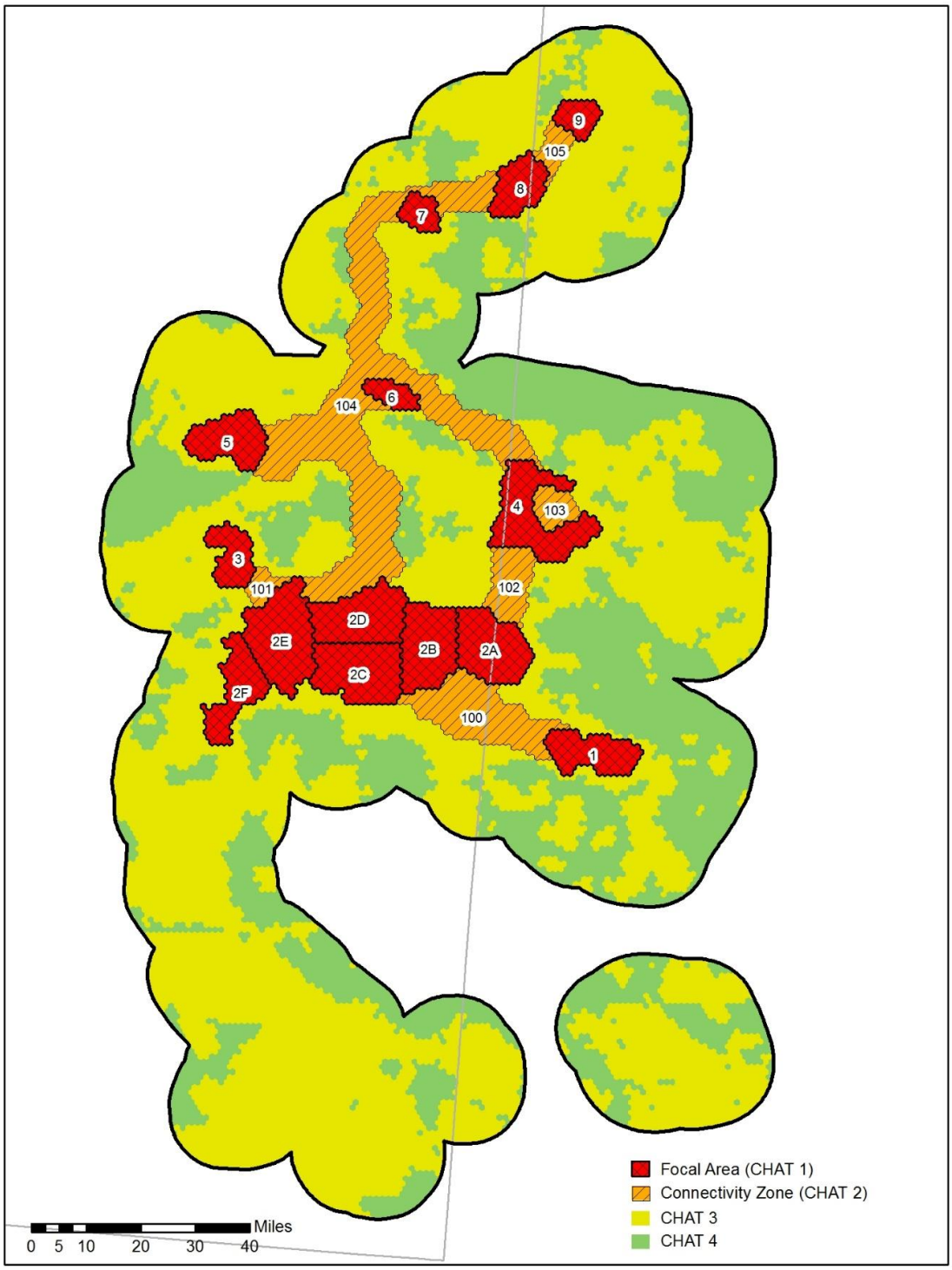

Figure 15. A map of the reporting unit numbers for focal area and connectivity zones in the shinnery oak portion of the range.

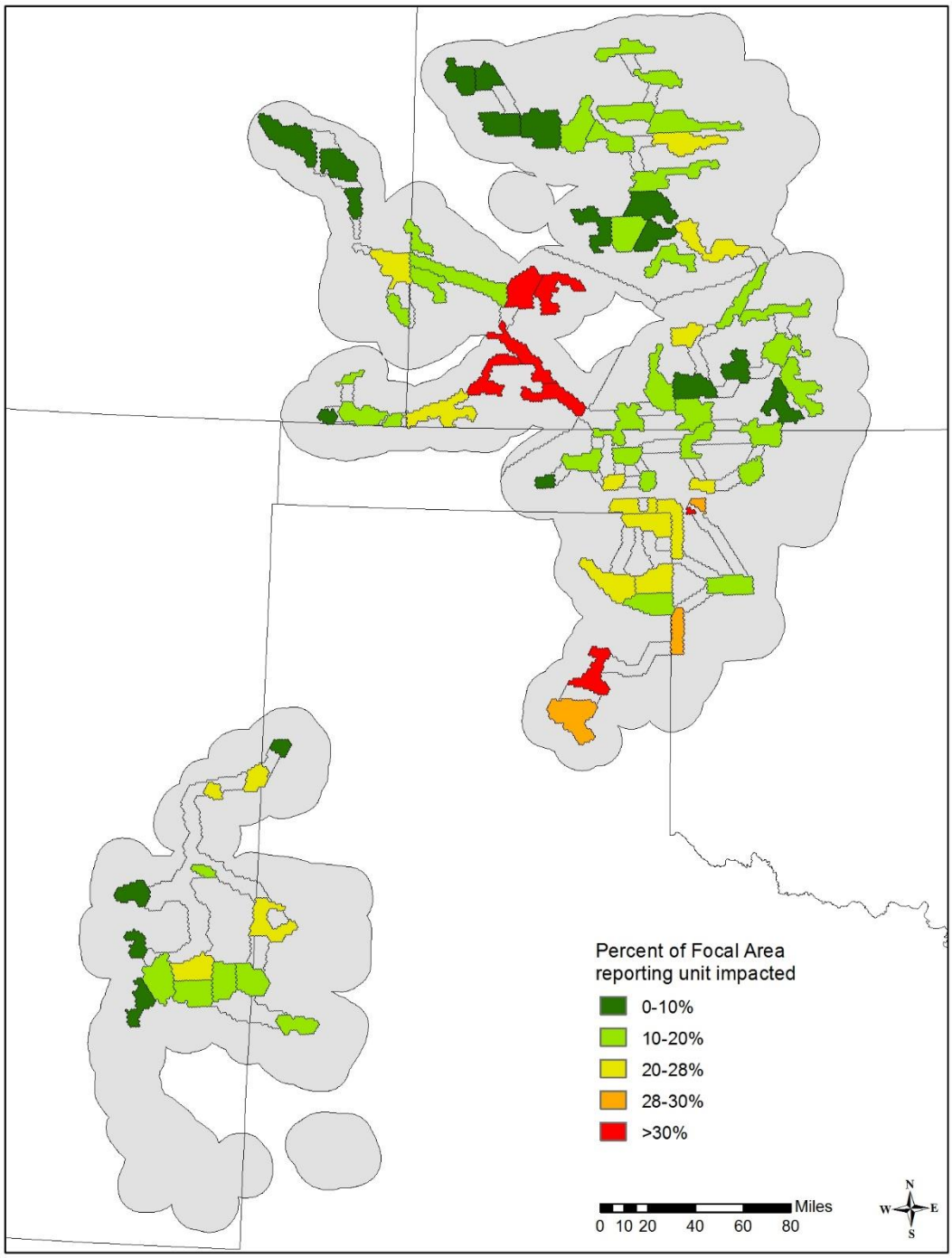

Figure 16. A map of the focal area reporting units color coded to show the proportion of impact within each unit. Focal areas have a 30% threshold, after which remediation of existing impacts must occur before new impacts can be developed.

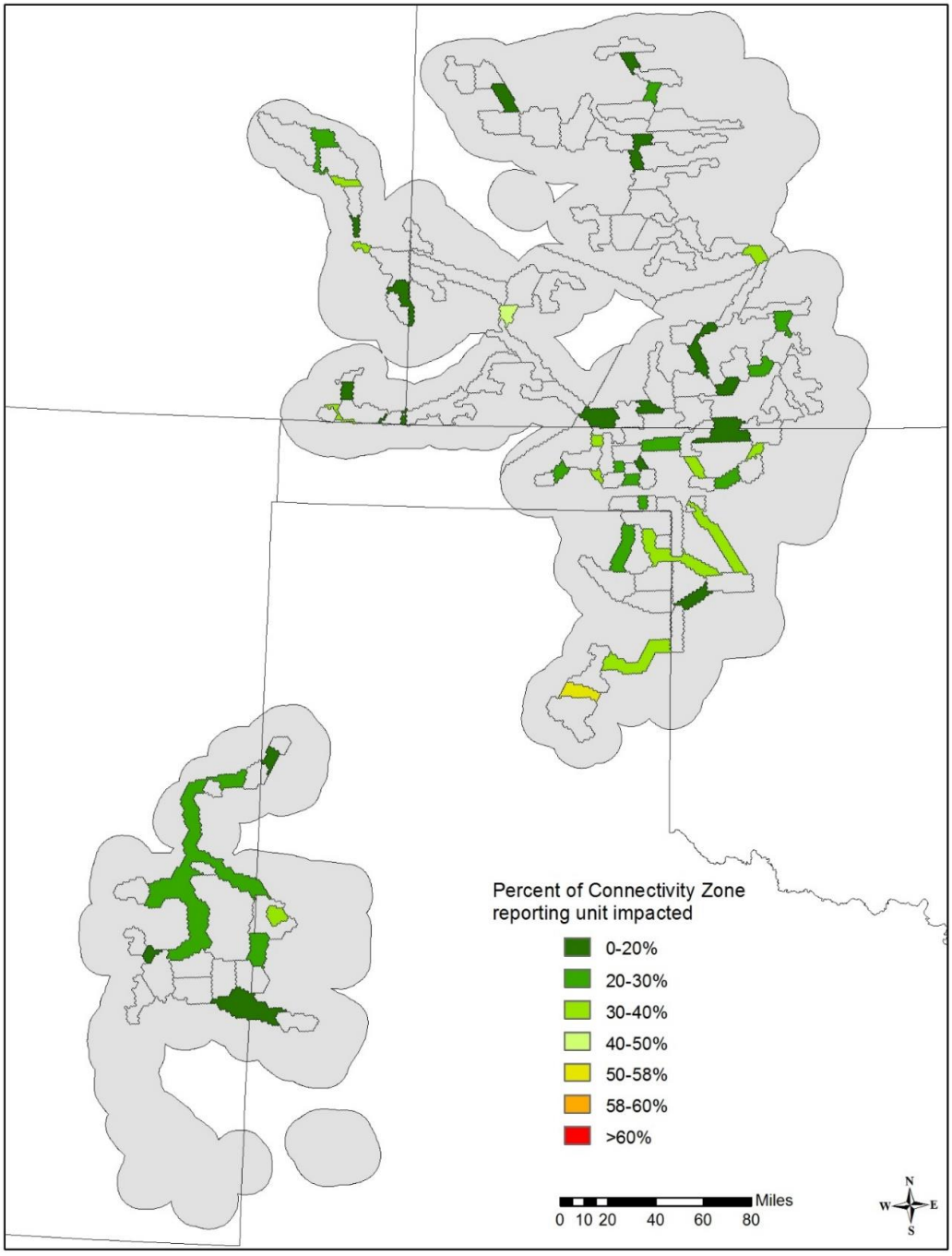

Figure 17. A map of the connectivity zone reporting units color coded to show the proportion of impact within each unit. Connectivity zones have a 60% threshold, after which remediation of existing impacts must occur before new impacts can be developed.

TRACKING PROGRESS TOWARDS RWP CONSERVATION GOALS

The RWP establishes goals for four basic conservation components. They are: 1) LPC breeding population size, 2) habitat restoration acreages, 3) habitat availability; and 4) permanently conserved acreage. This section will outline the specific goals, the methodology that will be used to assess them, and the frequency at which the goals will be evaluated by the various committees that administer the RWP.

Population Goals

The LPCSWG assisted in the development of the RWP population goals for each service area and range-wide (Figure 18). Those goals will be assessed in full after the 10th year of RWP implementation using the average estimated population size over the previous 10-year period. Moving averages better represent the number of birds that can be supported by existing habitat because they smooth variations that are associated solely with environmental conditions. If the 10-year population goals are not achieved the LPC Initiative Council could take corrective actions by making adaptive management changes. Action may include reallocation of conservation dollars, shifting of priority area locations, and adjustment of offset ratios.

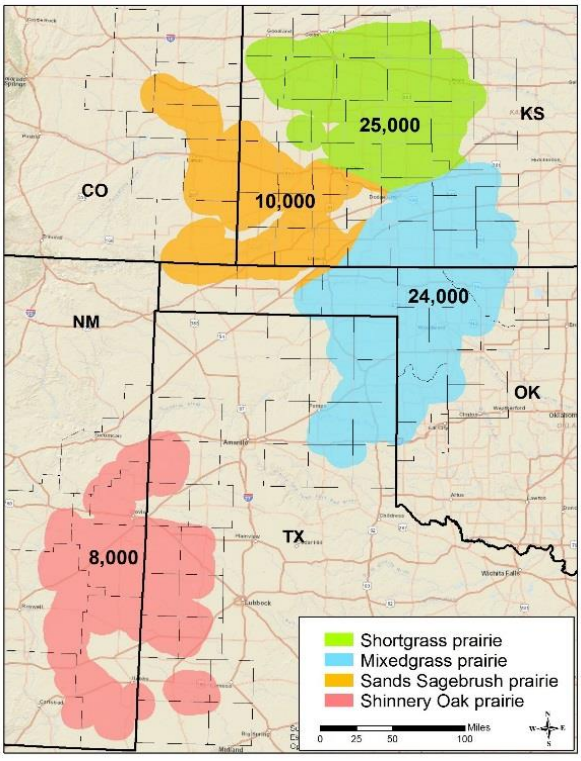

Figure 18. Lesser prairie-chicken population goals established by the WAFWA range-wide conservation plan. The goals will be assessed using population estimates averaged over the previous 10-year period.

The adaptive management section of the RWP also calls for annual evaluations of population size starting after the 2016 breeding season survey. The annual evaluations will assess whether a 3-year moving average of the estimated population size is >50% of the goal at the service area and range-wide scales. If the 3-year average population size falls below that level in any service area, or range-wide, it will trigger a discussion with the LPCSWG. The subcommittee will attempt to identify causes of the low population size and will have the opportunity to make recommendations for corrective actions that include such changes as reprioritization of conservation actions and adjustment of mitigation multipliers and ratios.

The LPC population estimates are derived from the annual range-wide aerial survey that was initiated by WAFWA in 2012 (McDonald et al. 2012). The survey utilizes helicopters flying two standard transects within 15 X 15 km grid cells distributed across the four WAFWA service areas. The same transects within 283 grid cells are now being surveyed annually during the LPC breeding season. The survey field methodology and analyses are described in detail in McDonald et al (2012, 2015). Following completion of the 2016 aerial survey, the population estimates will be used annual to assess progress toward the goals established by the RWP (Figure 17). However, we are reporting the 2015 population estimates and the moving averages in this document to establish the format for presenting the data in future years. The data from the 2015 aerial survey produced an estimated range-wide population of 29,162 breeding birds which was a 25% increase from the previous year (Table 29).

Table 29. Lesser prairie-chicken breeding population estimates for 2015 and 3 and 10-year moving averages for each of the WAFWA service areas and range-wide (McDonald et al. 2015).

Ecoregion	2015 Population Estimate (90% CIs)	Percent Annual Change	3-Yr Ave. Pop. Size (% of goal)	10-Yr Ave. Pop. Size (% of goal)
Sand Shinnery Oak	814 (526 – 1,283)	-41.2%	1,400 (17.5%)	4,172 (52.2%)
Sand Sagebrush	881 (630 – 1,915)	+75%[a]	1,172 (11.7%)	2,770 (27.7%)
Mixed Grass	10,019 (7,772 – 13,963)	+30%	7,376 (30.7%)	14,916 (62.1%)
Shortgrass	17,448 (10,083 – 26,909)	+27%	14,109 (56.4%)	21,789 (87.2%)
Total	29,162 (21,661 – 41,017)	+25%	24,056 (35.9%)	43,647 (65.1%)

[a] $P < 0.1$

While the overall population increase was 25% range-wide, it was not uniform. The population estimates increased from 2014 in 3 of 4 service areas, but only the only statistically significant annual change occurred in the sand sagebrush service area. The estimated annual population increases were most likely due to good production as a result of suitable habitat conditions during the previous summer. Despite the annual increases, all of the 3-year and 10-year moving

averages are still below the population goals in every service area and range-wide. The LPCSWG will review the 3-year moving averages after the 2016 breeding season estimates are available and make any necessary recommendations for corrective actions.

Habitat Restoration Goals

The RWP establishes long-term and annual reporting unit-specific acreage goals for cropland restoration and remediation of existing impacts {Van Pelt et al. 2013, (Appendices D & E)}. Those goals are intended to be assessed using the collective efforts of all the conservation agencies and organizations who are delivering those practices in LPC range. The long-term range-wide acreage goals for cropland restoration and remediation are 953,693 and 27,820, respectively. Those figures represent the minimum amount of restoration needed to achieve the habitat availability goals established by the RWP. The annual restoration goals assume a 10-year timeline to achieve the long-term acreage goals and call for >93,000 acres of cropland restoration and >2,700 acres of remediation annually. WAFWA did not complete any qualifying restoration activities during this reporting period and sufficient data were not acquired from our partners to assess overall progress towards the stated restoration goals (Appendices C-D). WAFWA is aware of 620 acres of cropland restoration and 2,022 acres of remediation planned by our participants during the next reporting period that will be tabulated in the next report.

The RWP does not specific acreage goals for brush management because at the time it was written there were no spatial data available that could be used to accurately assess the extent of woody invasion across the LPC range. However, WAFWA recognizes that woody invasion is a major threat to the species and intends to heavily pursue brush management practices for habitat restoration efforts. There are now spatial data available from the NRCS that are being used to identify the extent of the problem and target conservation efforts.

Habitat Availability Goals

The RWP established goals of 70% and 40% LPC occupancy for focal area and connectivity zone reporting units, respectively (Van Pelt et al. 2013). The adaptive management section of the RWP specifies that those goals will be assessed after the 5th year of implementation using results from an occupancy model and progress towards the stated habitat restoration goals. WAFWA has already helped to support development of an initial occupancy model in hopes of having the process more refined by the time of the 5-year assessment (McDonald et al. 2013). Shortly after the 5th year of implementation, WAFWA will support the development of a new occupancy model with the most current spatial data. The result from that effort and the restoration acreages will be presented to the LPCSWG which will determine whether or not to recommend any adaptive management changes. If the established occupancy goals have not been achieved or maintained, the LPCIC can adopt adaptive management changes that include shifting reporting

unit boundaries, adjusting WAFWA mitigation multipliers, and reprioritizing WAFWA-delivery of conservation practices.

Progress Towards Permanent Conservation Goals

The RWP establishes a goal of creating at least one stronghold within each WAFWA Service Area by the end of the 10th year of RWP implementation (Van Pelt et al. 2013). The adaptive management section of the RWP dictates that progress towards the stronghold goals will be assessed after the 5th full year of implementation (2019). If the LPCIC deems that insufficient progress has been made at that point they can take corrective actions through the adaptive management process laid out in the RWP. Some of the changes that they might consider include an increase to the percentage of mitigation offset units going into permanent conservation and an increased mitigation offset ratio.

A stronghold must be at least 25,000 acres in size, but could be as much as 50,000 acres, if lower quality habitat is interspersed. The acreage counted toward the stronghold must also meet all of the additional criteria listed in the RWP, which includes presence of at least six LPC leks, grassland composition ≥65%, verifiable long-term development protection, addressed surface and subsurface development threats, best management practices of all identified threats, full range of LPC habitat needs, long-term management certainty, and habitat connectivity. All acreage meeting the full list of criteria will be counted toward stronghold goals; not just those sites secured through the WAFWA program. However, the spatial footprint of qualifying non-WAFWA acreage has not yet been identified with certainty. WAFWA staff will be identifying the spatial footprint of all the qualifying acreage in the near future so that progress towards the 10-year goal can be adequately reported annually and assessed on 5-year intervals.

At the conclusion of this reporting period, WAFWA has secured 1,563 qualifying acres in the Shinnery Oak Service Area (Table 30). Within the LPC range there are 450,322 potential stronghold acres that were identified in the RWP. Additionally, there is also 2,349,017 mutually exclusive acres under public ownership within the LPC range. Some of these non-WAFWA acres meet all the criteria to be counted towards a stronghold, but the exact spatial footprint of the qualifying acreage has not been identified yet. WAFWA staff will attempt to identify all the qualifying acres and report on cumulative progress toward the stronghold goals in the next annual report.

Table 30. Acreage summary of the WAFWA permanent conservation agreements, identified potential stronghold properties, and other publicly owned lands within CHAT categories 1-3, 2015. Acreages with in CHAT 4 are not included because properties in those areas cannot be considered as strongholds.

Service Area – Location	WAFWA Permanent Conservation Agreements[a]	Potential Stronghold Acreage[b]	Other Public Land Acreage[c]	Total
Shinnery Oak				
CHAT 1	1,057	360,780	53,957	415,794
CHAT 2	396	0	91,847	92,243
CHAT 3	110	12,348	1,565,585	1,578,043
Total	*1,563*	*373,128*	*1,711,390*	2,086,081
Mixed Grass				
CHAT 1	0	28,448	46,311	74,759
CHAT 2	0	71	18,276	18,347
CHAT 3	0	1,610	160,371	161,981
Total	*0*	*30,129*	*224,958*	255,087
Sand Sagebrush				
CHAT 1	0	33,884	166,388	200,272
CHAT 2	0	0	13,673	13,673
CHAT 3	0	4,280	190,375	194,655
Total	*0*	*38,164*	*370,436*	408,600
Shortgrass				
CHAT 1	0	8,901	18,803	27,704
CHAT 2	0	0	0	0
CHAT 3	0	0	23,430	23,430
Total	*0*	*8,901*	*42,233*	51,134
Range-wide				
CHAT 1	1,057	432,013	285,460	718,530
CHAT 2	396	71	123,797	124,264
CHAT 3	110	18,238	1,939,761	1,958,109
Grand Total	**1,563**	**450,322**	**2,349,017**	**2,800,902**

[a] The WAFWA acquired 1,604 acres but the existing perimeter fence does not currently encompass the entire property. The fence will be moved to the correct boundary in the near future so that a WAFWA management plan can be implement across the entire property.
[b] Includes acreages from properties identified as potential strongholds in the WAFWA range-wide plan (Van Pelt et al. 2013).
[c] This category includes other protected or publicly owned properties not identified as potential strongholds in the range-wide plan. These acreages are owned by U.S. Department of Defense,

In a letter to the USFWS Director dated March 31, 2015, WAFWA also expressed its intention to pursue two additional permanent conservation goals in addition to the 10-year stronghold goals. That letter committed the WAFWA to offsetting 10% of the RWP industry impacts with permanent conservation within 90 days. The letter also stated WAFWA's intention to offset 25% of industry impacts in each Service Area by the end of the 3rd full year of RWP implementation. WAFWA achieved the first commitment satisfactorily on June 29, 2015, when it acquired 1,604 acres of permanent conservation in the Shinnery Oak Service Area in Texas. That property immediately generated 1,140 conservation offset units, which was 10.2% of the 11,123 impact units that were in the mitigation ledger at that time. Progress towards offsetting 25% of the RWP impacts in each Service Area will be assessed and reported in the next annual report. WAFWA is currently pursuing several potential permanent conservation properties and intends to secure some additional acreage during the next reporting period.

FINANCIAL SUMMARY

The Range-wide Business Plan utilizes a defined investment strategy that is expected to achieve or exceed the conservative investment earnings, projecting a 'real' rate of return over the long term of 4%. The investment asset allocation targets 50% Equities, 10% Alternatives/ Real Assets, and 40% Fixed Income. Two separate investment trusts are used to distribute enrollment and impact fees. When companies are invoiced, revenue is recognized by WAFWA. Upon receipt, fee revenues are split accordingly; 87.5% are allocated to a conservation trust for conservation offsets and 12.5% are deposited into an administration trust for operation related expenses, such as salaries, aerial surveys GIS support and other program needs. When permanent easements are purchased, individual endowments are established and individual investment strategies are defined and monitored to achieve conservation management perpetuity payments.

The annual real rate of return is calculated by taking the rate of return and subtracting the inflation average rate. The rate represents the rate of return one would achieve if they were to sell the investments at this point in time. The annual real rate of return for the 10-month reporting period (March 1-December 31, 2015) was -5.78% and an average annual real rate of return since February 2014, -2.98%. The TPWD Permanent Trust was opened September 1, 2015, and as of December 31, 2015, had a balance of $322,452 and with only three months to report, a real rate of return was -1.24%. As mentioned above, the expected 'real' rate of return over the long term is 4% and due to market conditions, there will be years of up market and down market trends. The investment assets are closely monitored and investment adjustment decisions are made to take advantage of up market years and limit negative impacts during down market years.

Since the inception of the RWP, WAFWA has invoiced approximately $49.9 million in enrollment and impact fees, of which 87.5% or $43.6 million is restricted for conservation efforts. The other 12.5% or $6.2 million is used for program administration of which $5.6 million have been expensed, leaving a net position of approximately $675 thousand.

During the current enrollment period, conservation income has resulted in $11.8 million of enrollment and impact fees (Table 31). Landowner contracts, permanent easements, land purchase and associated costs, outstanding account receivables and investment gain/loss make up the conservation-related expenses. These expenses total $4.3 million for the reporting period and $7.7 million since inception of the RWP. A net position of approximately $37 million is restricted for future conservation endeavors. During this reporting period, WAFWA added four new 10-year landowner contracts and one permanent easement which involved the purchase of property in Texas. WAFWA placed a permanent conservation easement on the property and donated the land to Texas Parks and Wildlife Department (TPWD) to manage the property consistent with conserving LPC habitat.

Table 31. Conservation Trust Account Activity			
	Current Reporting Period	Since Inception	Total
	3/1-12/31/2015	3/1/2014-2/28/2015	
Enrollment Fees	$ 11,269,161	$ 21,397,992	$ 32,667,153
Impact Fees	$ 574,242	$ 10,380,187	$ 10,954,430
Investment Income / Loss	$ 914,435	$ 33,212	$ 947,647
Total Revenue	$ 12,757,838	$ 31,811,391	$ 44,569,229
Landowner Short Term Contracts	$ 1,176,835	$ 630,051	$ 1,806,886
Permanent Easements	$ 14,851		$ 14,851
Land purchase costs, Account Receivables and Investment Gain/Loss	$ 3,150,397	$ 2,688,129	$ 5,838,526
Total Deductions	$ 4,342,082	$ 3,318,181	$ 7,660,263
Net Position	$ 8,415,756	$ 28,493,210	$ 36,908,966

March through December 2015, WAFWA secured four additional landowner contracts bringing the total number of term contracts to ten. In addition to the term contracts, each representing ten year terms, WAFWA also secured a permanent easement in the shinnery oak ecoregion. The landowner contracts and permanent easement reflect conservation efforts within the four designated LPC ecoregions. Average annual habitat replacement costs per acre are utilized in calculating the mitigation fees charged to industry and in the payments to secure offset habitats. The calculation is based on total expenditures to landowners in the current reporting period including the actual cost of acquiring permanent conservation and spread over 25 years, even though the actual payment to the landowner is made during year one. This is done to align with the way the industry fees are calculated and therefore a more stabilized value of what is paid to

landowners for offsets in comparison to what is charged to industry for impacts. Even though some of the payments for offsets are higher than what is currently charged to industry, as WAFWA acquires more permanent conservation, you will see the future cost of the landowner offsets decrease (Table 32).

Table 32**.** Mitigation per unit cost by ecoregion 3/1-12/31, 2015

	Industry Impacts	Landowner / Offsets
Mixed Grass	$47.47	$32.95
Short Grass	$28.77	$29.68
Shinnery Oak	$31.70	$57.54
Sand Sagebrush	$18.13	$32.79

There are four distinctive ecoregions of LPC habitat that include mixed grass, short grass, and shinnery oak and sand sagebrush. The decision regarding ecoregion fund allocation is based upon current conservation habitats that are experiencing impacts. When contracts and permanent easements are acquired, payments are issued for a onetime incentive payment; an annual rangeland management payment each October; and if applicable, habitat restoration at year's end. Three of the four ecoregion impacts (Tables 33 and 34) for term contracts reflect $1.2 million in fee revenues that were used for conservation offsets in this reporting period and $1.8 million since the plan's inception. Total fee revenues used for a permanent easement, in the shinnery oak ecoregion, was approximately $15 thousand. Over the next nine years, based on the individual habitat conservation management plans established with each landowner and reviewed annually, WAFWA expects to pay ten landowners with contracts approximately $12.6 million and TPWD approximately $142 thousand for conservation habitat management and restoration as it relates to LPC habitat.

Table 33. Term Contract Payments by Ecoregion: 3/1 - 12/31/2015

	Mixed Grass	Short Grass	Shinnery Oak	Sand Sagebrush	TOTAL
Incentive Payments	$136,562	$16,038	$57,532	-	$ 210,132
Rangeland Management Plan	$737,699	$32,328	$89,839	$121,021	$ 980,886
Habitat Restoration Payments	$65,435	-	$433,074	-	$ 498,509
TOTAL	$ 939,696	$ 48,365	$ 580,445	$ 121,021	$ 1,689,526

Table 34. Permanent Easement Payments by Ecoregion: 3/1 -12/31/2015					
	Mixed Grass	Short Grass	Shinnery Oak	Sand Sagebrush	TOTAL
Incentive Payments	-	-	$5,843	-	$ 5,843
Rangeland Management Plan	-	-	$9,007	-	$ 9,007
Habitat Restoration Payments	-	-	-	-	-
TOTAL	$ -	$ -	$ 14,851	$ -	$ 14,851

Current ecoregion impacts (Table 35) reflects $1.8 million in fee revenues that were used for conservation offsets for both landowner contracts and permanent conservation since the inception of the RWP in 2014. It also summarizes the percentage of dollars spent in each payment category by ecoregion to the total dollars within that payment category. For instance, of the $333,336 of landowner incentive payments issued, 60% of the funds were allocated to Mixed Grass whereas 5% of the funds were allocated to the Short Grass ecoregion. Overall, 27% of the total $1.8 million in payments is going toward habitat restoration.

Table 34. Contract and Permanent Easement payments by Ecoregion and % to total since plan inception									
	Mixed Grass	% to Total	**Short Grass**	% to Total	**Shinnery Oak**	% to Total	**Sand Sage**	% to Total	**TOTAL**
Landowner Incentive Payments **includes contract and permanent*	$ 199,084	60%	$17,624	5%	$66,640	20%	$ 49,988	15%	**$333,336**
Landowner Restoration Payments	$ 65,435	13%	$ -	0%	$433,074	87%	$ -	0%	**$ 498,508**
Landowner Management Plan/Maint Payments	$ 737,699	75%	$32,328	3%	$ 89,839	9%	$121,021	12%	**$ 980,886**
Landowner Permanent Maint Exp	$ -	0%	$ -	0%	$ 9,007	100%	$ -	0%	**$ 9,007**
Landowner Long Term Restoration Exp	$ -	0%	$ -	0%	$ -	0%	$ -	0%	**$ -**
Total Expenses	**$1,002,217**		**$49,951**		**$598,560**		**$171,009**		**$1,821,737**

RESPONSIBLE PARTIES FOR RWP ADMINISTRATION

WAFWA was founded in 1922. It currently consists of 23 member states and provinces that have primary responsibility and authority for protecting and managing fish and wildlife in the western United States and Canada. The 19 member states encompass over 2.5 million square miles. The chief executive officer of each fish and wildlife agency are on the Board of Directors of three non-profit business entities, the Western Association of Fish and Wildlife Agencies, its fund-raising arm, the Foundation for Western Fish and Wildlife (FWFW) and the Western Conservation Foundation (WCF).

WAFWA Board of Directors established the LPC Initiative Council (LPCIC) in October 2013 when the RWP was endorsed by the USFWS. The directors of the state fish and wildlife agencies within the LPC range are members of the WAFWA, FWFW, and WCF Boards of Directors and comprise the LPCIC, along with a member of the Executive Committee, appointed by the President, and representing an agency with extensive experience with ESA issues as it pertains to private lands. This relationship ensures decision-making roles regarding how and where funds are spent for the state agencies, as well as coordination with other WAFWA/WCF conservation efforts. The LPCIC annually reports RWP decisions.

The LPCIC established a Lesser Prairie-Chicken Advisory Committee (LPCAC) and associated working groups and maintained the Interstate Working Group (IWG). The LPCAC and IWG are strictly advisory in nature and provide recommendations to the LPCIC for final approval through the adaptive management process. The intent of these groups is to support the RWP, promote effective communication between the parties, resolve disputes, revise cost structures, and make adaptive management recommendations. The LPCAC is supported by two subcommittees: (1) Fee Structure Working Group and (2) Science Working Group.

Committee Composition

Interstate Working Group

- One representative from each of the 5 state fish and wildlife agencies
- The WAFWA Grassland Coordinator as an ex officio member

Advisory Committee

- The WAFWA LPC Program Manager will coordinate and facilitate the Advisory Committee as an ex officio member
- An additional 17 representatives will compose the committee
  - One representative from 3 of the 5 state fish and wildlife agencies, to serve on a rotating schedule
  - One representative from each of the 2 primary federal agencies closely involved with LPC conservation (USFWS and NRCS)
  - Three representatives from industry organizations (e.g. oil & gas, wind, transmission, etc.)

- Three representatives from agricultural and landowner organizations (e.g. Cattlemen's Association, Corn Grower's Farm Bureau etc.)
- Three representatives from conservation organizations (e.g. The Nature Conservancy, North American Grouse Partnership, National Audubon Society, etc.)
- Three representatives from local government or municipalities

Fee Structure Working Group

- The WAFWA LPC Program Manager will coordinate and facilitate the Fee Structure Working Group as an ex officio member.
- An additional 13-15 representatives will compose the working group
  - One representative from 3 of the 5 state fish and wildlife agencies
  - One representative from each of the 5 LPC states from NRCS
  - One representative from each of the 5 LPC states from FSA
  - One representative from FWS Regions 2 and 6 from the Partners for Fish and Wildlife Program, if desired

Science Working Group

- The WAFWA LPC Program Manager will coordinate and facilitate the Science Working Group as an ex officio member.
- Up to a maximum of an additional 15 representatives will compose the working group
  - One representative from each of the 5 state fish and wildlife agencies and USFWS
  - Up to 9 additional members with expertise in LPC ecology, habitat modeling, population monitoring, impact evaluation, and other relevant topics may serve on the subcommittee

Committee Responsibilities

Committees will have the following responsibilities and will make recommendations to the LPCIC for final decisions:

Interstate Working Group

The Interstate working group will:

- Update and revise the LPC RWP
- Update and revise the CHAT
- Review and update, as necessary, ecoregions, focal areas, and connectivity zones
- Make nominations to the Science Subcommittee
- Annually provide a report to the WAFWA LPCIC

Advisory Committee

The Advisory Committee will:

- Review annual reports from Ecoregional Implementation Teams and Technical Service Providers concerning enrollment, monitoring and conservation delivery related to the RWP
- Review overall progress toward meeting conservation goals through the mitigation framework and, as necessary, make recommendations for changes to the mitigation framework
- Review and recommend applications for Technical Service Providers to the LPCIC and review compliance and reporting by Technical Service Providers
- Review non-compliance issues by participants and terminate agreements if necessary
- Review research needs and, if needed, recommend a portion of annual Habitat Conservation Fees as noncash (e.g. in-kind) match for research
- Review reports and evaluate recommendations from the Fee Structure and Science Subcommittee and the Interstate Working Group
- Annually provide a report to the WAFWA LPCIC

Fee Structure Working Group
The Fee Structure Working Group will:

- Annually review and update mitigation costs and landowner enrollments in specific practices
- Annually review adaptive management triggers and evaluated actions related to the fee structure for the mitigation framework
- Annually provide a report to the Advisory Committee

Science Working Group
The Science Working Group will:

- Review annual reports related to population estimates and trends, including aerial and ground-based surveys
- Evaluate emerging science related to LPC, including habitat selection, responses to conservation practices, responses to impacts, etc.
- Annually review adaptive management triggers and evaluated actions related to LPC population trends and emerging science
- Review and update research needs for LPC
- Annually provide a report to the Advisory Committee

COMMITTEE MEETINGS

The committees will meet, at minimum, annually. Additional meetings of these committees may be scheduled as requested by members of the committees or the LCPIC. The general timeframe for the meetings will be from mid-fall through mid-winter. This allows time for the population survey and vegetation monitoring data to be summarized and available for discussion at the

meetings. The order of the meetings will be as follows: 1.) Science Working Group; 2.) Fee Structure Working Group; 3.) IWG; 4.) Advisory Committee; and 5.) LPCIC.

During the reporting period, the LPC program manager, with assistance of WAFWA LPC program staff, coordinated multiple conference calls and in person meetings of the various committees and subcommittees described in the RWP. The various committees were very active and during this reporting period have begun work on formalizing processes for ensuring meeting times, in person or via conference call are productive.

Interstate Working Group
During the reporting period the interstate working group did not conduct a formal meeting. This was a result of turnover in positions in the various state agencies and staffing shortages resulting in temporary assignments on the group. Towards the end of the reporting period most positions were in place at the various state agencies and regular meetings of this group will be scheduled in future years.

Advisory Committee
The Advisory Committee met three times during this reporting period, two via conference call and once in person in Amarillo, TX. During these meetings, the Advisory Committee received updates from WAFWA LPC staff on RWP implementation and progress towards goals. They reviewed four adaptive change proposals brought forth by both WAFWA GIS staff and industry partners to look into changes to RWP requirements to improve and clarify activities related to infrastructure development. Three of the four proposals received positive recommendations for consideration by the Initiative council. This information is also in the annual report in Appendix G.

Fee Structure Subcommittee
During the reporting year this committee also agreed to have scheduled quarterly meetings. The committee met for the first time on December 14, 2015. Up until then no meetings were scheduled. During this meeting the WAFWA LPC staff presented a proposal to increase fees paid to landowners for various conservation practices. This proposal was reviewed and processed to the LPCAC for development of a recommendation to the LPCIC.

Science Work Group
The LPCSWG agreed to conduct quarterly meetings primarily via conference call or webinar depending on the agenda for each. The LPCSWG met in this manner three times. The LPCSWG reviewed three different proposals presented by industry partners regarding changes to conservation practices associated with infrastructure development. Two of the three related to buffer distances around industry infrastructure. The decision was to use the identified buffers in the RWP pertaining to height, footprint and sound as a first evaluation of the infrastructure potential impact. If the infrastructure exceeds those identified parameters, then a more generous buffer distance as identified in the RWP will be used. The third proposal reviewed by this subcommittee was a proposal submitted by the electrical cooperatives who participate to expand

opportunities to allow for overhead distribution lines within the service areas of LPC. This proposal has been in process and will move to the LPCAC during the next reporting period. The fourth proposal reviewed was developed by WAFWA GIS staff and related to aerial surveys being conducted to determine presence or absence of LPC within potential development areas. Because of variability in flight patterns WAFWA GIS staff were noticing a consistent gap between flight transects based on GIS track logs being submitted for review. This gap can vary anywhere from 1% to 5% within a surveys coverage. WAFWA staff proposed to allow for a percentage variance to allow for these minor gaps as it was felt it did not prevent detection of LPC within the survey area. This proposal was processed and moved to the LPCAC for consideration.

STAFFING

There is flexibility built into the RWP as to the location of personnel associated with this effort. Field personnel will need to be located within the five-state range of the LPC (Kansas, Texas, Oklahoma, Colorado, and New Mexico), but administrative services can occur from remote locations.

- In March 2015 a Lesser Prairie-Chicken Program Manager (LPC Program Manager) was selected by the LPCIC to start April 2015. This person directs operations, supervises staff, is responsible for annual reports to USFWS, and reports to the WAFWA Grassland Coordinator. The LPC Program Manager is responsible for ensuring thorough communication and coordination among affected state, federal, and local agencies for the RWP. This position staffs the various committees and subcommittees as described in the RWP and is responsible for annual monitoring and reporting related to the RWP. To the extent consistent with applicable state law, information in annual reports includes, but not be limited to, the following:

    1. Number of participants enrolled under the WCA over the past year, including copies of the completed WCP, excluding any identifying information related to participants
    2. A summary of habitat management and habitat conditions in the covered area and on all enrolled property over the past year with any identifying information related to participants removed
    3. Effectiveness of habitat management activities implemented in previous years at meeting the intended conservation benefits
    4. Population surveys and studies conducted over the past year with any identifying information related to participants removed
    5. Any mortality or injury of the species that was observed over the previous year
    6. A discussion of the funds used for habitat conservation within the states

- The hiring process was completed for four technical/ecoregional biologist positions. They are responsible for working with industry and private landowners to enroll and monitor leases, working with landowners to direct conservation funding, and coordinating with

local state fish and wildlife, NRCS, and USFWS Partners for Fish and Wildlife Program staff. In addition, WAFWA partnered with Pheasants Forever to cost share 25% of the partner biologists that will be working in the LPC range delivering conservation.

- A Lesser Prairie Conservation Delivery Director and Industry Service Director were hired to supervise the four biologist positions and are responsible for interacting with participants and potential partners in the RWP.

WCF administrative staff were also hired and report through the CFO/Treasurer. They consist of:

- Supervisor of Business Operations, who prepares, analyzes, and/or audits financial records and documents, accounting systems, financial statements, work papers, budgets, tax and payroll records, and other related documents.
- One Business Operation technician, who analyzes, researches, and reconcile financial documents, ensure compliance with laws, rules, and policies, and prepare invoices for payment.
- One contract/grant administrator, who maintains records on incoming funds, expenditures for conservation, travel costs, and salary.
- Business Administrative Assistant who is the main receptionist, assists with general accounting functions and special projects.
- One GIS coordinator, who ensures field staff is producing data in a consistent fashion and maintains a central database of all enrolled leases and conservation efforts, and coordinates with Software Service suppliers. This is contracted to Kansas University.

In addition to the staffing structure above, the RWP affords the LPCIC flexibility to contract out work to qualified 3rd party, technical service providers and other entities to perform certain elements of the work detailed in this plan.

RESEARCH PRIORITIES

The RWP identifies the LPCSWG to identify potential research needs and monitor for new and emerging science. Below is the research being monitored during this reporting period.

The ODWC is working with the University of Oklahoma and Oklahoma State University on two separate research projects looking at LPC avoidance of anthropogenic disturbances. The OSU project is scheduled for completion in December of 2014 with data analysis occurring into 2016 and the OU project the fall of 2016.

New Mexico State University has two different studies ongoing in eastern New Mexico in the Shinnery oak ecoregion. The first study is looking at disproportionate declines in LPC populations south of Highway 380 relative to populations north of the highway on Bureau of Land Management owned properties. The objectives of this study are to determine if these declines are due to disproportionate reproductive and survival rates between the two areas and

determine if these declines are linked to habitat condition, composition, and/or vegetation characteristics.

Their second study is looking at the response of LPC to new habitat management practices on Prairie Chicken Areas owned by the New Mexico Department of Game and Fish and use these results to inform management alternatives and future conservation practices in New Mexico. Both studies are in their third year.

Texas Tech University is currently conducting a contract research project with TPWD entitled "Lesser Prairie-Chicken Ecology in Conservation Reserve Program (CRP) Dominated Landscapes." The goal of this study is to develop an understanding of the ecology of LPCs in CRP at the southern extent of the species range in west Texas to better inform current and future conservation actions. The contract terminates December 31, 2017. The specific objectives of this project include:

- Estimating age specific seasonal and annual survival rates of LPCs in CRP.
- Assessing nesting success of sub-adult and adult LEPC hens in enrolled and expired CP1 and CP2 (native grass mix), CP10 (CP1 converted to CP2) and CP38 dominated landscapes.
- Identifying which, if any, land use practices on CRP lands (burning, plowing, haying, shredding) are positive/detrimental to species persistence.
- Assessing distribution of nests relative to leks and anthropogenic features (e.g., roads, power lines, etc.).
- Identifying movement patterns and habitat use characteristics of LPC broods in relation to habitat availability, including spatial distribution of CRP lands, and differences in land use.
- Estimating available invertebrate species and biomass in habitats used by broods.
- Determining age specific patterns of seasonal habitat and space use by LPCs.
- Quantifying patch and landscape characteristics (juxtaposition and amount) of CRP lands needed for LPC conservation in these areas.
- Collecting environmental data to assess the role of weather on the life history strategy of the species in CRP dominated landscapes.

There is a research project currently underway through KSU with field sites in the Kansas mixed grass, Kansas shortgrass, and sand sagebrush sites in Colorado and Kansas. The students working on this project have completed two field seasons and the third is just getting under way. Next summer (2017) will be the final field season and the reports will be completed by June 30, 2017. The research is being supported by a PR grant from KDWPT, funding from CPW, NRCS, and FSA. The objectives of the work are as follows:

1. Evaluate population demography including survival, nest success, and recruitment in each population.
2. Evaluate seasonal habitat selection with emphasis on nesting and brood site selection in each population.
3. Evaluate adult weekly, monthly, and seasonal movements and homes ranges in each population.

4. Evaluate the impacts of energy development and other anthropogenic activities on habitat use, movements, and survival in each population.
5. Compare vital rates among populations and model future population change based on demographic data.
6. Identify the effect of grassland patch size, habitat fragmentation, and level of connectivity on vital rates of LPC populations.
7. Conduct a risk assessment to evaluate the relative effects of potential limiting factors on each population.
8. Evaluate potential radio-mark handicap between 2 radio transmitter types
9. Determine daily survival of LPC chicks
10. Identify risk of fence collisions
11. Evaluate the benefits of mechanical brush management
12. Evaluate the benefits of prescribed grazing on demography

The CPW are conducting some prairie-chicken habitat management related research. Some of the things that we are looking at overlaps with the KSU project, and some are standalone projects. Here are some of the areas that CPW are looking at:

- The establishment and persistence of switchgrass, yellow Indian grass, big bluestem, and little bluestem in the presence and absence of side-oats gramma and western wheat. We have a problem with CRP fields that have become mono-cultures of western wheat and sod forming side-oats gramma. We are trying to determine if competition from western wheat and side-oats are to blame for the loss of switchgrass, yellow Indian, big blue, and little blue in most of our SE Colorado CRP fields.

- Evaluate LPC utilization of patches within CRP fields that have received disking and forb inter-seeding treatments.

- Evaluate the effectiveness of various levels of disking in CRP for establishing inter-seeded forbs.

- Evaluate the effect that various levels of disking in CRP have on grass density, species composition, visual obstruction, and grass form (sod vs. bunch).

- Evaluate lesser prairie chicken utilization of ungrazed pastures vs. pastures grazed at a 50% utilization rate. Evaluate whether or not paying for grazing deferment on pastures around leks is a worthwhile and effective management tool.

CONCLUSION

Overall, the RWP allowed for economic development to continue in a seamless manner by providing an efficient mechanism to voluntarily conserve the LPC and/or comply with the ESA.

Without the RWP, there could have been significant regulatory delays in obtaining take permits, disruption to economic activity in an area vital to state and national interests, and little incentive to conserve LPC habitat on private lands. The RWP encourages participants to enact proactive and voluntary conservation activities promoting LPC conservation. Implementation was tracked through a committee structure using adaptive management. Goals and objectives associated with population levels, habitat conservation objectives, and funding streams were conducted by the adaptive management process.

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APPENDICES

Appendix A. PUBLIC LAND AND CONSERVATION PROGRAM ACREAGE WITHIN EACH LPC CHAT 1 (FOCAL AREA) REPORTING UNIT, 2015.

Service Area – reporting unit	WAFWA Term Contracts	WAFWA Permanent Conservation Agreements	WAFWA Non-Offset Agreements	Conservation Reserve Program	NRCS Lesser prairie-chicken initiative[a]	USFWS Partners for Fish & Wildlife	State Wildlife Agency Private Land Programs[b]	New Mexico Ranching CCA	New Mexico Ranching CCAA	Texas Ranching CCAA	Oklahoma Ranching CCAA	Potential Stronghold Acres[c]	Other Public Lands[d]	Total[e]
Shinnery Oak														
1	13,440	1,057	0	1,591	6,377	0	ND	ND	ND	43,055	0	13,314	0	78,834
2A	0	0	0	17,801	10,653	0	ND	ND	ND	0	0	26,666	1,882	57,002
2B	325	0	0	5,971	4,585	0	ND	ND	ND	0	0	11,484	11,817	34,182
2C	0	0	0	38	15,710	0	ND	ND	ND	0	0	26,897	19,891	62,536
2D	0	0	0	1,342	17,707	0	ND	ND	ND	0	0	63,943	1,691	84,683
2E	0	0	0	0	0	0	ND	ND	ND	0	0	99,068	89	99,157
2F	0	0	0	0	0	0	ND	ND	ND	0	0	74,238	0	74,238
3	0	0	0	0	2,898	0	ND	ND	ND	0	0	45,170	103	48,171
4	323	0	0	51,124	0	0	ND	ND	ND	1,323	0	0	393	53,163
5	0	0	0	0	551	0	ND	ND	ND	0	0	0	12,597	13,148
6	0	0	0	245	0	0	ND	ND	ND	0	0	0	1,566	1,811
7	0	0	0	5,656	0	0	ND	ND	ND	0	0	0	1,890	7,546
8	0	0	0	13,136	1,534	0	ND	ND	ND	0	0	0	2,039	16,709
9	0	0	0	12,567	0	0	ND	ND	ND	3,883	0	0	0	16,450
Total	*14,088*	*1,057*	*0*	*109,470*	*60,015*	*0*	*ND*	*ND*	*ND*	*48,262*	*0*	*360,780*	*53,957*	*647,629*
Mixed Grass														
10	26,285	0	0	451	527	0	0	NA	NA	45,739	NA	0	0	73,002
11	0	0	0	1,392	1,139	0	0	NA	NA	9,153	NA	0	0	11,684
12	0	0	0	1,720	14,235	0	0	NA	NA	0	NA	0	6,488	22,443
13A	0	0	0	2,753	0	0	0	NA	NA	208	NA	0	6,680	9,641
13B	0	0	0	366	0	0	0	NA	NA	65,643	NA	0	2,376	68,385
13C	0	0	0	1,205	938	0	0	NA	NA	53,554	NA	0	3	55,700
13D	0	0	0	5,411	951	0	0	NA	NA	64,704	NA	0	0	71,066
14	0	0	0	1,456	0	0	0	NA	NA	0	NA	0	793	2,249
15	0	0	0	2,094	0	0	0	NA	NA	0	NA	0	1,541	3,635
16A	0	0	0	8,117	0	0	0	NA	NA	222	NA	0	4,053	12,392
16B	0	0	0	6,789	451	0	0	NA	NA	39	NA	0	510	7,789
16C	0	0	0	7,759	0	0	0	NA	NA	2,722	NA	0	0	10,481
17	0	0	0	835	0	0	0	NA	NA	0	NA	0	277	1,112
18	0	0	0	2,167	0	0	0	NA	NA	0	NA	0	619	2,786
19	0	0	0	836	0	0	0	NA	NA	0	NA	0	563	1,399
20	0	0	0	542	1,777	0	0	NA	NA	0	NA	0	1,981	4,300
21	2,052	0	0	1,789	1,580	0	0	NA	NA	0	NA	3,008	4,013	12,442
22	0	0	0	6,801	0	0	0	NA	NA	0	NA	25,440	1,422	33,663
23	0	0	0	1,695	7,789	0	0	NA	NA	0	NA	0	170	9,654
24	0	0	0	1,606	0	0	0	NA	NA	0	NA	0	1,222	2,828
27	0	0	0	4,402	147	0	0	NA	NA	0	NA	0	0	4,549
28A	0	0	0	7,810	0	0	0	NA	NA	0	NA	0	1,396	9,206
28B	0	0	0	8,900	1,686	0	0	NA	NA	0	NA	0	0	10,586
28C	0	0	0	3,360	5,605	0	0	NA	NA	0	NA	0	1,732	10,697
28D	0	0	0	6,360	1,648	0	0	NA	NA	0	NA	0	94	8,102
29A	0	0	0	8,677	0	0	0	NA	NA	0	NA	0	0	8,677
29B	13,456	0	1,919	242	127	849	0	NA	NA	0	NA	0	0	16,593
29C	371	0	43	2,745	4,106	0	0	NA	NA	0	NA	0	0	7,265
29D	0	0	0	2,817	1,293	0	0	NA	NA	0	NA	0	4,910	9,020
30	0	0	0	6,000	0	0	0	NA	NA	0	NA	0	0	6,000
33A	0	0	0	3,544	0	0	0	NA	NA	0	NA	0	0	3,544
33B	0	0	0	6,083	0	0	0	NA	NA	0	NA	0	5,467	11,550

Service Area – reporting unit	WAFWA Term Contracts	WAFWA Permanent Conservation Agreements	WAFWA Non-Offset Agreements	Conservation Reserve Program	NRCS Lesser prairie-chicken initiative[a]	USFWS Partners for Fish & Wildlife	State Wildlife Agency Private Land Programs[b]	New Mexico Ranching CCA	New Mexico Ranching CCAA	Texas Ranching CCAA	Oklahoma Ranching CCAA	Potential Stronghold Acres[c]	Other Public Lands[d]	Total[e]
Total	*42,165*	*0*	*1,962*	*116,727*	*43,999*	*849*	*0*	*NA*	*NA*	*241,986*	*146,995*	*28,448*	*46,311*	*669,442*
Sand Sagebrush														
25	0	0	0	429	0	0	ND	NA	NA	NA	NA	0	18,212	18,641
26	0	0	0	3,226	0	0	ND	NA	NA	NA	NA	0	6,246	9,472
31A	0	0	0	7,954	0	0	ND	NA	NA	NA	NA	0	37,404	45,358
31B	0	0	0	20,709	0	0	ND	NA	NA	NA	NA	0	69,314	90,023
31C	0	0	0	14,776	0	0	ND	NA	NA	NA	NA	0	989	15,765
31D	0	0	0	17,782	0	0	ND	NA	NA	NA	NA	0	0	17,782
31E	0	0	0	4,552	0	0	ND	NA	NA	NA	NA	0	2,586	7,138
32	0	0	0	10,829	0	0	ND	NA	NA	NA	NA	0	0	10,829
35A	0	0	0	16,751	0	0	ND	NA	NA	NA	NA	0	0	16,751
35B	0	0	0	11,545	0	0	ND	NA	NA	NA	NA	5,284	4,636	21,465
35C	0	0	0	25,261	0	0	ND	NA	NA	NA	NA	0	0	25,261
35D	8,517	0	0	3,616	409	0	ND	NA	NA	NA	NA	188	236	12,966
35E	4,172	0	0	10,610	0	0	ND	NA	NA	NA	NA	0	0	14,782
35F	0	0	0	819	0	0	ND	NA	NA	NA	NA	0	2,800	3,619
36	0	0	0	3,065	0	0	ND	NA	NA	NA	NA	0	2,197	5,262
38	0	0	0	5,605	0	0	ND	NA	NA	NA	NA	0	12,740	18,345
40	0	0	0	2,347	9,349	0	ND	NA	NA	NA	NA	28,412	9,028	49,136
Total	*12,689*	*0*	*0*	*159,877*	*9,758*	*0*	*4,250*	*NA*	*NA*	*NA*	*NA*	*33,884*	*166,388*	*386,846*
Shortgrass														
34	0	0	0	8,596	103	0	0	NA	NA	NA	NA	0	117	8,816
37A	0	0	0	17,927	52	0	0	NA	NA	NA	NA	0	0	17,979
37B	0	0	0	10,679	154	0	0	NA	NA	NA	NA	0	0	10,833
37C	0	0	0	16,548	0	0	0	NA	NA	NA	NA	0	856	17,404
37D	0	0	0	10,737	0	0	0	NA	NA	NA	NA	0	549	11,286
37E	0	0	0	26,912	0	0	0	NA	NA	NA	NA	0	0	26,912
37F	0	0	0	11,738	0	0	0	NA	NA	NA	NA	0	0	11,738
39A	0	0	0	2,685	869	0	0	NA	NA	NA	NA	0	0	3,554
39B	0	0	0	8,163	697	0	0	NA	NA	NA	NA	0	2,013	10,873
39C	0	0	0	8,202	0	0	302	NA	NA	NA	NA	0	5,539	14,043
41A	0	0	0	4,778	0	0	0	NA	NA	NA	NA	0	0	4,778
41B	0	0	0	7,758	700	0	0	NA	NA	NA	NA	8,901	7,794	25,153
41C	0	0	0	9,172	5,507	0	0	NA	NA	NA	NA	0	0	14,679
41D	0	0	0	8,706	0	0	0	NA	NA	NA	NA	0	0	8,706
42	0	0	0	2,841	0	0	0	NA	NA	NA	NA	0	455	3,296
43A	1,113	0	0	9,153	0	0	0	NA	NA	NA	NA	0	1,480	11,746
43B	0	0	0	2,151	0	0	0	NA	NA	NA	NA	0	0	2,151
44	0	0	0	1,187	0	0	0	NA	NA	NA	NA	0	0	1,187
Total	*1,113*	*0*	*0*	*167,931*	*8,082*	*0*	*302*	*NA*	*NA*	*NA*	*NA*	*8,901*	*18,803*	*205,132*
Grand Total	**70,055**	**1,057**	**1,962**	**647,509**	**121,854**	**849**	**4,552**	**ND**	**ND**	**290,248**	**146,995**	**432,013**	**285,460**	**2,002,554**

ND = not data available; NA = not applicable

[a] These figures represent the acres of prescribed grazing (528) that were implemented in 2015. This practice is a core conservation practice that is supposed to occur on every contracted acre. The acreage figures do not include anything enrolled in the Environmental Quality Incentive Program (EQIP) which also provides benefit to LPC on thousands of acres.

[b] Data were provided by the Kansas Department of Wildlife, Parks, & Tourism; Oklahoma Department of Conservation; and Colorado Parks and Wildlife. The acreages were summed across numerous conservation practices which could have overlapped on some of the same acreage.

[c] Includes acreages from properties identified as potential strongholds in the WAFWA range-wide plan (Van Pelt et al. 2013).

[d] This category includes other protected or publicly owned properties not identified as potential strongholds in the range-wide plan. These acreages are owned by U.S. Department of Defense, Non-Government Organizations, State Land Boards, State Parks, Recreation, and Wildlife Agencies, U.S. Fish & Wildlife Service, U.S. Bureau of Land Management, U.S. Forest Service, Privately Owned Parks, U.S. National Park Service, Agricultural Research Service, U.S. Bureau of Reclamation, and City or County Government.

[e] Some of the acreages overlap the same areas and no data were available for some of the listed programs or the EQIP which also provides benefit to LPC.

Appendix B. Public Land and Conservation program acreage within each LPC CHAT 2 (Connectivity Zone) reporting unit, 2015.

Service Area – reporting unit	WAFWA Term Contracts	WAFWA Permanent Conservation Agreements	WAFWA Non-Offset Agreements	Conservation Reserve Program	NRCS Lesser prairie-chicken initiative[a]	USFWS Partners for Fish & Wildlife	State Wildlife Agency Private Land Programs[b]	New Mexico Ranching CCA	New Mexico Ranching CCAA	Texas Ranching CCAA	Oklahoma Ranching CCAA	Potential Stronghold Acres[c]	Other Public Lands[d]	Total[e]
Shinnery Oak														
100	0	396	0	15,347	0	0	ND	ND	ND	1,440	NA	0	26,190	43,373
101	0	0	0	0	0	0	ND	ND	ND	0	NA	0	8,131	8,131
102	0	0	0	17,793	1,146	0	ND	ND	ND	2,371	NA	0	840	22,150
103	0	0	0	10,172	0	0	ND	ND	ND	2,857	NA	0	0	13,029
104	0	0	0	74,084	7,862	0	ND	ND	ND	10,761	NA	0	56,685	149,392
105	0	0	0	13,942	0	0	ND	ND	ND	4	NA	0	0	13,946
Total	*0*	*396*	*0*	*131,336*	*9,008*	*0*	*ND*	*ND*	*ND*	*17,,433*	*NA*	*0*	*91,847*	232,587
Mixed Grass														
106	0	0	0	0	0	0	0	ND	ND	9,770	NA	0	0	9,770
107	0	0	0	2,661	0	0	0	ND	ND	1,287	NA	0	0	3,948
108	0	0	0	1,387	81	0	0	ND	ND	0	NA	0	406	1,874
109	0	0	0	7,073	3,356	0	0	ND	ND	10,013	NA	0	809	21,251
110	0	0	0	3,527	11	0	0	ND	ND	11,986	NA	0	0	15,524
111	0	0	0	8,176	137	0	0	ND	ND	0	NA	0	2,917	11,230
112	0	0	0	1,003	0	0	0	ND	ND	0	NA	0	0	1,003
113	0	0	0	957	0	0	0	ND	ND	0	NA	0	40	997
114	0	0	0	841	0	0	0	ND	ND	0	NA	0	2,099	2,940
115	0	0	0	818	0	0	0	ND	ND	0	NA	0	526	1,344
116	0	0	0	511	0	0	0	ND	ND	0	NA	0	225	736
117	0	0	0	2,231	0	0	0	ND	ND	0	NA	0	2,104	4,335
118	0	0	0	2,381	0	0	0	ND	ND	0	NA	0	2,120	4,501
119	0	0	0		1,076	0	0	ND	ND	0	NA	0	531	1,607
120	0	0	0	484	0	0	0	ND	ND	0	NA	71	6,488	7,043
121	0	0	0	4,517	92	0	0	ND	ND	0	NA	0	1,711	6,320
122	0	0	0	2,546	0	0	0	ND	ND	0	NA	0	1,967	4,513
123	0	0	0	7,947	453	3,453	0	ND	ND	0	NA	0	490	12,343
126	0	0	0	421	0	0	0	ND	ND	0	NA	0	0	421
128	0	0	0	2,191	160	0	0	ND	ND	0	NA	0	0	2,351
130	0	0	0	2,421	0	0	0	ND	ND	0	NA	0	6,727	9,148
132	0	0	0	4,708	0	0	0	ND	ND	0	NA	0	0	4,708
133	0	0	0	1,212	0	0	0	ND	ND	0	NA	0	1,270	2,482
134	0	0	0	4,758	0	0	0	ND	ND	0	NA	0	0	4,758
Total	*0*	*0*	*0*	*62,772*	*5,366*	*3,453*	*0*	*ND*	*ND*	*33,055*	*39,839*	*71*	*18,276*	162,832
Sand Sagebrush														
124	0	0	0	0	0	0	0	ND	ND	0	NA	0	455	455
125	0	0	0	0	0	0	0	ND	ND	0	NA	0	113	113
127	0	0	0	0	0	0	0	ND	ND	0	NA	0	551	551
129	0	0	0	1,943	0	0	0	ND	ND	0	NA	0	6,727	8,670
131	0	0	0	5,003	0	0	0	ND	ND	0	NA	0	205	5,208
135	0	0	0	3,343	0	0	0	ND	ND	0	NA	0	0	3,343
136	0	0	0	6,062	0	0	0	ND	ND	0	NA	0	0	6,062
138	0	0	0	98	0	0	0	ND	ND	0	NA	0	1,219	1,317
139	0	0	0	276	0	0	0	ND	ND	0	NA	0	642	918
140	0	0	0	856	0	0	0	ND	ND	0	NA	0	639	1,495
142	0	0	0	3,176	0	0	0	ND	ND	0	NA	0	3,123	6,299
Total	*0*	*0*	*0*	*20,758*	*0*	*0*	*0*	*ND*	*ND*	*0*	*NA*	*0*	*13,673*	34,431
Shortgrass														
137	0	0	0	2,517	0	0	0	ND	ND	0	NA	0	0	2,517
141	0	0	0	6,001	0	0	0	ND	ND	0	NA	0	0	6,001
143	0	0	0	317	0	0	60	ND	ND	0	NA	0	0	377
144	4,029	0	0	1,826	0	0	0	ND	ND	0	NA	0	0	5,855
145	0	0	0	908	0	0	160	ND	ND	0	NA	0	0	1,068
Total	*4,029*	*0*	*0*	*11,569*	*0*	*0*	*220*	*ND*	*ND*	*0*	*NA*	*0*	*0*	15,818
Grand Total	**4,029**	**396**	**0**	**281,526**	**14,375**	**3,453**	**220**	**ND**	**ND**	**50,489**	**39,839**	**71**	**123,797**	**518,195**

ND = no data provided; NA = not applicable

[a] These figures represent the acres of prescribed grazing (528) that were implemented in 2015. This practice is a core conservation practice that is supposed to occur on every contracted acre. The acreage figures do not include anything enrolled in the Environmental Quality Incentive Program (EQIP) which also provides benefit to LPC on thousands of acres.

[b] Data were provided by the Kansas Department of Wildlife, Parks, & Tourism; Oklahoma Department of Conservation; and Colorado Parks and Wildlife. The acreages were summed across numerous conservation practices which could have overlapped on some of the same acreage.

[c] Includes acreages from properties identified as potential strongholds in the WAFWA range-wide plan (Van Pelt et al. 2013).

[d] This category includes other protected or publicly owned properties not identified as potential strongholds in the range-wide plan. These acreages are owned by U.S. Department of Defense, Non-Government Organizations, State Land Boards, State Parks, Recreation, and Wildlife Agencies, U.S. Fish & Wildlife Service, U.S. Bureau of Land Management, U.S. Forest Service, Privately Owned Parks, U.S. National Park Service, Agricultural Research Service, U.S. Bureau of Reclamation, and City or County Government.

[e] Some of the acreages overlap the same areas and no data were available for some of the listed programs or the EQIP which also provides benefit to LPC.

Appendix C. ANNUAL CROPLAND RESTORATION AND REMEDIATION ACREAGE ACCOMPLISHMENTS AND LONG-TERM GOALS WITHIN EACH LPC CHAT 1 (FOCAL AREA) REPORTING UNIT, 2015.

Service Area – reporting unit	WAFWA Cropland Restoration	FSA Cropland Restoration	NRCS Cropland Restoration[a]	USFWS Cropland Restoration	State Wildlife Agency Cropland Restoration[b]	Total Annual Cropland Restoration	Annual Cropland Restoration Goal	Total Annual Impact Remediation[c]	Annual Impact Remediation Goal
Shinnery Oak									
1	0	ND	0	ND	0	NA	0	NA	0
2A	0	ND	0	ND	0	NA	97	NA	0
2B	0	ND	0	ND	0	NA	0	NA	0
2C	0	ND	0	ND	0	NA	0	NA	0
2D	0	ND	0	ND	0	NA	0	NA	0
2E	0	ND	0	ND	0	NA	0	NA	0
2F	0	ND	0	ND	0	NA	0	NA	0
3	0	ND	0	ND	0	NA	0	NA	0
4	0	ND	0	ND	0	NA	2,639	NA	0
5	0	ND	0	ND	0	NA	0	NA	0
6	0	ND	0	ND	0	NA	4	NA	0
7	0	ND	0	ND	0	NA	216	NA	0
8	0	ND	0	ND	0	NA	589	NA	0
9	0	ND	0	ND	0	NA	0	NA	0
Total	*0*	*ND*	*0*	*ND*	*0*	*NA*	*3,545*	*NA*	*0*
Mixed Grass									
10	0	ND	0	ND	0	NA	703	NA	382
11	0	ND	0	ND	0	NA	0	NA	0
12	0	ND	0	ND	0	NA	0	NA	0
13A	0	ND	0	ND	0	NA	282	NA	0
13B	0	ND	0	ND	0	NA	0	NA	0
13C	0	ND	0	ND	0	NA	0	NA	0
13D	0	ND	0	ND	0	NA	0	NA	0
14	0	ND	0	ND	0	NA	69	NA	58
15	0	ND	0	ND	0	NA	287	NA	0
16A	0	ND	0	ND	0	NA	482	NA	0
16B	0	ND	0	ND	0	NA	228	NA	0
16C	0	ND	0	ND	0	NA	1,343	NA	8
17	0	ND	0	ND	0	NA	0	NA	0
18	0	ND	0	ND	0	NA	0	NA	0
19	0	ND	0	ND	0	NA	0	NA	0
20	0	ND	0	ND	0	NA	0	NA	0
21	0	ND	0	ND	0	NA	0	NA	0
22	0	ND	0	ND	0	NA	0	NA	0
23	0	ND	0	ND	0	NA	0	NA	0
24	0	ND	0	ND	0	NA	0	NA	0
27	0	ND	0	ND	0	NA	0	NA	0
28A	0	ND	0	ND	0	NA	1,219	NA	0
28B	0	ND	0	ND	0	NA	0	NA	0
28C	0	ND	0	ND	0	NA	0	NA	0
28D	0	ND	0	ND	0	NA	0	NA	0
29A	0	ND	0	ND	0	NA	0	NA	0
29B	0	ND	0	ND	0	NA	0	NA	0
29C	0	ND	0	ND	0	NA	0	NA	0
29D	0	ND	0	ND	0	NA	0	NA	0
30	0	ND	0	ND	0	NA	2,341	NA	0
33A	0	ND	0	ND	0	NA	472	NA	0
33B	0	ND	0	ND	0	NA	1,403	NA	0
Total	*0*	*ND*	*0*	*ND*	*0*	*NA*	*8,830*	*NA*	*447*
Sand Sagebrush									
25	0	ND	0	ND	0	NA	0	NA	0
26	0	ND	0	ND	0	NA	326	NA	0
31A	0	ND	0	ND	0	NA	0	NA	0
31B	0	ND	0	ND	0	NA	1,757	NA	0

31C	0	ND	0	ND	0	NA	3,245	NA	478
31D	0	ND	0	ND	0	NA	2,941	NA	558
31E	0	ND	0	ND	0	NA	2,576	NA	160
32	0	ND	0	ND	0	NA	3,209	NA	0
35A	0	ND	0	ND	0	NA	147	NA	0
35B	0	ND	0	ND	0	NA	2,321	NA	0
35C	0	ND	0	ND	0	NA	2,456	NA	0
35D	0	ND	0	ND	0	NA	0	NA	0
35E	0	ND	0	ND	0	NA	5,758	NA	280
35F	0	ND	0	ND	0	NA	4,619	NA	279
36	0	ND	0	ND	0	NA	0	NA	0
38	0	ND	0	ND	0	NA	0	NA	0
40	0	ND	0	ND	0	NA	0	NA	0
Total	*0*	*ND*	*0*	*ND*	*0*	*NA*	*43,617*	*NA*	*2,202*
Shortgrass									
34	0	ND	0	ND	0	NA	1,734	NA	0
37A	0	ND	0	ND	0	NA	3,278	NA	0
37B	0	ND	0	ND	0	NA	827	NA	0
37C	0	ND	0	ND	0	NA	1,325	NA	0
37D	0	ND	0	ND	0	NA	4,756	NA	0
37E	0	ND	0	ND	0	NA	3,409	NA	0
37F	0	ND	0	ND	0	NA	1,990	NA	0
39A	0	ND	0	ND	0	NA	2,518	NA	0
39B	0	ND	0	ND	0	NA	3,944	NA	0
39C	0	ND	0	ND	0	NA	2,111	NA	0
41A	0	ND	0	ND	0	NA	511	NA	0
41B	0	ND	0	ND	0	NA	1,432	NA	0
41C	0	ND	0	ND	0	NA	739	NA	0
41D	0	ND	0	ND	0	NA	677	NA	0
42	0	ND	0	ND	0	NA	1,571	NA	0
43A	0	ND	0	ND	0	NA	0	NA	0
43B	0	ND	0	ND	0	NA	0	NA	0
44	0	ND	0	ND	0	NA	1,201	NA	0
Total	*0*	*ND*	*0*	*ND*	*0*	*NA*	*32,022*	*NA*	*0*
Grand Total	**0**	**ND**	**0**	**ND**	**0**	**NA**	**88,014**	**NA**	**2,649**

ND = no data provided; NA = not available

[a] Summarizes acres of the range planting practice (550) applied through the Lesser Prairie-Chicken Initiative. The acreage figures do not include any range planting applied through the Environmental Quality Incentives Program (EQIP).

[b] Data were only provided by the Kansas Department of Wildlife, Parks, & Tourism.

[c] These data are the sum of all remediated impact acres processed by the WAFWA and additional locations identified by annual changes in the IHS well data. The figures do not include remediation of non-oil/gas well impacts that were done outside the RWP. The impact buffers identified in the RWP were used to identify the acres that were remediated.

Appendix D. Annual cropland restoration and remediation acreage accomplishments and long-term goals within each LPC CHAT 2 (Connectivity Zone) reporting unit, 2015.

Service Area – reporting unit	WAFWA Cropland Restoration	FSA Cropland Restoration	NRCS Cropland Restoration[a]	USFWS Cropland Restoration	State Wildlife Agency Cropland Restoration[b]	Total Annual Cropland Restoration	Annual Cropland Restoration Goal	Total Annual Impact Remediation[c]	Annual Impact Remediation Goal
Shinnery Oak									
100	0	ND	0	ND	NA	NA	0	NA	0
101	0	ND	0	ND	NA	NA	0	NA	0
102	0	ND	0	ND	NA	NA	74	NA	0
103	0	ND	0	ND	NA	NA	205	NA	0
104	0	ND	0	ND	NA	NA	0	NA	0
105	0	ND	0	ND	NA	NA	0	NA	0
Total	*0*	*ND*	*0*	*ND*	*NA*	*NA*	*279*	*NA*	*0*
Mixed Grass									
106	0	ND	0	ND	0	NA	135	NA	133
107	0	ND	0	ND	0	NA	0	NA	0
108	0	ND	0	ND	0	NA	0	NA	0
109	0	ND	0	ND	0	NA	0	NA	0
110	0	ND	0	ND	0	NA	0	NA	0
111	0	ND	2	ND	0	NA	0	NA	0
112	0	ND	0	ND	0	NA	0	NA	0
113	0	ND	0	ND	0	NA	0	NA	0
114	0	ND	0	ND	0	NA	0	NA	0
115	0	ND	0	ND	0	NA	0	NA	0
116	0	ND	0	ND	0	NA	0	NA	0
117	0	ND	0	ND	0	NA	0	NA	0
118	0	ND	0	ND	0	NA	0	NA	0
119	0	ND	0	ND	0	NA	0	NA	0
120	0	ND	0	ND	0	NA	0	NA	0
121	0	ND	0	ND	0	NA	0	NA	0
122	0	ND	0	ND	0	NA	0	NA	0
123	0	ND	0	ND	0	NA	0	NA	0
126	0	ND	0	ND	0	NA	0	NA	0
128	0	ND	0	ND	0	NA	0	NA	0
130	0	ND	0	ND	0	NA	0	NA	0
132	0	ND	0	ND	0	NA	62	NA	0
133	0	ND	0	ND	0	NA	0	NA	0
134	0	ND	0	ND	0	NA	709	NA	0
Total	*0*	*ND*	*0*	*ND*	*0*	*NA*	*906*	*NA*	*133*
Sand Sagebrush									
124	0	ND	0	ND	0	NA	25	NA	0
125	0	ND	0	ND	0	NA	0	NA	0
127	0	ND	0	ND	0	NA	0	NA	0
129	0	ND	0	ND	0	NA	0	NA	0
131	0	ND	0	ND	0	NA	120	NA	0
135	0	ND	0	ND	0	NA	1,071	NA	0
136	0	ND	0	ND	0	NA	1,775	NA	0
138	0	ND	0	ND	0	NA	0	NA	0
139	0	ND	0	ND	0	NA	0	NA	0
140	0	ND	0	ND	0	NA	0	NA	0
142	0	ND	0	ND	0	NA	0	NA	0
Total	*0*	*ND*	*0*	*ND*	*0*	*NA*	*2,991*	*NA*	*0*
Shortgrass									
137	0	ND	0	ND	0	NA	614	NA	0
141	0	ND	0	ND	0	NA	0	NA	0
143	0	ND	0	ND	0	NA	495	NA	0
144	0	ND	0	ND	0	NA	0	NA	0
145	0	ND	0	ND	0	NA	393	NA	0
Total	*0*	*ND*	*0*	*ND*	*0*	*NA*	*1,502*	*NA*	*0*
Grand Total	**0**	**ND**	**2**	**ND**	**0**	**NA**	**5,678**	**NA**	**133**

ND = no data provided; NA = not available

[a] Summarizes acres of the range planting practice (550) applied through the Lesser Prairie-Chicken Initiative. The acreage figures do not include any range planting applied through the Environmental Quality Incentives Program (EQIP).

[b] Data were only provided by the Kansas Department of Wildlife, Parks, & Tourism.

[c] These data are the sum of all remediated impact acres processed by the WAFWA and those identified by annual changes in the IHS data. The figures do not include remediation of non-oil/gas well impacts that were done outside the RWP. The impact buffers identified in the RWP were used to identify the acres that were remediated.

Appendix E. Focal area reporting units sorted by percent impact as of Jan. 1, 2016.

FACZ_I	Sum_Acres	FACZ_Class	Ecoregions	July 2015	January 2016 Impact %
14	**5760.0**	**Focal Area**	**Mixed Grass Prairie**	**39.5%**	**39.1%**
35F	**108160.5**	**Focal Area**	**Sand Sagebrush Prairie**	**32.0%**	**34.4%**
31C	**96640.4**	**Focal Area**	**Sand Sagebrush Prairie**	**34.7%**	**34.2%**
11	**104960.5**	**Focal Area**	**Mixed Grass Prairie**	**30.7%**	**33.4%**
31D	**110720.5**	**Focal Area**	**Sand Sagebrush Prairie**	**33.5%**	**33.2%**
35E	**115840.5**	**Focal Area**	**Sand Sagebrush Prairie**	**31.8%**	**32.0%**
31E	**97920.5**	**Focal Area**	**Sand Sagebrush Prairie**	**30.7%**	**30.7%**
10	160000.7	Focal Area	Mixed Grass Prairie	29.2%	29.0%
13A	64000.3	Focal Area	Mixed Grass Prairie	27.7%	28.3%
15	17920.1	Focal Area	Mixed Grass Prairie	28.8%	28.0%
13D	129920.6	Focal Area	Mixed Grass Prairie	24.1%	25.2%
18	34560.2	Focal Area	Mixed Grass Prairie	25.5%	25.0%
4	122240.6	Focal Area	Shinnery Oak Prairie	24.8%	24.8%
13C	102400.5	Focal Area	Mixed Grass Prairie	23.3%	23.8%
17	33280.2	Focal Area	Mixed Grass Prairie	23.5%	23.6%
35B	107520.5	Focal Area	Sand Sagebrush Prairie	23.4%	23.4%
30	60800.3	Focal Area	Mixed Grass Prairie	23.2%	23.2%
8	55680.3	Focal Area	Shinnery Oak Prairie	23.0%	23.0%
31B	141440.7	Focal Area	Sand Sagebrush Prairie	22.8%	22.7%
16C	100480.5	Focal Area	Mixed Grass Prairie	22.4%	22.3%
2D	100480.5	Focal Area	Shinnery Oak Prairie	19.8%	21.4%
16A	96000.4	Focal Area	Mixed Grass Prairie	21.5%	21.3%
16B	64640.3	Focal Area	Mixed Grass Prairie	20.9%	20.8%
39C	121600.6	Focal Area	Shortgrass Prairie	20.5%	20.4%
37A	129920.6	Focal Area	Shortgrass Prairie	19.4%	20.4%
7	26880.1	Focal Area	Shinnery Oak Prairie	20.5%	20.3%
20	32640.2	Focal Area	Mixed Grass Prairie	19.1%	19.0%
13B	100480.5	Focal Area	Mixed Grass Prairie	18.5%	18.8%
37F	129280.6	Focal Area	Shortgrass Prairie	18.3%	18.7%
32	46720.2	Focal Area	Sand Sagebrush Prairie	18.6%	18.6%
23	51200.2	Focal Area	Mixed Grass Prairie	20.0%	17.8%
34	86400.4	Focal Area	Shortgrass Prairie	15.5%	17.0%
1	69760.3	Focal Area	Shinnery Oak Prairie	16.8%	16.7%
22	73600.3	Focal Area	Mixed Grass Prairie	16.4%	16.6%
28A	70400.3	Focal Area	Mixed Grass Prairie	16.2%	16.4%
2A	96000.4	Focal Area	Shinnery Oak Prairie	15.9%	15.9%
42	62720.3	Focal Area	Shortgrass Prairie	15.7%	15.7%
2B	95360.4	Focal Area	Shinnery Oak Prairie	15.7%	15.7%
21	56320.3	Focal Area	Mixed Grass Prairie	15.5%	15.6%
6	25600.1	Focal Area	Shinnery Oak Prairie	14.2%	14.2%

31A	111360.5	Focal Area	Sand Sagebrush Prairie	14.1%	14.1%
35D	165760.8	Focal Area	Sand Sagebrush Prairie	13.6%	13.9%
35A	51200.2	Focal Area	Sand Sagebrush Prairie	13.6%	13.5%
2E	123520.6	Focal Area	Shinnery Oak Prairie	11.3%	13.5%
39B	139520.6	Focal Area	Shortgrass Prairie	13.4%	13.4%
39A	101120.5	Focal Area	Shortgrass Prairie	13.3%	13.3%
44	72320.3	Focal Area	Shortgrass Prairie	13.3%	13.3%
28D	120960.6	Focal Area	Mixed Grass Prairie	12.7%	13.2%
29A	97920.5	Focal Area	Mixed Grass Prairie	13.2%	13.1%
33B	85120.4	Focal Area	Mixed Grass Prairie	12.3%	12.9%
33A	92800.4	Focal Area	Mixed Grass Prairie	12.8%	12.8%
26	20480.1	Focal Area	Sand Sagebrush Prairie	12.7%	12.7%
12	93440.4	Focal Area	Mixed Grass Prairie	12.4%	12.4%
2C	106880.5	Focal Area	Shinnery Oak Prairie	12.4%	12.2%
29B	129280.6	Focal Area	Mixed Grass Prairie	11.2%	11.7%
35C	78080.4	Focal Area	Sand Sagebrush Prairie	11.3%	11.3%
41D	86400.4	Focal Area	Shortgrass Prairie	11.2%	11.2%
41C	127360.6	Focal Area	Shortgrass Prairie	10.5%	10.5%
37C	112000.5	Focal Area	Shortgrass Prairie	10.4%	10.4%
29D	87680.4	Focal Area	Mixed Grass Prairie	10.0%	10.1%
24	104960.5	Focal Area	Mixed Grass Prairie	10.2%	10.1%
28B	103040.5	Focal Area	Mixed Grass Prairie	10.2%	10.0%
43A	84480.4	Focal Area	Shortgrass Prairie	10.1%	9.9%
25	25600.1	Focal Area	Sand Sagebrush Prairie	9.9%	9.9%
41B	150400.7	Focal Area	Shortgrass Prairie	9.8%	9.8%
29C	96000.4	Focal Area	Mixed Grass Prairie	9.5%	9.7%
40	159360.7	Focal Area	Sand Sagebrush Prairie	9.3%	9.3%
28C	104320.5	Focal Area	Mixed Grass Prairie	9.1%	8.9%
37E	126720.6	Focal Area	Shortgrass Prairie	8.7%	8.7%
36	45440.2	Focal Area	Sand Sagebrush Prairie	8.6%	8.6%
19	26240.1	Focal Area	Mixed Grass Prairie	8.1%	8.1%
3	48000.2	Focal Area	Shinnery Oak Prairie	8.1%	8.1%
27	74880.3	Focal Area	Mixed Grass Prairie	7.8%	7.6%
41A	96640.4	Focal Area	Shortgrass Prairie	7.6%	7.6%
38	101120.5	Focal Area	Sand Sagebrush Prairie	7.4%	7.4%
37B	82560.4	Focal Area	Shortgrass Prairie	7.3%	7.3%
37D	100480.5	Focal Area	Shortgrass Prairie	7.0%	6.8%
2F	74240.3	Focal Area	Shinnery Oak Prairie	5.4%	5.3%
9	29440.1	Focal Area	Shinnery Oak Prairie	5.3%	5.2%
43B	62720.3	Focal Area	Shortgrass Prairie	4.4%	4.4%
5	72320.3	Focal Area	Shinnery Oak Prairie	3.6%	3.6%

Appendix F. CONNECTIVITY ZONE REPORTING UNITS SORTED BY PERCENT IMPACT AS OF JANUARY 1, 2016

FACZ_ID	Sum_Acres	FACZ_Class	Ecoregions	July 2015 Impact %	January 2016 Impact %
106	49920.2	Connectivity Zone	Mixed Grass Prairie	52.4%	53.2%
135	29440.1	Connectivity Zone	Sand Sagebrush Prairie	43.2%	43.0%
115	12160.1	Connectivity Zone	Mixed Grass Prairie	35.0%	37.2%
118	29440.1	Connectivity Zone	Mixed Grass Prairie	37.1%	37.0%
137	32640.2	Connectivity Zone	Shortgrass Prairie	36.1%	35.9%
120	18560.1	Connectivity Zone	Mixed Grass Prairie	34.4%	35.3%
103	33280.2	Connectivity Zone	Shinnery Oak Prairie	34.8%	34.8%
140	23040.1	Connectivity Zone	Sand Sagebrush Prairie	34.0%	34.0%
122	14720.1	Connectivity Zone	Mixed Grass Prairie	32.4%	32.4%
109	119680.6	Connectivity Zone	Mixed Grass Prairie	31.2%	31.8%
138	14080.1	Connectivity Zone	Sand Sagebrush Prairie	32.8%	31.8%
111	99840.5	Connectivity Zone	Mixed Grass Prairie	30.9%	31.2%
107	112640.5	Connectivity Zone	Mixed Grass Prairie	31.3%	31.0%
129	14720.1	Connectivity Zone	Sand Sagebrush Prairie	31.4%	30.9%
117	22400.1	Connectivity Zone	Mixed Grass Prairie	27.5%	28.2%
116	12800.1	Connectivity Zone	Mixed Grass Prairie	28.1%	27.8%
114	37760.2	Connectivity Zone	Mixed Grass Prairie	24.7%	24.9%
121	55680.3	Connectivity Zone	Mixed Grass Prairie	24.9%	24.9%
110	72320.3	Connectivity Zone	Mixed Grass Prairie	24.3%	24.6%
113	19840.1	Connectivity Zone	Mixed Grass Prairie	22.5%	22.4%
112	13440.1	Connectivity Zone	Mixed Grass Prairie	22.3%	22.1%
104	599042.8	Connectivity Zone	Shinnery Oak Prairie	21.2%	22.0%
132	35200.2	Connectivity Zone	Mixed Grass Prairie	21.5%	21.7%
142	61440.3	Connectivity Zone	Sand Sagebrush Prairie	21.4%	21.3%
143	26240.1	Connectivity Zone	Shortgrass Prairie	20.9%	20.9%
134	37120.2	Connectivity Zone	Mixed Grass Prairie	20.2%	20.2%
102	64000.3	Connectivity Zone	Shinnery Oak Prairie	20.3%	20.2%
130	34560.2	Connectivity Zone	Mixed Grass Prairie	19.7%	19.6%
133	64640.3	Connectivity Zone	Mixed Grass Prairie	18.7%	18.8%
108	42240.2	Connectivity Zone	Mixed Grass Prairie	18.7%	18.7%
139	15360.1	Connectivity Zone	Sand Sagebrush Prairie	18.7%	18.7%
141	52480.2	Connectivity Zone	Shortgrass Prairie	18.2%	18.1%
144	46720.2	Connectivity Zone	Shortgrass Prairie	16.1%	16.0%
136	53120.2	Connectivity Zone	Sand Sagebrush Prairie	15.8%	15.7%
145	25600.1	Connectivity Zone	Shortgrass Prairie	15.0%	15.4%
100	148480.7	Connectivity Zone	Shinnery Oak Prairie	15.1%	15.2%
119	12800.1	Connectivity Zone	Mixed Grass Prairie	15.3%	15.1%
131	23680.1	Connectivity Zone	Sand Sagebrush Prairie	14.9%	14.9%
124	5120.0	Connectivity Zone	Sand Sagebrush Prairie	14.5%	14.5%

Appendix G. LESSER PRAIRIE CHICKEN ADVISORY COMMITTEE ANNUAL REPORT AND RWP COMMITTEE INFORMATION.

Date: March 28, 2016
To: Western Association of Fish and Wildlife Agencies – Lesser Prairie Chicken Initiative Council
From: The Lesser Prairie Chicken Advisory Council
Subject: 2015-2016 LPCAC Annual Report

Summary

The Lesser Prairie-Chicken Range-wide Conservation Plan ("RWP") is the culmination of an unprecedented collaboration between the United States Fish and Wildlife Service ("FWS"), the Western Association of Fish and Wildlife Agencies ("WAFWA"), wildlife agencies in each of the five states in the range of the lesser prairie chicken, conservation groups, property owners and industry members.

WAFWA is responsible for the administration of the RWP. The WAFWA Board of Directors established the lesser prairie chicken initiative council ("LPCIC"). Directors of the state wildlife agencies within the LPC range comprise the LPCIC along with members of the Executive Committee.

In accordance with the RWP, the LPCIC established an Advisory Committee ("LPCAC"), Fee Structure Subcommittee (FSSC"), Science Subcommittee ("SSC") and Interstate Working Group ("IWG"). The LPCAC and IWG are advisory in nature and provide recommendations to the LPCIC for final approval. The LPCAC serves to inform and support the RWP, to promote effective communication between the parties, resolve disputes, revise cost structures and make adaptive management recommendations for consideration and/or approval by the LPCIC. The LPCAC is supported by the FSSC and SSC.

During the period April 2015 to March 2016, the LPCAC met in person on October 27, 2015. In addition, the LPCAC convened by telephone on four occasions. This report summarizes the activities of the LPCAC over the twelve-month 2015 to 2016 reporting period.

Lesser Prairie Chicken Advisory Council Composition

The LPCAC is composed of 17 representatives, including:

- One representative from three of the five state wildlife agencies, serving on a rotating schedule;
- One representative from each of the two primary federal agencies closely involved with LPC conservation (FWS and the Natural Resources Conservation Service, "NRCS");
- Three representatives from industry organizations (e.g., oil and gas, wind, transmission, etc.);

- Three representatives from agricultural and landowner organizations (e.g., Cattleman's Association, Corn Growers Farm Bureau, etc.);
- Three representatives from conservation organizations (e.g., the Nature Conservancy, North American Grouse Partnership, National Audubon Society, etc.); and,
- Three representatives from local government or municipalities.

During the period April 2015 through March 2016, the membership of the LPCAC comprised the following individuals:

State Fish & Wildlife Agencies

Mr. Cal Baca, Chief, Wildlife Management Division, New Mexico Dept. of Game and Fish
Mr. Russ Horton, Lands and Wildlife Diversity Supervisor, Oklahoma Dept. Wildlife Conservation
Mr. Mike Mitchener, Chief, Wildlife Section, KS Dept. Wildlife/Parks/Tourism *
Jake George, Acting Wildlife Section Chief, KS Dept. Wildlife/Parks/Tourism
Stewart Liley, Chief, Wildlife Management Division, New Mexico Dept. of Game and Fish

Federal Agencies

Mr. Jon Ungerer, LPC Initiative Coordinator, Natural Resources Conservation Service
Michelle Shaughnessy, United States Fish & Wildlife Service, Assistant Regional Director – SW Region *
Ms. Debra Bills, US Fish and Wildlife Service, Field Supervisor

Industry Organizations

Mr. Myles Culhane (Chairman), Managing Counsel, Occidental Oil & Gas Corp
Alyssa Edwards, Associate Director, Environmental Permitting, EDF Renewable Energy
Mr. Erv Warren, Manager of Wildlife, OGE Energy Corp

Agricultural and Landowner Association

Mr. Nick Bamert, President, Bamert Seed Co
Mr. Tyler Woolfolk, Rancher/Vice President, Bank of Ashland
Mr. Alan Jett, Owner/Operator, Jett Ranch, LLC

Conservation Organizations

Dr. Terry Riley, Conservation Policy Director, North American Grouse Partnership
Gillian Bee, Stewardship Director, Rocky Mountain Bird Observatory
Mr. Rob Manes, Director, The Nature Conservancy-KS

Local Government, Municipalities, Co-ops

Mr. Robert J. LeForce, Environmental Specialist, Western Farmers Electric Co-op
Mr. Paul Reynolds, Sr. Manager, Generation Engineering/Environment, Sunflower Electric Power Corp.
Mr. Bill Carson, Manager of Member Services, North Plains Electric Co-op

* Representation on the LPCAC completed and replacements nominated and either selected or pending selection and acceptance.

LPCAC Meetings

The LPCAC held a face-to-face meeting on October 27, 2015 in Amarillo, Texas. The LPCAC convened via conference call on June 17, 2015, July 13, 2015, February 23, 2016 and March 8, 2016. At each meeting the LPCAC reviewed reports from the LPCIC, progress toward meeting conservation goals through the mitigation framework, made recommendations regarding the qualifications and use of technical service providers, reviewed research needs, and made recommendations to the FSSC, SSC and LPCIC. The meetings generated the following recommendations that were communicated to appropriate committee for further consideration and action.

1. Substation Impact Buffer Proposal

The Substation Impact Buffer Proposal was initially submitted to the LPCAC by Sunflower Electric Corporation before the call scheduled for June 17, 2015. The Sunflower proposal recommended that the LPCAC consider changing impact buffer sizes for small, less than 5-acre electrical substations. During the June 17, 2015 call, the LPCAC decided to forward the proposal to the SSC for a review and recommendation based on the information presented and the relevant science regarding impacts to LPC.

On July 10, 2015, the SSC responded to the LPCAC with its recommendation on the Substation Impact Buffer Proposal. The SSC's recommendation is to allow, consistent with the RWP, small substations to be evaluated with the same impact buffer requirements as used for small compressor stations and, if a microwave tower or any other tall structure was within the foot print of the substation, use the 200 m small electrical substation buffers (≤5 acres, <150 feet tall, and <75 dB at 30 feet from the facility boundary). The SSC also agreed that it needed to review those impact buffer requirements and develop science needs to structure research projects to evaluate and if needed provide direction on adaptive management changes to the LPCAC so that they can be made to the LPCIC for the IWG to review for future changes if warranted. This recommendation was presented to the LPCIC on July 18, 2015.

2. Scale, Precision, and Evaluation Units with the LPC CHAT

On July 11, 2015, the LPC Implementation Team presented the LPCAC with a proposal to adjust the process for creating evaluation units and further define the guidelines used for decisions

involving spatial precision and scale. The proposal was titled "Scale, Precision, and Evaluation Units with the LPC CHAT. The issues raised in the proposal occur frequently during the implementation of the Range Wide Plan, and having these issues clarifying an approach to these issues would help the GIS lab conduct its operations in a consistent manner and provide certainty and transparency to industry personnel who are sometime unsure of the rules and processes. The LPCAC discussed the issues presented. The LPCAC acknowledged the importance of setting functionally efficient and clearly defined guidelines. The LPCAC agreed with the suggested recommendations as presented by the LPC team. The LPCAC recommended approval and presented the proposal to the LPCIC on July 18, 2015.

3. Electric Distribution Proposal

The Electric Distribution Proposal is a carry-over from the 2014-2015 implementation year (please refer to the 2014-2015 LPCAC Annual Report). Electric distribution cooperatives had expressed significant concerns over RWP requirements for burial of electric distribution lines in areas that are within 1.25 miles of leks or in areas that are not surveyed for leks because:

- Electric coops are member-owned entities and have very limited resources;
- The cost of implementing conservation measures such as the burial of electric distribution lines is significantly greater than mitigation - these costs are passed on to users, often rural residents;
- Rural residents consider electrical service to be a basic human right; and,
- Lek surveys have proven impractical because coops have large service areas (up to 12 counties) and distribution projects have a rapid timeline (generally two weeks or less).

Consequently, many coops report that they experience significant difficulties remaining compliant with the RWP while meeting their member's service needs. In addition, the burial requirements for electric distribution lines hold the coops to a higher standard than other energy industries covered under the RWP. With the exception of pipelines, no other activities require burial under the RWP.

On October 12, 2015, the LPCAC was provided a proposal developed by an ad hoc committee that contained a series of guidelines designed to identify areas that already have a level of development such that they are unlikely to be suitable habitat for LPCs. Pursuant to the proposal guidelines, electric cooperatives and other participant companies may be permitted to erect overhead electric distribution lines under the CCAA and WCA agreements subject to fewer restrictions. Spatial analysis performed in support of the proposal found that the following seven elements were expected to impact less than 2% of all known active and historic leks identified over the last 10 years.

1. Construction of above ground electric distribution lines without lek surveys within a 2-mile buffer of incorporated areas as defined in 2015.

2. Construction of above ground electric distribution lines that follow primary roads and electric transmission lines.
3. Construction of above ground electric distribution lines in un-surveyed areas of CHAT 2-4 along secondary roads with less than 50% potential suitable habitat within 1 mile as long as the road is bounded by cropland on one or both sides.
4. Construction of above ground electric distribution lines within a 400 m buffer of identified electric meter clusters.
5. Outside of defined meter clusters, above ground tap lines or terminal spurs may be constructed from existing primary and secondary roads where they extend to another impact buffer such that no new nesting habitat is impacted.
6. Implementation of a retirement program that incentivizes the removal of existing distribution lines by giving cooperatives credit to build new lines in un-surveyed areas as long as it results in a net reduction in the miles of distribution line under their control within CHAT 1-3.
7. Construction of above ground distribution lines within some agricultural and industrial sites.

After review and discussion at its October 12, 2015 meeting, the LPCAC recommended sending the proposal to the SSC for review and development of questions and/or revisions. The SSC reviewed, revised and returned the proposal to the LPCAC on February 19, 2016. The LPCAC discussed the proposal during its February 23, 2016 call. The LPCAC reviewed and requested that members of the SSC provide prompt feedback on the proposal so that a final recommendation might be developed for submittal to the LPCIC. The LPCAC received feedback on March 3, 2016. The LPCAC again convened via conference call on March 8, 2016 and reviewed the proposal and developed a recommendation for the LPCIC. A final recommendation for proposal adoption was forwarded to the LPCIC on March 8, 2016.

4. Aerial Survey Gap Threshold

After the LPCAC reviewed and approved a multipart proposal regarding scale, resolution and minimum mapping units, WAFWA determined that the approved gap threshold was too restrictive. A new proposal was developed and presented to the LPCAC on October 23, 2015.
This proposal recommended that a revised set of general recommendations be established that guide the interpretation of aerial survey coverage. It is recommended that completed survey areas be assessed against the following:

1) The total area of small flight line gaps may not exceed 5% of the total survey area.
2) Small flight line gaps deemed acceptable and considered as surveyed should not be more than approximately 100 meters wide.
3) For gaps wider than approximately 100 meters, their context will be manually evaluated (flight notes and aerial imagery) to determine why the area was

avoided. Avoided areas over feedlots, houses, vertical structures, and similar features that should be avoided will be considered as surveyed, while wider gaps for unknown reasons will remain as gaps in the survey coverage.

The LPCAC reviewed and discussed this proposal at its October 27, 2015 meeting in Amarillo, TX. LPCAC forwarded the proposal to the LPCIC on October 27, 2015 with a recommendation for adoption.

5. Landowner Fee Increase for Certain Practices

On February 19, 2016, WAFWA staff and the FSSC provided the LPCAC a proposal changing some base payment rates under the LPC conservation agreements. The proposed changes would take effect for active and new contracts on January 1, 2017. The LPCAC discussed the proposal on February 23, 2016. The LPCAC Chair requested that WAFWA staff finalize the proposal for action on its next call. On March 8, 2016, the voted to advance the recommendation as written to the LPCIC for action at their upcoming March 14, 2016 meeting.

6. WAFWA Range-wide Plan Impact Buffer Guidance

On October 26, 2015, the SSC forwarded a recommendation that the LPCAC develop a proposal to specify impact buffer distances for types of development that were not already specified within the RWP. After review of the information provided by the SSC and discussion at its October 27, 2015 meeting, the LPCAC recommended adoption of the RWP's impact buffer criteria, which include noise levels (75 dB), structure height (150 feet), and facility size (5 acres) for any development type that is not already specified within the RWP or in prior adaptive management changes. This proposal was forwarded to the LPCIC for action at its next 2015 meeting. This Annual Report fulfills an additional responsibility of the LPCAC to provide a report to the WAFWA LPCIC.

Fee Structure Subcommittee

The Lesser Prairie Chicken FSSC serves to inform and support the RWP, promote effective communication, resolve disputes, revise cost structures and make adaptive management and policy recommendations for the consideration and/or approval by the LPCIC through the LPCAC.

The FSSC meets, at a minimum, annually and each member is asked to serve a two-year term. The role of the FSSC is as follows:

- Annually review and update mitigation costs and landowner enrollments in specific practices.
- Annually review adaptive management triggers and evaluated actions related to the fee structure for the mitigation framework.
- Annually provide a report to the LPC Advisory Committee

The Fee Structure Subcommittee met on December 14, 2015 via conference call to discuss the proposed increases in conservation payments that was shared with them by email on December 7, 2015. Six members of the subcommittee participated in the initial discussion of the proposal.

Those members asked some questions about the WAFWA conservation practice standards and the process that was used to developed the proposed rates which were answered on the call by WAFWA staff. The call participants did not voice any concerns about the preliminary proposal and asked the WAFWA staff to prepare a full proposal and distribute it to them for further review. The full proposal was prepared and distributed back to the committee on February 4, 2016. Seven committee members had responded prior to development of this recommendation and they were all in favor of moving the proposal forward as the committee's recommendation. Four of those committee members did provide some suggestions about how to standardize the process for developing proposed fee/payment changes in future years. The committee will be discussing that topic during their next meeting in hopes of developing a more standardized method for the WAFWA staff to utilize when preparing proposals in future years.

Science Subcommittee

The Science Working Group met via conference call or webinar five times and met once in-person from April 2015 to March 2016.

April 15, 2015—The SSC met via webinar and discussed an initial proposal from the electric cooperatives to address the burial of distribution lines. The SSC requested that they analysis in that proposal be expanded to encompass a larger proportion of the range.

June 25—The SSC met via conference call to discuss a proposal to adjust the impact buffer distance for small electric substations and switching stations and recommended that the LPCAC support the proposal.

September 18, 2015—The SSC met via conference call to discuss a proposed amendment on aerial survey gaps. The subcommittee asked for changes to the proposal. The changes were incorporated in their recommendation to the LPCAC on Oct. 22.

December 3, 2015—The SSC met via webinar to discuss an updated electric distribution proposal. No decision was made on this proposal.

January 14, 2016—The SSC met via conference call to discuss the proposal review process, SSC roles and responsibilities and the electric distribution proposal. No decision was made on this proposal.

February 11-12, 2016—The SSC met in Edmund, OK to discuss science priorities for the LPC and the Electric distribution proposal.

March 1, 2016—The SSC met via conference call to discuss the electric distribution proposal and the proposal review process. The members elected to provide individual responses to the proposal for the LPCAC and decided to suspend the review of additional proposals until the new members of the committee were seated and a more defined review process was established.

Respectfully submitted on behalf of the LPCAC,
Myles Culhane
Chair, Lesser Prairie Chicken Advisory Council