U.S. Fish & Wildlife Service

# Draft Environmental Assessment for the Range-Wide Oil and Gas Candidate Conservation Agreement with Assurances for the Lesser Prairie-Chicken

*(Tympanuchus pallidicinctus)*

# DRAFT

# ENVIRONMENTAL ASSESSMENT FOR THE RANGE-WIDE OIL AND GAS CANDIDATE CONSERVATION AGREEMENT WITH ASSURANCES FOR THE LESSER PRAIRIE CHICKEN (Tympanuchus pallidicinctus)

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# Acronyms and Abbreviations

| | |
|---|---|
| CCA | Candidate Conservation Agreement |
| CCAA | Candidate Conservation Agreement with Assurances |
| CFR | Code of Federal Regulations |
| CHAT | Crucial Habitat Assessment Tool |
| CI | Certificate of Inclusion |
| CRP | Conservation Reserve Program |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EMRI | Ecosystem Management Research Institute |
| EO | Executive Order |
| EOR | Estimated Occupied Range |
| ESA | Endangered Species Act |
| FONSI | Finding of No Significant Impact |
| IWG | Interstate Working Group |
| LEPC | Lesser Prairie-Chicken |
| NEPA | National Environmental Policy Act |
| NHPA | National Historic Preservation Act |
| NRCS | Natural Resources Conservation Service |
| NRHP | National Register of Historic Places |
| OHV | Off-highway vehicles |
| Permit | Section 10(a)(1)(A) Enhancement of Survival Permit |
| RWP | Range-wide Conservation Plan |
| SDL | Sand dune lizard |
| Service | U.S. Fish and Wildlife Service |
| SHPO | State Historic Preservation Officer |
| USC | United States Code |
| WAFWA | Western Association of Fish and Wildlife Agencies |
| WCP | WAFWA Certificate of Participation |

# Glossary

Note: Some of the glossary terms are used in the CCAA and CI but not in this EA.

**Adaptive Management** –A method for examining alternative strategies for meeting measurable biological goals and objectives and then, if necessary, adjusting future conservation management actions according to what is learned.

**Candidate Conservation Agreement with Assurances (CCAAs)** – Voluntary conservation agreements between the Service and one or more non-Federal property owners. The non-Federal property owners commit to implement mutually agreed-upon conservation measures for a proposed or candidate species. The non-Federal property owners receive assurances from the Service that additional conservation measures above and beyond those contained in the agreement will not be required and that additional land, water, or resource use limitations will not be imposed upon them should the species become listed in the future.

**Certificate of Inclusion (CI)** - A voluntary agreement between WAFWA and the Participant that establishes the terms or conditions of approval that must be adhered to for the permitted activity. Through the CI, the Participant voluntarily commits to implement or fund specific conservation actions that will reduce and/or eliminate threats to the LEPC.

**Changed Circumstances** – Changes in circumstances affecting a species or geographic area covered by the Range-wide Conservation Plan (RWP) that can reasonably be anticipated and planned for by plan developers and Service.

**Covered Activities** - Oil and gas development-related activities that have the potential to cause specific threats to LEPC. Incidental take that occurs from Covered Activities by a Participant who is adhering to the terms of the CI will be authorized under the enhancement of survival permit.

**Covered Area** – The area covered by the Range-wide Oil and Gas CCAA and by the enhancement of survival permit. The Covered Area is represented in the 2013 Crucial Habitat Assessment Tool (CHAT) (http://kars.ku.edu/maps/sgpchat/) as the Estimated Occupied Range plus 10 miles (EOR+10).

**Crucial Habitat Assessment Tool (CHAT)** – A geospatial tool (map) specifically designed for the LEPC that prioritizes and categorizes habitat to focus conservation activities and provides a tool for developers to assess the landscape and guide the early planning stages of project development.

**CHAT 1** – The CHAT category comprised of the focal areas for LEPC conservation. The focal areas were designated by teams in each state that prioritized and identified intact LEPC habitat. This category was defined using GIS layers such as landscape integrity models, aerial photos, soil maps, anthropogenic disturbances, land cover, and expert opinion.

**CHAT 2** - The CHAT category comprised of the corridors/connectivity zones for LEPC conservation. The corridors/connectivity zones were designated by teams in each state that prioritized and identified intact LEPC habitat. This category was defined using GIS layers such as landscape integrity models, aerial photos, soil maps, anthropogenic disturbances, land cover, and expert opinion.

**CHAT 3** - The CHAT category comprised of predicted high-quality habitat from the lek Maxent models. Maxent is an abbreviation for maximum entropy classifier and is an ecological niche

model used for describing available and potential habitat. The model uses base layers (e.g., lek, nests, Conservation Reserve Program (CRP), land cover, and abiotic site condition) to characterize that habitat on the landscape.

**CHAT 4** – The CHAT category comprised of all additional lands in the estimated occupied range for the LEPC plus 10 miles (EOR+10) which are not contained in CHAT 1, CHAT 2, or CHAT 3.

**Connectivity Zones** – Corridors linking focal areas to facilitate LEPC movement, and where habitat enhancement, maintenance, conservation, and protection are focused. These areas are designated as CHAT 2.

**Conservation Measures** – Measures that aim to conserve and enhance the survival of the LEPC and its habitat, as described in Section XII of the Range-wide Oil and Gas CCAA.

**Eligible Properties –** Non-Federal properties within the Covered Area that may be enrolled in this Range-wide Oil and Gas CCAA.

**Enhancement of Survival Permit (permit)** – Permit issued pursuant to Section 10(a)(1)(a) of the ESA. The permit becomes effective upon any final rule listing the LEPC. If the LEPC is listed, the permit will provide incidental take authority for Covered Activities of Participants enrolled under the Range-wide Oil and Gas CCAA through a CI.

**Enrolled Property** – The property within the Covered Area and identified on all signed CIs of all Participants.

**Enrollment Period** – The time before the effective date of any final rule listing the LEPC as threatened or endangered under the ESA during which a Property Owner may enroll Eligible Properties in the Range-wide Oil and Gas CCAA.

**Enrollment Fees –** Fees of $2.25 per acre a Participant is required to pay when enrolling a property in the Range-wide Oil and Gas CCAA by executing the CI.

**Flow Line –** A pipe used to conduct produced fluids and/or gas from the wellhead to processing equipment (e.g., separators or heater treaters) and to stock tanks.

**Focal Areas** – Areas of greatest importance to the LEPC where habitat enhancement, maintenance, conservation, and protection are focused. These areas are designated as CHAT 1.

**Gathering Line –** A pipe used to conduct natural gas or crude oil from a well(s), lease, or field to a common point for further transmission or processing.

**Habitat Conservation Fund Account** – An account specific to an individual Participant and maintained by WAFWA. In this account, WAFWA will maintain a Participant's Enrollment Fees, Mitigation Fees, and Remediation Units. WAFWA will also deduct Mitigation Fees from this account.

**Habitat Management Costs** - Costs calculated annually and based on current U.S. Department of Agriculture's habitat management practices costs. Those practices include prescribed grazing, prescribed burning, disking, interseeding, selected herbicide applications, and more. These costs vary by LEPC ecoregion/service area.

**Habitat Evaluation Guide (HEG)** – A rapid assessment method to assess site conditions or LEPC habitat quality (0 to 1) based on vegetation cover, vegetative composition, presence of tall woody plants, and the availability of potential habitat.

**Harass** – An intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. *See* 50 Code of Federal Regulations (CFR) § 17.3. Harass is one component of the legal definition of "take" under the ESA.

**Harm** – An act that kills or injures wildlife. Such an act may include significant habitat modification or degradation that results in injury of or death to wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. *See* 50 CFR § 17.3. Harm is one component of the legal definition of "take" under the ESA.

**Impact Activities** – The construction of oil and gas pads, compressor stations, private roads (e.g., lease roads), distribution lines, and industrial buildings.

**Impact Buffers** – Defined distances around Impact Activities within which LEPC habitat is deemed impacted as a result of the Impact Activity. These buffers vary depending on the type of Impact Activity.

**Impact Unit** – A quantified measurement of impacts on LEPC habitat resulting from Impact Activities. Impact Units are a function of the number of acres impacted by an Impact Activity, the quality of the impacted LEPC habitat, and a multiplier that reflects the CHAT category where the impacts occur.

**Lek** – An area where male LEPCs gather during the mating season and engage in competitive displays to attract female LEPCs for mating.

**Mitigation Fees** – Fees a Participant is required to pay when impacts on the LEPC from Impact Activities cannot be avoided or minimized. Mitigation Fees are calculated using the process described in Appendix A of the Range-wide Oil and Gas CCAA and Exhibit B of the CI and will be applied to generate offset units.

**New Property** – Property located within the Covered Area that a Participant enrolls in the Range-wide Oil and Gas CCAA by amending its CI. A Participant may amend its CI to enroll New Property at any time before or after any decision to list the LEPC.

**Notice of Noncompliance –** A written notice from WAFWA to the Participant identifying an alleged failure to implement a mandatory avoidance or minimization Conservation Measure or to pay Mitigation Fees.

**Offset Unit** – A quantified measurement of maintenance or improvement of LEPC habitat. Offset units will be generated by enrollment of properties into short-term agreements(5 to 10 years) or long-term agreements (easements) with WAFWA in which landowners commit to implement conservation and/or habitat restoration practices to benefit the LEPC.

**Participants** – Property owners who voluntarily agree to the terms or conditions of approval described in the CI under the Range-wide Oil and Gas CCAA that must be adhered to for the permitted activity.

**Parties** – The Parties to the Range-wide Oil and Gas CCAA are the Service and WAFWA, who will administer the Range-wide Oil and Gas CCAA.

**Permit Holder** – The entity to which the enhancement of survival permit is issued by the Service. WAFWA is the Permit Holder.

**Property Owner** - Any person or entity with a fee simple, leasehold, or other property interest (including owners of water or other natural resources) sufficient to carry out the Conservation Measures described in this Range-wide Oil and Gas CCAA and the attached CI, subject to applicable state law, on non-Federal land.

**Remediation and Restoration –** For the purposes of this document, remediation and restoration means the process of restoring or reclaiming an impacted area to a natural vegetation type. A variety of management activities may be implemented to accomplish remediation and restoration, including decommissioning, removing infrastructure, and revegetating those areas affected by an Impact Activity with appropriate vegetation.

**Remediation Units** – A quantified measurement of remediation that occurs to previously impacted LEPC habitat. Remediation Units are generated when a Participant remediates impacts on LEPC habitat.

**Strongholds** – Subset of lands within focal areas. These are areas meeting the definition described by the Service in its (2012) technical white paper titled "Conservation Needs of the Lesser Prairie-chicken." Strongholds are a much smaller component of focal areas but have the ability to provide permanent LEPC conservation areas.

**Take** - Under the ESA Section 3(18), "take" is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting any species protected under the ESA, or engaging in any such conduct.

**Technical Service Provider** – An entity approved by WAFWA who will carry out habitat evaluations using the HEG.

**Terminated Property –** Property removed from enrollment in the Range-wide Oil and Gas CCAA pursuant to an amendment of the CI or termination of the CI.

**Two-Week Notice –** Written notice from WAFWA to the Participant providing two weeks' advance notice of when it plans to access the Participant's Enrolled Property for purposes of surveying for LEPCs and its habitat suitability or monitoring compliance.

**Unforeseen Circumstances** – Changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated at the time of the conservation plan's negotiation and development, and that result in a substantial and adverse change in the status of the covered species.

**Waiver Period** – A defined time period (until March 30, 2015) during which WAFWA's obligation to generate offset units prior to the commencement of Impact Activities is waived. At the end of this period, WAFWA will identify whether additional offset units are necessary to mitigate the Impact Activities that occurred during the Waiver Period. If additional offset units are necessary, WAFWA and Service shall confer to identify a remedy acceptable to all Parties.

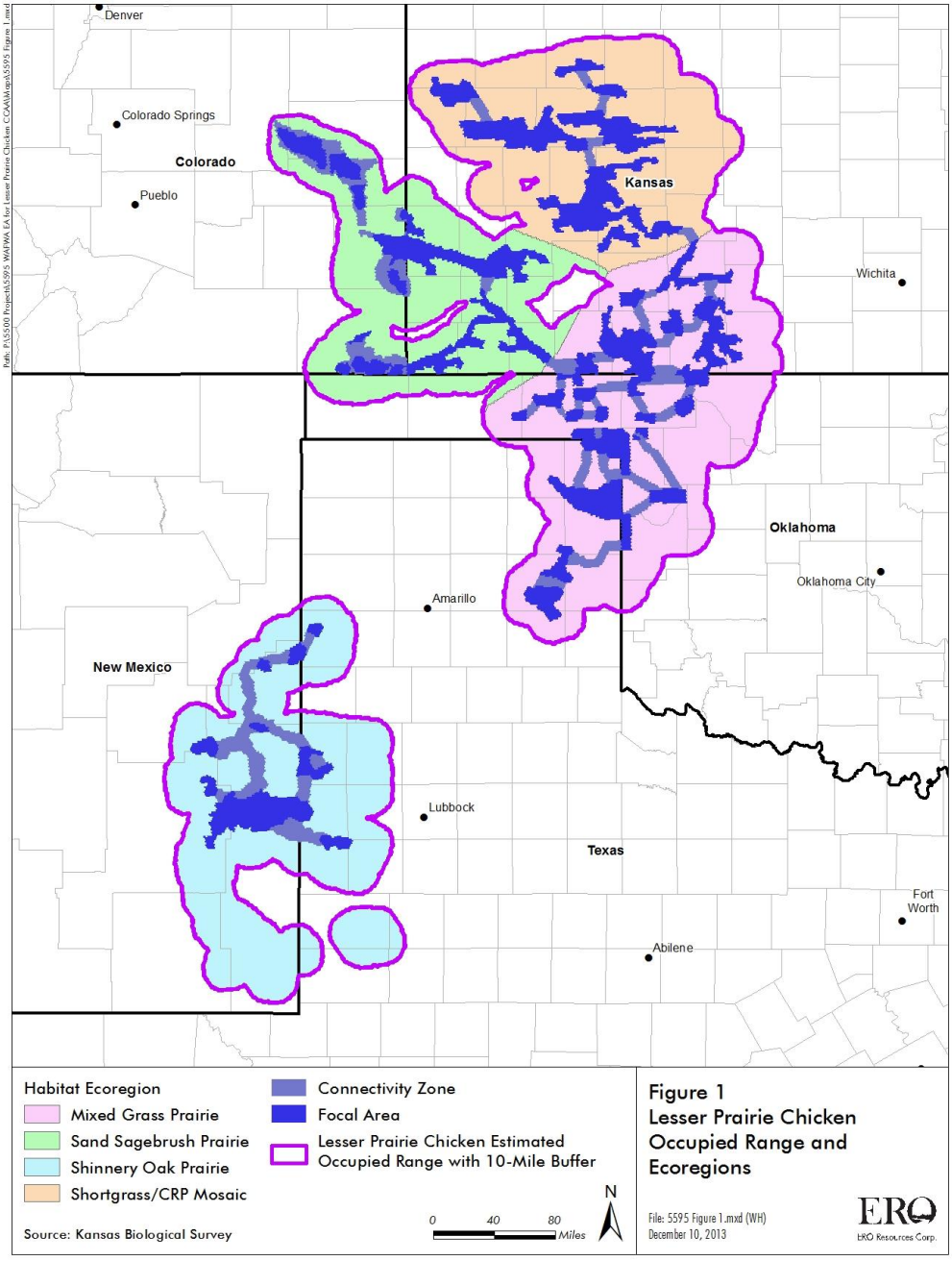
# CHAPTER 1. INTRODUCTION, PURPOSE OF, AND NEED FOR ACTION

## Introduction

The U.S. Fish and Wildlife Service (Service) is proposing issuance of an Enhancement of Survival Permit and implementation of a Range-wide Oil and Gas Candidate Conservation Agreement with Assurances (Range-wide Oil and Gas CCAA) to conserve and protect the lesser prairie chicken (*Tympanuchus pallidicinctus*; LEPC) (Appendix A). LEPC habitat and historical range has diminished substantially and there is concern for its continued survival. In 2012, the Service issued a proposed rule to list the LEPC as threatened. The proposed Range-wide Oil and Gas CCAA would allow any non-Federal property owner (Participant) to voluntarily enroll their property under the Range-wide Oil and Gas CCAA (Enrolled Property). Participants would commit to supporting conservation measures that would benefit LEPC and reduce and/or eliminate threats to this species associated with non-Federal oil and gas development. By participating in the Range-wide Oil and Gas CCAA, non-Federal landowners, operators, or permittees would have a high degree of certainty that additional restrictions would not be placed on their operations should the LEPC become listed under the Endangered Species Act of 1973 (ESA), as amended (16 USC § 1531, et seq.). Under the Proposed Action, the Range-wide Oil and Gas CCAA would have a duration of 30 years and cover oil and gas operations on non-Federal lands in Colorado, Kansas, New Mexico, Oklahoma, and Texas (Figure 1).

This Environmental Assessment (EA) describes a no action alternative (Alternative A, No Action Alternative); the Range-wide Oil and Gas CCAA alternative (Alternative B, Proposed Action); and a Range-wide Oil and Gas CCAA, excluding New Mexico (Alternative C). This EA evaluates the effects of the three alternatives on environmental, socioeconomic, and cultural resources within the Range-wide Oil and Gas CCAA Covered Area (private, state, and tribal property that currently provides or could potentially provide suitable habitat for the LEPC within the current Estimated Occupied Range of the LEPC and 10 miles around that range (EOR+10)). This EA was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969 and implementing regulations; 40 CFR Parts 1500-1508; and Department of the Interior regulations, Implementation of the NEPA. This EA assesses whether significant impacts would occur as a result of the Proposed Action or other reasonable alternative, which would require preparation of an environmental impact statement (EIS), or whether a finding of no significant impact (FONSI) is the appropriate decision document.

**Figure 1. Covered Area**



## Purpose and Need

The purpose of the proposed Range-wide Oil and Gas CCAA is to implement conservation measures that would contribute to the improvement and long-term survival of LEPC and, if the conservation measures were also to be implemented on other necessary properties, would preclude or remove the need to list this species under the ESA. The need for the action is to encourage oil and gas operators to voluntarily enroll in the Range-wide Oil and Gas CCAA to conserve and protect LEPC by providing regulatory certainty to Participants regarding the LEPC. The regulatory certainty, under the authority of Section 10(a)(1)(A) of the ESA, entails a permit that would authorize incidental take of the LEPC associated with implementation of the Range-wide Oil and Gas CCAA should the species be listed. Issuance of the permit also conveys the Service's assurance that it would not impose on Enrolled Participants, who are properly implementing the Range-wide Oil and Gas CCAA, any further commitments or restrictions for the covered species beyond those agreed upon in the Range-wide Oil and Gas CCAA. Such assurances are needed to serve as an incentive for landowners to enroll in the Range-wide Oil and Gas CCAA to implement conservation measures for the species.

## Approvals to be Made by the Responsible Official

The Service, as the responsible official, will determine whether to approve the Range-wide Oil and Gas CCAA and issue enhancement of survival permits, in accordance with Section 10 of the ESA. To approve individual enhancement of survival permits, the Service must find that:

- Any take of LEPC due to oil and gas activities would be incidental to otherwise lawful activities and in accordance with the terms of the Range-wide Oil and Gas CCAA;
- The Range-wide Oil and Gas CCAA complies with the requirements of the Candidate Conservation Agreement with Assurances final policy (64 Federal Register (FR) 32726, June 17, 1999);
- The probable direct and indirect effects of any authorized take would not appreciably reduce the likelihood of survival and recovery in the wild of any covered species;
- Implementation of the terms of the Range-wide Oil and Gas CCAA are consistent with applicable Federal, state, and tribal laws and regulations;
- Implementation of the terms of the Range-wide Oil and Gas CCAA would not be in conflict with any ongoing conservation programs for species covered by the Range-wide Oil and Gas CCAA; and
- The signatories have shown capability for, and commitment to, implementing all of the terms of the Range-wide Oil and Gas CCAA.

## Description of the Proposed Action

The Proposed Action is the issuance of a Section 10(a)(1)(A) Enhancement of Survival Permit (permit) and implementation of a Range-wide Oil and Gas CCAA that would result in the conservation of LEPC in Colorado, Kansas, New Mexico, Oklahoma, and Texas. A Range-wide Oil and Gas CCAA is one of the enrollment options for the conservation strategy set forth in *The Lesser Prairie-Chicken Range-wide Conservation Plan* (RWP), which was developed by the Western Association of Fish and Wildlife Agencies (WAFWA) (Van Pelt et al. 2013), and it uses the same impact metrics and conservation delivery system outlined in the RWP. State, private, and tribal lands can enroll in the Range-wide Oil and Gas CCAA. The components of the Range-

wide Oil and Gas CCAA are summarized below and discussed in more detail in *Chapter 2. Alternatives Including the Proposed Action*.

WAFWA is a quasi-governmental organization of 23 public agencies charged with the protection and management of fish and wildlife resources in the western part of the United States and Canada. WAFWA has been a key organization in the promotion of sound resource management principles and the strengthening of Federal, state, and private cooperation in protecting and managing fish and wildlife and their habitats in the public interest. The WAFWA Board of Directors consists of leaders from western fish and wildlife agencies.

WAFWA would apply to the Service for a permit pursuant to Section 10(a)(1)(A) of the ESA, as amended (16 United States Code (USC) § 1531 et seq.). The permit application would include a proposed Range-wide Oil and Gas CCAA. WAFWA and the Participants would implement conservation measures for the LEPC according to the Mitigation Framework described in the RWP to reduce and/or eliminate known threats to the LEPC within the current EOR+10 in Colorado, Kansas, New Mexico, Oklahoma, and Texas.

Enrollment or participation under this Range-wide Oil and Gas CCAA is voluntary. WAFWA would enroll cooperating Participants into the Range-wide Oil and Gas CCAA through issuance of Certificates of Inclusion (CIs). Once enrolled, in order to provide the appropriate level of threat protection and gain the coverage of the Range-wide Oil and Gas CCAA, Participants must implement the conservation measures in the Range-wide Oil and Gas CCAA's conservation strategy. WAFWA would provide technical assistance through which cooperating non-Federal landowners would implement these conservation measures for the LEPC on Enrolled Properties and/or contribute funds to have conservation measures implemented in other high-priority areas. In return for implementing the conservation measures, the Service would provide the enrollees assurances that for the duration of the Range-wide Oil and Gas CCAA and its associated Section 10(a)(1)(A) permit, no additional conservation measures or additional land, water, or resource use restrictions beyond those voluntarily agreed to and described in the Range-wide Oil and Gas CCAA would be required by the Service should LEPC become listed in the future, unless agreed to by the landowner.

## Legal and Policy Guidance

Species facing extinction are listed as either threatened or endangered and are protected under the ESA. If and when a species becomes listed under the ESA, that action triggers both a regulatory and a conservation responsibility for Federal, state, and private landowners. These responsibilities stem from Section 9 of the ESA that prohibits "take" (i.e., harass, harm, pursue, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct) of listed species. Along with the Section 9 prohibitions, Federal agencies must ensure that their actions will not jeopardize the continued existence of the listed species.

Sections 2, 7, and 10 of the ESA allow the Service to enter into this Range-wide Oil and Gas CCAA. Section 2 of the ESA states that encouraging interested parties, "through federal financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the Nation's heritage in fish, wildlife, and plants." Section 7 of the ESA requires the Service to review the programs it administers and to use such programs in furtherance of the purposes of the ESA. By entering into this Range-wide Oil and Gas CCAA, the Service is using its Candidate Conservation Programs to further the conservation of the nation's fish and wildlife. Lastly, Section 10(a)(1)(A) of the ESA authorizes the issuance of permits for acts that

would otherwise be prohibited by Section 9 if such acts are expected to enhance the propagation or survival of the affected species.

To provide an incentive for voluntary conservation of species that are candidates for listing and are located on non-Federal lands, the Service adopted a policy and regulations in 1999 for CCAAs under the authority of Section 10 of the ESA. Under a CCAA, a property owner commits to implement specific conservation measures on non-Federal lands for species covered by the CCAA. In exchange, the property owner receives a permit from the Service that provides assurances that additional conservation measures would not be required and additional land, water, or resource use restrictions under the ESA would not be imposed on them if the species becomes listed in the future, provided the CCAA is being properly implemented. These assurances provide considerable certainty to the property owner regarding their activity on non-Federal lands covered by the CCAA.

# Public Participation

## *The Lesser Prairie-Chicken Range-wide Conservation Plan (RWP)*

The RWP that forms the mitigation framework for the Range-wide Oil and Gas CCAA was developed with considerable input from, and collaboration with, the public and stakeholder organizations. The RWP was led by the LEPC Interstate Working Group (IWG) consisting of a representative from each of the five states supporting LEPC populations (Colorado, Kansas, New Mexico, Oklahoma, and Texas) with coordination from WAFWA and Ecosystem Management Research Institute. An initial stakeholder scoping meeting on the development of the RWP was held in Edmond, Oklahoma on June 11, 2012. More than 90 stakeholders representing oil and gas, wind energy, transmission, agriculture associations, Farm Bureau representatives, departments of transportation, public utilities and public utilities commissions, oil and gas permitting agencies, agricultural and natural resource agencies, conservation bankers, and conservation organizations attended the meeting from across the five-state region. Steps in the development of the RWP and public involvement opportunities were as follows:

- A first draft of the RWP was provided for public input in January 2013. Input was received at public meetings held in Edmond, Oklahoma on January 23 and 24, 2013 and input was also received through email and written letters.
- A second draft of the RWP was provided for public input in February 2013.
- A third draft of the RWP was provided to the Service and placed on the WAFWA website for comment on April 1, 2013. The IWG solicited comments on the third draft of the RWP until May 15, 2013.
- A fourth draft of the RWP was provided to the Service and placed on the WAFWA website for comment on September 2013. Comments were reviewed by IWG and the current RWP titled *The Lesser Prairie-Chicken Range-wide Conservation Plan* was drafted in October 2013.
- The Service endorsed the RWP on October 23, 2013.

A critical component of RWP development was coordination among the various agencies, organizations, industries, landowners, and other stakeholders interested in LEPC and its conservation strategy. Coordination was needed at multiple levels including interagency coordination for Federal agencies, interagency coordination within and among states,

interagency coordination between Federal and state agencies, coordination with regional organizations and industries, intrastate agency and organization coordination, and general outreach and engagement of landowners and the public. The sequencing of planning components involved establishing various committees to accomplish specific tasks, then engaging broader involvement as various components of the RWP were available for review and input.

The RWP was developed by engaging agencies, organizations, industries, universities, and other stakeholders through a series of targeted meetings and through broader public input opportunities. Several working teams or committees were established to help provide input to the IWG for various components of the RWP. Each state established its own implementation team to coordinate local delivery of LEPC landowner assistance programs.

A list of organizations that have been involved in development of the RWP is included in *Chapter 5. Consultation and Coordination*.

# CHAPTER 2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

## Introduction

This chapter describes the No Action Alternative (Alternative A), the Proposed Action for implementing a Range-wide Oil and Gas CCAA (Alternative B), and an alternative that implements the Range-wide Oil and Gas CCAA, excluding New Mexico (Alternative C). New Mexico has an existing CCAA and candidate conservation agreement (CCA) that currently provide conservation measures for the LEPC. Implementation of the RWP is common to all alternatives. Also included in this chapter is a summary comparison of the environmental effects of the alternatives.

## Alternative A: No Action

Under the No Action Alternative, the status quo regarding management of LEPC on non-Federal lands would continue in Colorado, Kansas, New Mexico, Oklahoma, and Texas. The Service would not enter into a CCAA with landowners, beyond those CCAAs already in existence, and no incidental take would be authorized beyond that authorized incidental take already in existence. Non-Federal landowners would have little economic or legal incentive to voluntarily initiate new conservation or management activities to benefit LEPC. Conservation measures above and beyond those directed by existing Federal, state, tribal, and local laws, policies, or regulations would not be implemented under a CCAA. On private lands, where the Federal or state government has limited authority to protect or direct the management of candidate species and their habitat, conservation activities would continue to be implemented entirely at the discretion of the landowner. If LEPC were to be listed under the ESA, the Service would regulate "take" of the species within the protections that fall under Section 9 of the ESA.

### *Current LEPC Conservation Programs*

Numerous Federal, state, and private programs currently exist that provide conservation benefits to the LEPC and seek to address some of threats to the species, as described in the RWP (Van Pelt et al. 2013). These programs directly address, to some degree, the following threats to the LEPC:

- Agricultural conversion
- Loss of the Conservation Reserve Program (CRP)
- Grazing management
- Woody invasive species such as mesquite and red cedar
- Shrub control such as sand shinnery oak eradication
- Altered fire regimes
- Fence collisions
- Oil and gas development
- Wind energy
- Electric transmission and distribution
- Other vertical structures

Through improvements in habitat quantity, quality, and connectivity, these programs also indirectly address, to some degree, LEPC threats, such as:

- Climate change
- Extreme weather events such as drought, hail storms, and blizzards
- Predation
- Disease

These programs provide technical and financial assistance to landowners for habitat management for LEPC. Other programs provide assurances to landowners and industries that if LEPC considerations are included in management activities, future management can continue in this manner even if LEPC is listed by the Service. Several programs address industry siting; best management practices (BMPs); and avoidance, minimization and voluntary mitigation. Additional programs provide for direct management of LEPC habitat on public or other lands within LEPC range. Current LEPC conservation programs are summarized below.

### *Regional LEPC CCAAs*

*Several CCAAs are currently in place between the Service and other entities. Landowner CCAAs for measures to improve LEPC habitat currently exist for New Mexico, Oklahoma, and Texas. To date, Texas has enrolled more than 500,000 acres in the CCAA Oklahoma has enrolled more than 18,000 acres and New Mexico ranchers and the oil and gas industry have enrolled 1,740,000 and 875,000 acres, respectively. A CCA is another mechanism to benefit candidate species via an agreement between the Service and another Federal agency. The existing CCA for energy development in New Mexico is a cooperative agreement between the Service, Bureau of Land Management (BLM), and Center of Excellence for Hazardous Materials Management (CEHMM) that protects the LEPC. The New Mexico CCAA/CCA is described in more detail under Alternative C below.*

*Activities covered by the New Mexico CCAA/CCA include oil and gas development, livestock grazing, recreational use, and agricultural uses on private and BLM lands (Service n.d.). The Texas CCAA covers enrolled land activities such as crop cultivation and harvesting, livestock grazing, farm equipment operation, and recreation (Service and Texas Parks and Wildlife Department (TPWD) 2006). The existing Oklahoma CCAA was developed to cover agricultural land management practices (Service 2012b).*

*If a landowner not covered by one of the CCAAs described above chooses to undertake conservation measures in the absence of a CCAA, they would not have a permit authorizing incidental take should the species be listed and could risk violation of the ESA Section 9 prohibitions. In addition, if the species becomes listed, the landowner would not have assurances from the Service that no further commitments or restrictions would be imposed on them for the species.*

### *Other Federal Programs*

*Five Federal agencies have programs or initiatives that directly contribute to LEPC habitat improvement or assurances. These Federal programs are summarized below.*

- *The Natural Resources Conservation Service (NRCS) began the Lesser Prairie-Chicken Initiative (LPCI) in 2008 in a cooperative effort with other Federal and state agencies to increase the abundance and distribution of LEPC, while promoting the health of grazing lands. LPCI is funded through the NRCS Conservation Technical Assistance Program, and NRCS-administered Farm Bill programs such as the Environmental Quality Incentives Program (EQIP) and Wildlife Habitat Incentive Program (WHIP) and helps producers apply conservation practices that benefit LEPC and their operations.*
- *In 2012, the NRCS worked with the Service to initiate the Working Lands for Wildlife program. This program included the LEPC as one of its seven focus species and the LPCI as its delivery program.*
- *The Farm Services Agency administers other Farm Bill conservation programs that benefit LEPC; specifically the Grassland Reserve Program (GRP), CRP, and State Acres for Wildlife Enhancement (SAFE) program.*
- *The Service's Partners for Fish and Wildlife Program restores, improves, and protects fish and wildlife habitat on private lands through partnerships between the Service, landowners, and others.*
- *The BLM manages lands within the occupied range of LEPC and regulates oil and gas permitting on their lands.*

- *The BLM LEPC Special Status Species Resource Management Plan directs BLM's land management activities, including specific guidelines for oil and gas development and other development activities.*
- *The U.S. Forest Service (USFS) manages National Grasslands within the occupied range of LEPC. The USFS is working to address LEPC threats related to grazing, woody invasive species, noxious weeds, altered fire regimes, and other indirect issues on National Grasslands.*

### *State Rules and Regulations*

***Colorado**. Oil and gas well permits are issued by the Colorado Oil and Gas Conservation Commission (COGCC). Section 34-60-128 of the Colorado Oil and Gas Statutes established the Colorado Habitat Stewardship Act of 2007, which was enacted "to minimize adverse impacts to wildlife resources affected by oil and gas operations." The Act requires oil and gas operators to complete timely consultations with the wildlife commission, the division of wildlife, and affected surface owners prior to beginning operations, and it requires the implementation, "whenever reasonably practicable," of "best management practices and other reasonable measures to conserve wildlife resources." As of April 2009, COGCC rules address oil and gas development threats to the LEPC and other wildlife. These rules require producers to use online resources to identify sensitive wildlife habitat and areas of restricted surface occupancy. In 2013, the Colorado Parks and Wildlife (CPW) redefined sensitive LEPC wildlife habitat from a 1.5-mile radius around leks to include potential habitat within Colorado, as defined as focal areas consistent with the RWP (COGCC 2013). Restricted surface occupancy areas for LEPC are defined as areas within 0.6 mile of leks that have been active once in the last 10 years. Under COGCC rules, development of oil and gas wells within these areas mandates a consultation with CPW to avoid and minimize impacts through site selection, phasing, and concentrating all development activities wherever reasonably practicable. Any conditions of approval resulting from such consultation shall be guided by the list of BMPs for Wildlife Resources maintained on the COGCC website http://cogcc.state.co.us/RR_Docs_New/CpwMapUpdate2013/MapUpdateStakeholderGroup.htm . The intent of the BMPs is to minimize impacts of noise, visual disturbance, disease transmission (West Nile virus), and predator attractants (perches and nest sites); and provide guidance on reclamation and compensatory mitigation as needed. More specific BMPs include:*

- *No surface occupancy within 0.6 mile of any active or inactive (within the past 5 years) LEPC leks.*
- *Avoid oil and gas operations within 2.2 miles of active leks and within LEPC nesting and early brood-rearing habitat outside the 2.2-mile buffer.*
- *Select sites for development that will not disturb suitable nest cover or brood-rearing habitats within 2.2 miles of an active lek, or within identified nesting and brood-rearing habitats outside the 2.2-mile perimeter.*
- *Where oil and gas activities must occur within 2.2 miles of active leks, conduct these activities outside the period between March 15 and June 15.*
- *Restrict well site visitations to between 9:00 a.m. and 4:00 p.m. during the lekking season (March 15 to June 15).*
- *Avoid surface facility density in excess of 10 well pads per 10-square-mile area (one well pad per section) in LEPC nesting and early brood-rearing habitat (within 2.2 miles of active leks).*
- *When surface density of oil and gas facilities exceeds one well pad per section, initiate a Comprehensive Development Plan that includes recommendations for off-site and compensatory mitigation actions.*
- *Locate compressor stations at least 2.2 miles from LEPC active and historic (within last 5 years) lek sites. When compressor stations must be sited within 2.2 miles of LEPC active and historic (within last 10 years) lek sites, locate compressor stations farther than 0.6 mile (3,200 feet) from LEPC lek sites.*
- *Bury new power lines and retrofit existing power lines by burying them or installing perch guards to prevent their use as raptor perches.*

***Kansas.** The Kansas Corporation Commission (KCC) regulates setback distances and the number of completions for each mineral formation in Kansas through establishment of proration orders. The KCC has a set of basic proration orders that apply to all mineral formations in the state unless more conservative special proration orders have been established. The basic proration orders require setback distances of 330 feet from lease boundaries and do not cap the number of completions that can occur. The specific proration orders that apply to many of the formations within Kansas LEPC range are much more conservative and require setback distances ranging from 660 to 1,250 feet. Those specific proration orders also set a maximum number of completions at specified scales (i.e., density). Approximately half of the mineral formations occurring under Kansas LEPC range are subject to specific proration orders that cap well density at one to six per square mile. The majority of mineral extraction in the sand sagebrush ecoregion in Kansas is subject to specific proration orders that limit densities to three to six wells per square mile.*

***New Mexico.*** *By statute (Oil and Gas Act, NMSA 1978: Parts 1 through 39 of Title 19, Chapter 15 of the New Mexico Administrative Code), the Oil Conservation Division (OCD) regulates oil, gas, and geothermal activity in New Mexico. OCD gathers well production data, permits new wells, enforces the division's rules and the state's oil and gas statutes, ensures that abandoned wells are properly plugged, and ensures that the land is responsibly restored.*

*The New Mexico Department of Game and Fish (NMDGF) has oil and gas development guidelines for conserving New Mexico's wildlife habitats and wildlife (Jankowitz and Gruber 2007). The purpose of the guidelines is to encourage the oil and gas industry to recognize and proactively plan and fund the full direct and administrative cost of developing, producing, abandoning, and reclaiming facilities that disrupt wildlife habitats and movements statewide. The guidelines are intended for the information and discretionary use of regulatory agencies and concerned citizens as well as industry. The New Mexico guidelines encourage measures that avoid and minimize habitat loss and fragmentation impacts from oil and gas activities and facilities on all wildlife. The guidelines recommend minimizing the total area of disturbed lands; concentrating development activities; burying power lines; minimizing noise from facilities; developing mitigation plans for projects that will result in habitat loss or significant degradation of habitat values; reducing well site visits; and closing and reclaiming obsolete facilities, power lines, and roads. The guidelines also provide specific recommendations to avoid and minimize impacts on big game, raptors, and erosion and water quality; and to identify and manage undesirable plants (Jankowitz and Gruber 2007). These guidelines are intended to promote attention to conserving wildlife and habitat while continuing to develop energy resources.*

***Oklahoma.*** *The Oklahoma Independent Petroleum Association worked with the Oklahoma Department of Wildlife Conservation (ODWC) to address threats from oil and gas development by developing a set of Voluntary Best Practices for oil and gas development. These voluntary practices recommend preplanning to avoid areas of high value to LEPC, seasonal restrictions during the breeding season, and consultation with ODWC biologists to minimize impacts. Similar to the Colorado BMPs, the voluntary practices include minimizing the total area of disturbed lands, concentrating development activities, burying power lines, avoiding construction between 3:00 a.m. and 9:30 a.m. during mating season near active leks (March 1 to May 1), minimizing noise from facilities, installing fence markers, and reseeding disturbed areas with native grasses and forbs.*

***Texas.*** *The Railroad Commission of Texas (RRC) is the state agency with primary regulatory jurisdiction over the oil and natural gas industry, pipeline transporters, natural gas and hazardous liquid pipeline industry, natural gas utilities, the LP gas industry, and coal and uranium surface mining operations. The RRC is responsible for issuing permits for well drilling and for enforcing rules pursuant to House Bill 2259 that regulate the removal of surface equipment for wells that have been inactive for more than 10 years. The TPWD has developed voluntary mitigation siting guides and BMPs to address threats to LEPC from all types of development. These voluntary guidelines focus on avoiding and minimizing impacts within 1 to 2 miles of active leks, scheduling activities to avoid LEPC habitat between March 1 and July 31, installing raptor deterrents, closing and reclaiming obsolete facilities and roads, restoring areas with native species, and compensating for unavoidable impacts. Compensation includes protecting high-quality habitat, restoring historic habitat and connective corridors to existing LEPC habitat, funding/performing monitoring, maintaining habitat, conducting surveys, mapping habitat and conducting research, replacing or providing substitute habitat, and providing payment based on agreed-upon LEPC to-be-determined habitat value(s).*

## RWP – An Element Common to All Alternatives

Oil and gas operators have the option of implementing the RWP with each of the alternatives. In Alternative 1, Participants could enroll in the RWP through a WAFWA Certificate of Participation (WCP). In Alternative 2, Participants could enroll in the Range-wide Oil and Gas CCAA through a CI (Appendix B). In Alternative 3, Participants could enroll in the Range-wide Oil and Gas CCAA throughout the range of the LEPC, except for in New Mexico, in which a Participant could use the New Mexico CCAA/CCA.

The goal of the RWP is to conserve the LEPC for future generations while facilitating continued and uninterrupted economic activity throughout the entire five-state LEPC range. The RWP identifies a two-pronged strategy for LEPC conservation: (1) the coordinated implementation of incentive-based landowner programs, and (2) the implementation of a mitigation framework that reduces threats and provides resources for off-site conservation. The conservation strategy

provided in the RWP is intended to preclude the need to list the LEPC under the ESA if implemented in a timely manner.

The long-term effects of implementing the RWP's conservation strategy provide a net long-term benefit to LEPC and other listed and candidate species in the following ways:

1. Identifies a desired population goal of 67,000 birds to be achieved within a 10-year period.
2. Concentrates limited resources for species conservation in the most important focal areas and connectivity zones, allowing for the restoration, enhancement, and maintenance of large blocks of habitat needed by LEPC.
3. Places an emphasis for conservation on focal areas, connectivity zones, and high-quality habitat.
4. Identifies areas where development should be avoided, which also helps identify areas where development is of less concern for LEPC. This provides oil and gas operators with the guidance they typically seek for their development planning purposes, and helps avoid conflicts over impacts on the species.
5. Provides incentives to landowners to avoid, minimize, and mitigate impacts on LEPCs from their actions.
6. Where avoidance and minimization of such impacts is not possible, the RWP mitigation framework quantifies the impacts of development, quantifies the amount of mitigation necessary to offset the impacts, and then requires the payment of mitigation fees by Participants for these mitigation actions.

## *Habitat Goals and Focal Area Strategy*

Habitat and population goals for the RWP were established by a science committee comprised of biologists from the five-state wildlife agencies and the U.S. Department of Agriculture's NRCS, Texas Tech and Oklahoma State universities, the Service, U.S. Geological Survey (USGS), Sutton Avian Research Center, and Playa Lake Joint Venture. The science committee set a desired population goal of 67,000 birds based on an annual spring average over a 10-year period, or an increase of 9.4 percent from the current 10-year average of 60,702 birds (Van Pelt et al. 2013). The science committee also established a goal of having sufficient habitat in focal areas to sustain 75 percent of the desired population. This translates into the equivalent of 4,972,800 acres of quality LEPC habitat as the initial focal area habitat goal for the RWP. The habitat to sustain the remaining 25 percent of the population goal (1,243,136 acres) would be maintained elsewhere within connectivity zones and the remaining EOR+10. The habitat goals for focal areas and connectivity zones developed in the RWP are no more than 30 percent development impacts in focal areas and 60 percent in connectivity zones. Where those development goals are surpassed for an individual reporting unit, the habitat goals under the plan cannot be met. In that case, remediation of existing impacts will be required for further development.

The focal area strategy of the RWP represents a mechanism to effectively translate ecoregional population goals to habitat goals at appropriate spatial scales for conservation implementation. Identifying focal areas directs the conservation efforts of the RWP into these areas, creating more contiguous blocks of habitat and minimizing small local patches of habitat that may not support desired population levels.

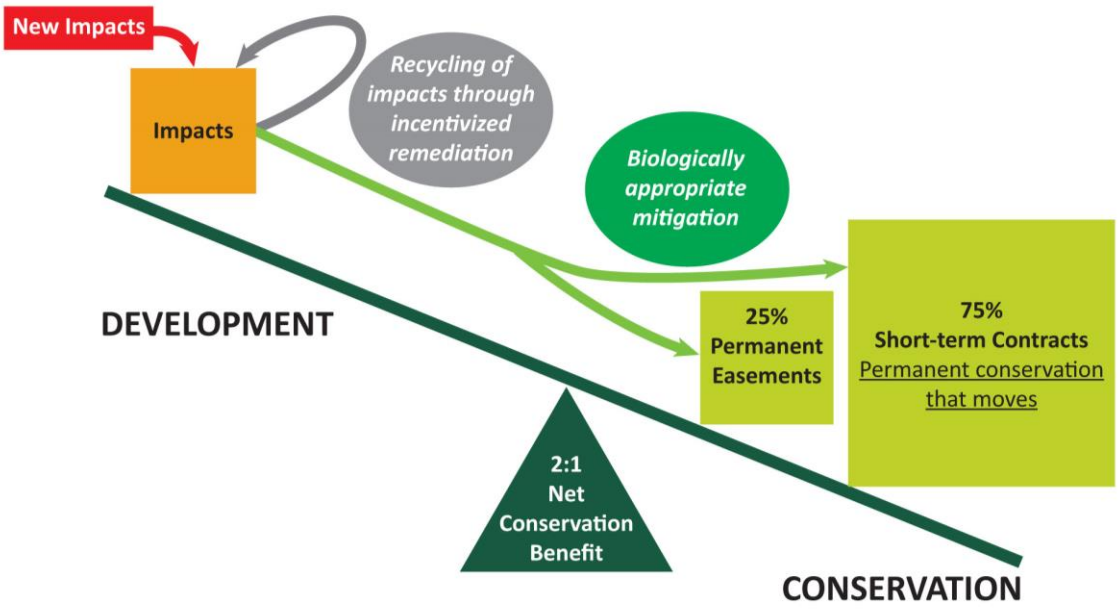
The delineation of focal areas would also assist developers by prioritizing areas where avoidance of impacts is most needed and encouraging development in areas with minimal or reduced potential impacts on the species. In this way, focal areas would define high-priority areas needed for LEPC persistence. The conservation strategy of the RWP provides incentive programs to engage landowners in implementing habitat improvements within focal areas with large blocks of quality habitat. The conservation strategy of the RWP would also encourage avoidance and minimization of impacts on LEPC from oil and gas developments, especially within focal areas.

As a mitigation component, the strategy would encourage the concentrated placement of compensatory actions through off-site mitigation (habitat improvement) in focal areas and connectivity zones, supported through the WAFWA Mitigation Framework. A habitat impact is defined as potential LEPC habitat that has been rendered unusable by LEPC based on direct or indirect habitat loss related to development. Indirect habitat loss refers to avoidance of potential habitat by LEPC around an impact. A habitat offset unit is defined as an area of potential LEPC habitat that is conserved and managed or restored to compensate for impacted habitat. The affected acreage is defined as the area enrolled in the framework minus the acreage within impact buffers applied to existing developments.

All mitigation offsets must be of the same or higher habitat quality than the impact unit, resulting in a net conservation benefit for LEPC habitat, and ultimately populations. One-quarter of the resulting habitat offset units are targeted toward permanent easements to support long-term conservation and population strongholds, as shown in Figure 2. The remaining three-quarters of the conservation efforts are targeted toward short-term contracts (5 to 10 years). Mitigation would be used to offset remaining habitat loss impacts based upon the buffer area for the type of infrastructure constructed (Table 7 in the RWP). In addition to paying for offsets elsewhere, mitigation may include reclaiming or remediating inactive or abandoned facilities and infrastructure under the control of the Participants in compliance with applicable state rules and regulations.

To allow WAFWA adequate time to generate offset units after the RWP takes effect, the requirement that offset units be secured prior to the commencement of Impact Activities is waived until March 30, 2015 (Waiver Period). Impact Activities are defined as construction of oil and gas pads, compressor stations, private roads (e.g., lease roads), distribution lines, and industrial buildings. However, the Participant must pay Mitigation Fees (fees a Participant is required to pay when impacts on the LEPC from Impact Activities cannot be avoided or minimized) prior to conducting Impact Activities in accordance with the terms of the RWP during the Waiver Period. During the Waiver Period, WAFWA would use best efforts to contemporaneously secure sufficient offset units to mitigate for Impact Activities in accordance with the RWP.

**Figure 2. WAFWA LEPC Mitigation Framework**




Landowners would have the opportunity to manage the conservation of LEPC from a landscape level by enrolling in the RWP. Enrollment in the RWP would provide ESA coverage for oil and gas activities for incidental take of LEPC, should the species become listed, but landowners would not receive the regulatory certainty of assurances provided by a CCAA. Without regulatory certainty, it is anticipated that a considerable number of landowners would not enroll their properties. Federally listed and candidate species would benefit over the long term from conservation measures implemented under the existing programs and the RWP. Any future proposed activities on lands not enrolled in the RWP that may affect a listed or proposed species within the Covered Area would undergo Section 7 or Section 10 consultations under the ESA.

If the LEPC were listed, landowners, including oil and gas operators would have the opportunity under all alternatives to enroll in the RWP and receive ESA coverage for their activities under the 4(d) rule, if promulgated. The 4(d) rule may apply any or all of the ESA section 9 protections to "threatened" species that automatically apply to species listed as endangered. Although receiving ESA coverage under the 4(d) rule, landowners would not receive the regulatory assurances that no additional restrictions or management activities would be required on non-Federal land provided by a CCAA under a Section 9 permit. The CCAA involves a permitting process where a permit, or in other words a contract, is issued and as long as participants adhere to the permit terms and conditions, including any changed circumstances identified in the CCAA, the permit remains valid.

## Alternative B: Range-wide Oil and Gas CCAA – Proposed Action

The Range-wide Oil and Gas CCAA tiers to the RWP and uses the same conservation strategy, impact metrics, and conservation delivery system outlined in the RWP. The Proposed Action would involve the approval and implementation of the Range-wide Oil and Gas CCAA between the Service, WAFWA, and Participants and the authorization of the Section 10(a)(1)(A) Enhancement of Survival Permit by the Service to WAFWA. The Range-wide Oil and Gas CCAA

would effectively implement the conservation strategy provided in WAFWA's RWP and would contribute to the conservation needs of the LEPC across its range in the five-state region (Colorado, Kansas, New Mexico, Oklahoma, and Texas (Figure 1)).

## *Enrolled Properties*

WAFWA would be responsible for enrolling Participants through a CI. The CI is the mechanism for Participants to voluntarily become part of a conservation agreement under the Range-wide Oil and Gas CCAA. Each Participant would sign a CI for specific parcels of land (Enrolled Property) and agree to implement the conservation measures identified in the Range-wide Oil and Gas CCAA. The CI would remain tied to the Enrolled Property described in the CI even though the Participant may change over time. It is important to note that mitigation funds associated with a CI would not necessarily be used on the Enrolled Property because that area may not encompass the highest priority area identified for conservation actions by WAFWA and the Service.

## *Administration of CCAA and CIs*

The Range-wide Oil and Gas CCAA is a voluntary agreement with defined conservation commitments and represents a collaborative effort between the Service and WAFWA. The Range-wide Oil and Gas CCAA would be administered by WAFWA with oversight by the Service. WAFWA would facilitate various aspects of the implementation and administration of the Range-wide Oil and Gas CCAA. The RWP also establishes an Advisory Committee and various subcommittees to provide scientific review and prioritization of mitigation projects, and other review; WAFWA and the Service would both participate in the Advisory Committee, as would other agencies, industry, and interest groups.

A "Participant" includes any non-Federal property owner who enrolls their property under the Range-wide Oil and Gas CCAA. A "property owner" also includes any person or entity with a fee simple, leasehold, or other property interest (including owners of water or other natural resources) sufficient to carry out the conservation measures described in the Range-wide Oil and Gas CCAA and CI, subject to applicable state law, on non-Federal land. Participants would implement conservation measures and contribute funding for mitigation for impacts that cannot be avoided or minimized. By executing the CI, the Participant commits to implement and assumes responsibility for implementing the conservation measures.

## *Species Covered*

The LEPC is a species of prairie grouse endemic to the southern High Plains of the United States, commonly recognized for its stout build, ground-dwelling habitat, and elaborate breeding behavior. The RWP contains detailed background information regarding the LEPC including information about the species' life history, habitat requirements, and population status. Because the Range-wide Oil and Gas CCAA is intended to align with and complement activities associated with the RWP, as explained below, the LEPC species information set forth in the RWP is incorporated by reference.

## *Covered Area*

The area addressed by the Range-wide Oil and Gas CCAA includes non-Federal property that currently provides or could potentially provide suitable habitat for the LEPC within the current range of the LEPC and 10 miles around that range (Covered Area). The Covered Area is

represented in the CHAT as the EOR+10 (University of Kansas et al. 2013). The Covered Area encompasses 40,149,404 acres across parts of Colorado, Kansas, New Mexico, Oklahoma, and Texas. The CI may include multiple properties. Participants may amend their CIs to enroll additional property at any time before the effective date of any final rule listing the LEPC as threatened or endangered.

## *Time Period Covered*

This Range-wide Oil and Gas CCAA would have a duration of 30 years from the date the Range-wide Oil and Gas CCAA is signed by WAFWA and the Service, and may be renewed before it expires. The Range-wide Oil and Gas CCAA would cover a Participant's Enrolled Property from the date the Participant executes a CI until the CI terminates. Should the LEPC become listed as threatened or endangered, and all other requirements are met, the permit would become effective and all Participants would be covered from that date until the end of their participation in this Range-wide Oil and Gas CCAA or until their CI is terminated. The duration of participation can be the full duration of the Range-wide Oil and Gas CCAA if the Participant wishes coverage by the permit, but the Participant may terminate the CI if the Participant has remitted enrollment fees in accordance with the terms of the CI. Extension of the Range-wide Oil and Gas CCAA prior to or following expiration of the initial 30-year period would require new NEPA, ESA Section 7, and findings analyses.

## *Activities Covered by Permit*

Oil and gas development-related activities that have the potential to cause specific threats to LEPC would be covered by the permit (Covered Activities). The implementation of associated conservation measures (see *Conservation Measures* below) on Enrolled Properties is also considered a Covered Activity. These activities, which span the entire life-cycle of oil and gas development operations, generally include, but are not limited to, the following.

### *Seismic and Land Surveying*

Seismic activities are generally performed in the exploration mode of oil and gas development or in areas of development for refining knowledge of the geology and improving well siting. Seismic activities are conducted for short periods (i.e., days) in any given area. Activities may include the use of large equipment to induce seismic pulses. Additionally, activities may include limited clearing of vegetation to allow equipment access for seismic work, which could consist of a small crew laying/stringing temporary cables and placing receivers on foot or possibly using off-highway vehicles (OHVs). A crew would remove the cables when the project is complete. Land surveying is a temporary activity and may require some truck and/or foot traffic.

### *Construction*

Construction of facility sites and associated infrastructure, which includes, but is not limited to, access roads, well pads or locations, reserve pits, and other facilities for the disposal of waste, tanks and storage facilities, treaters, separators, dehydrators, electric and other utility lines, and pipelines (e.g., gathering lines, flowlines, and distribution lines) may include the use of heavy equipment and trucking activities in clearing vegetation, contouring, compacting, stabilizing soils, and installing erosion control (including silt fencing, earthen berms, etc., per Clean Water Act permitting requirements). Well site construction may also include erecting temporary fencing and netting around a location, or portions thereof, for livestock and wildlife protection. A water well, disposal well, and/or injection well may be drilled near the location and possible

trenching-related activities associated with installation of flowlines, pipelines, and utilities may occur. Associated infrastructure for compressor facilities and gathering/processing facilities may also be constructed on-site or at adjacent sites. Where practical, equipment may be electrified (greatly reducing noise and emissions from gas-driven equipment), which involves the installation of in-field electrical distribution systems (poles, transformers, and overhead wires).

### *Drilling, Completion, and Workovers (Recompletion)*

Related drilling, completion, and workover activities include rig mobilization and can include heavy equipment and frequent traffic. Wellbore completion activities, such as hydraulic fracturing, would not directly impact the LEPC because these activities are contained and take place on the well site location. Well site fencing may be used after recompletion operations for security and to limit access.

### *Routine Operations and Maintenance*

Routine operations can include stimulations and wellbore repair, daily inspections and maintenance, gathering line and flowline repairs, unloading storage tanks, truck traffic for removal of product or waste, emergency response activities, workovers, recompletions, flaring, and weed control.

### *Oil and Gas Remediation and Restoration*

Remediation and restoration of surface impacts include, but are not limited to, removal and restoration of access roads; well pads or locations; reserve pits and other facilities for the disposal of waste; tanks and storage facilities; treaters; separators; dehydrators; electric and other utility lines and pipelines (e.g., gathering lines, flowlines, and distribution lines); associated infrastructure for compressor facilities; and gathering/processing facilities. Remediation and restoration may occur on any lands within the Covered Area, but such lands need not be enrolled in a CI under this Range-wide Oil and Gas CCAA or in the RWP.

## *Relationship to Other Decisions*

This EA analyzes the effects of the Proposed Action, which is the issuance of a Section 10(a)(1)(a) Enhancement of Survival Permit and the implementation of the Range-wide Oil and Gas CCAA, based on the coverage and conservation measures described in the proposed Range-wide Oil and Gas CCAA. The decision to be made by the Service is whether to issue the permit, which is the Federal action. The possible decision by the Service to list the LEPC as threatened under the ESA, or remove it from its current candidate status, is a separate but related Federal action that is not analyzed in this EA. Likewise, the development of the RWP, subsequent land use, oil and gas development, and ESA compliance decisions by landowners within the Covered Area in response to the Service's ultimate listing decision are also separate decisions not considered in this EA.

## *Conservation Measures*

The goal of the Range-wide Oil and Gas CCAA is to implement the highest priority conservation measures needed (regardless of land ownership) to conserve, enhance, and restore habitat and reduce and/or eliminate threats to the LEPC. As new information or empirical data become available, these conservation measures would be modified through adaptive management to achieve greater species conservation.

Under the Range-wide Oil and Gas CCAA, Participants would agree to LEPC management activities and conservation measures that conserve and enhance existing populations and habitats, restore degraded habitat, and provide other activities that improve the status of the LEPC. These management activities and conservation measures are described in the text box below.

Under the Range-wide Oil and Gas CCAA, the Participants would receive assurances that no additional restrictions or management activities would be required on non-Federal land if the LEPC becomes listed. However, new conservation measures may be implemented through an amended Range-wide Oil and Gas CCAA if WAFWA and the Service find such measures to be necessary to facilitate the continued conservation of the LEPC. Conservation measures agreed upon in the existing Range-wide Oil and Gas CCAA may only be modified through the written consent of the Participants through the amendment procedures described in the Range-wide Oil and Gas CCAA. The Participants would continue working under the terms of the Range-wide Oil and Gas CCAA without the additional requirement of an ESA Section 7 consultation. The conservation measures provided in the Range-wide Oil and Gas CCAA are the same as the RWP, although greater clarification is provided for the conservation measures in the Range-wide Oil and Gas CCAA.

## Conservation Measures from the Range-wide Oil and Gas CCAA

***Habitat Loss and Fragmentation***

*Habitat loss and fragmentation are primary threats to the LEPC. Construction of oil and gas pads, compressor stations, private roads (e.g., lease roads), distribution lines, and industrial buildings (Impact Activities) may contribute to habitat loss and fragmentation. The following conservation measures apply to any action that could further negatively impact LEPC habitat or connectivity between blocks of LEPC habitat to receive coverage under the Range-wide Oil and Gas CCAA.*

*Avoidance*

- *Use available options to avoid focal areas, connectivity zones, or within 1.25 miles of known leks that have been active at least once within the previous 5 years, as well as project sites dominated by tracts of native grass and shrublands (see the 2013 CHAT, state fish and wildlife agency staff, and Section XIV of the Range-wide Oil and Gas CCAA for more information). (Discretionary)*
- *Focus development on lands already altered or cultivated (such as row-crop agriculture or developed oilfields), and away from areas of undeveloped native grass or shrublands. Select fragmented or degraded habitats over relatively intact areas, and select sites with lower LEPC habitat potential over sites with greater habitat potential. The NRCS Ecological Site Descriptions, where available, are good indicators to use (see Appendix C of the RWP (Sept. 2013 version)). (Discretionary)*

*Minimization*

- *Where avoidance is not possible, use common rights-of-way for multiple types of infrastructure in locating new roads, fences, power lines, well pads, flowlines, compressors, and other associated oil and gas infrastructure. (Discretionary)*
- *Site projects to minimize new habitat disturbance by increasing the amount of overlap between existing fragmentation and associated impact buffers. (Discretionary)*
- *For oil and gas development, reduce impacts through the use of directional drilling and clustering where feasible or in locating facilities to reduce habitat loss and fragmentation of habitat. (Discretionary)*
- *Minimize use of herbicide treatments and limit this use to the footprint or right-of-way for the project. Where practical and applicable, use an herbicide that is targeted for specific use and spot treatments as opposed to a broadband herbicide and broadcast treatments. Apply in conditions that minimize drift. (Required)*

*Mitigation*

*Any impacts not offset by the avoidance or minimization measures above will be mitigated as follows:*

- *Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees as described in Section XIII and Appendix A of the Range-wide Oil and Gas CCAA and Exhibit B of the CI. WAFWA will apply Mitigation Fees to generate offset units using the process described in Appendix H of the RWP (Sept. 2013 version). (Required)*

***Collision and Other Direct and Indirect Sources of Mortality***

*LEPC have been shown to collide with fences, power lines, and cars. Power lines also serve as potential perch sites for raptors that may prey on LEPCs. It is also possible for LEPC to get caught and drown in human-made water sources (e.g., tanks).*

*Avoidance*

- *Locate new roads, fences, power lines, well pads, flowlines, compressors, and other associated oil and gas infrastructure and their impact buffers outside focal areas, connectivity zones, or in other areas identified as high-probability lek and nest habitat by 2013 CHAT categories 1 through 3. (Discretionary)*
- *Bury new distribution lines within 1.25 miles of leks active within the previous 5 years. If new distribution lines cannot be buried, justification must be provided to and approval obtained from WAFWA prior to construction of such new distribution lines. (Required)*

*Minimization*

- *Use common rights-of-way for multiple types of infrastructure. (Discretionary)*
- *To minimize the transmission line footprint, use monopole construction for new electrical transmission lines within 2013 CHAT categories 1 through 3. (Required)*
- *For oil and gas development, use horizontal drilling, pad drilling (multiple wells per pad), and common tank batteries where feasible with regulatory approval to minimize new surface disturbance within 2013 CHAT categories 1 through 3. (Discretionary)*
- *Install appropriate fence markings along new fences that are under the control of the enrolled Participant within 0.25 mile of a lek that has been recorded as active within the previous 5 years. (Required)*
- *During the breeding season (March 1 to July 15), minimize traffic volume, control vehicle speed, control access where feasible, and avoid off-road travel within focal areas and areas identified as high-probability lek and nest habitat by the 2013 CHAT. (Required)*
- *Within 1.25 miles of leks, it is recommended, but not required, to install raptor deterrents on new electrical distribution and transmission poles as indicated by the Avian Power Line Interaction Committee Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006, as amended. If further studies are completed that demonstrate significant benefits to the LEPC, this conservation measure may be amended for new Participants and new enrollments by existing Participants. (Recommended but not required; mitigation is not required)*
- *Provide escape ramps, rafts, or ladders, depending on configuration, in exposed human-made water-containment sources on Enrolled Properties under the control of the enrolled Participant. (Required)*

*Mitigation*

*Any impacts not offset by the avoidance or minimization measures above will be mitigated as follows:*

- *Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees as described in Section XIII and Appendix A of the Range-wide Oil and Gas CCAA and Exhibit B of the CI when complete avoidance is not possible. WAFWA will apply Mitigation Fees to generate offset units using the process described in Appendix H of the RWP (Sept. 2013 version). (Required)*

***Disturbance of Breeding, Nesting, and Brooding Activities***

*Disruption of courtship displays and nesting hens in the form of construction and maintenance activities or equipment and infrastructure that emit loud noises may have direct impacts on LEPC reproductive output.*

*Avoidance*

- *Avoid nonemergency operations and construction and maintenance activities, where humans are present, during the lekking, nesting, and brooding season (March 1 to July 15) within 1.25 miles of leks recorded active within the previous 5 years. (Discretionary, see Section XII(C)(2)(a) of the Range-wide Oil and Gas CCAA)*
- *Emergency operations that are meant to address direct human or environmental safety concerns or that relate directly to operational continuity are allowed. Such emergency operations may include, but are not limited to, spill response and cleanup; response to well control incidents (i.e., incidents related to down hole pressures during drilling, completion, recompletion, or production operations); equipment repairs; flowline/pipeline repairs; unloading of one or more tanks to prevent the tank(s) from overflowing; security-related activities (e.g., activities to prevent theft and vandalism); well problems requiring a workover to make a well productive again; and unplanned construction and maintenance activities. Participants must also record the dates, duration, and purpose of any emergency operations and construction and maintenance activities that occurred between March 1 and July 15 within 1.25 miles of leks recorded as active within the previous 5 years; and must provide that documentation with their annual reporting. (Required)*
- *Seismic surveys and similar activities that require extensive off-road travel shall not be conducted in rangeland or planted grass cover during the lekking, nesting, and brooding season (March 1 to July 15) within 1.25 miles of leks recorded active within the previous 5 years and lek surveys shall be required in CHAT categories 1-3 prior to any breeding season seismic surveys. (Required subject to exception in Section XII(C)(2)(c) in the Range-wide Oil and Gas CCAA.)*

*Minimization*

- *For nonemergency operations and construction and maintenance activities, where humans are present, that cannot be avoided and must occur during March 1 to July 15, restrict activities between 3:00 a.m. and 9:00 a.m. in areas within 1.25 miles of leks that have been recorded as active within the previous 5 years. (Required)*
- *Institute noise abatement year-round for new facility operations (post-construction, post-drilling, post-completion, and post-recompletion) located within 1.25 miles of a lek recorded as active within the previous 5 years. Noise from these new facilities shall not exceed 75 decibels (dB) when measured at the Participant's property line or at any point greater than 30 feet from the facility boundary. This minimization measure is required unless other regulations require lower noise levels. If new scientific information becomes available supporting lower or higher decibel limits through the adaptive management process, this conservation measure may be amended for both new and existing Participants. In the event of changes in noise limits for existing Participants, WAFWA and the Participants would agree upon a timeline for implementing those changes. (Required)*
- *If a complete lek survey is conducted for the proposed seismic activity area, the Permit Holder shall consider, on a case-by-case basis, the application of seismic methodologies that minimize LEPC disturbance from off-road travel during the lekking, nesting, and brooding season (March 1 to July 15) within 1.25 miles of leks recorded as active within the previous 5 years. Daily timing restrictions for lek disturbance (3:00 a.m. to 9:00 a.m.) must be observed within 1.25 miles of leks recorded as active within the previous 5 years. (Required)*

## *Changed Circumstances*

The Range-wide Oil and Gas CCAA and RWP have identified activities or situations (changed circumstances) that would trigger the adaptive management process and corrective actions to be implemented in response to these changed circumstances. Changes identified through a formal evaluation process would affect implementation of the Range-wide Oil and Gas CCAA by adjusting conservation measures for new Participants. For existing Participants, mitigation fees would be reviewed on an annual basis, as described in the Range-wide Oil and Gas CCAA, and can be adjusted annually up to 3 percent to account for inflation and up to 4 percent to account for changes in mitigation fees, as described in the RWP. New or changed conservation measures may be applied to new CIs and existing enrolled lands in existing CIs following the amendment process described in the Range-wide Oil and Gas CCAA. The Range-wide Oil and Gas CCAA has

also identified a process for addressing changes in technology associated with oil and gas exploration and emerging science relating to LEPC ecology that allows for adjustments in mitigation fees in response to any increase or decrease in impacts on LEPC from changed circumstances.

## Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico

Alternative C includes the implementation of the Range-wide Oil and Gas CCAA throughout the range of the LEPC, with the exception of the state of New Mexico. All of the same conservation measures and regulatory assurances of Alternative B would be available in Kansas, Colorado, Oklahoma, and Texas, but not in New Mexico. Non-Federal landowners in New Mexico would still have the opportunity to enroll in the existing New Mexico CCAA/CCA.

In December 2008, the Service, the BLM, and the CEHMM worked together to develop a CCA to programmatically address the needs of the LEPC in New Mexico. The CCA is for BLM lands and its companion CCAA is for non-Federal lands to conserve LEPC and sand dune lizard (*Sceloporus arenicolus*) (SDL) habitats. The New Mexico CCAA/CCA provides incentives for voluntary conservation of species-at-risk on non-Federal lands. Similar to the Proposed Action, in the New Mexico CCAA/CCA, a property owner voluntarily enrolls property into the CCAA and commits to implement specific conservation measures on non-Federal lands for the species by signing a CI. The landowner then receives assurances that additional restrictions would not be placed on the landowner's otherwise legal activities as long as the conditions of the CI are met. Without regulatory assurances, landowners may be unwilling to initiate conservation measures for these species. Similar to the Range-wide Oil and Gas CCAA, the CI for oil and gas companies in New Mexico requires funds to be contributed to assist in restoration or protection of habitat for the LEPC and/or SDL. Based on the amount of contributed funds available, a team of wildlife biologists from the BLM, Service, CEHMM, and NMDGF work cooperatively to determine which habitat improvement and research projects are of the highest priority to benefit one or both of the species. Using available funds, the team of biologists ranks the proposals and selects the highest priority projects that improve habitat and reduce risk to either species (regardless of land ownership).

Although the New Mexico CCAA/CCA is similar to the Range-wide Oil and Gas CCAA (Alternative B), differences exist between the two plans, as described below in Table 1.

**Table 1. Differences between Action Alternatives in the New Mexico CCAA/CCA and Range-wide Oil and Gas CCAA.**

| CCAA Component | Alternative B<br>Range-wide Oil and Gas CCAA (tiers to RWP) | Alternative C<br>Range-wide Oil and Gas CCAA, Excluding New Mexico |
|---|---|---|
| **Coverage and Prioritization** | Includes non-Federal property that currently provides or could potentially provide suitable habitat for the LEPC (EOR+10) in the states of Colorado, Kansas, New Mexico, Oklahoma, and Texas. | The New Mexico CCAA/CCA provides coverage for private, state, and BLM lands by county that essentially includes all of the EOR of LEPC for the entire state, including a buffer for future expansion. However, the prioritization of funding and conservation measures are concentrated in four southeastern counties (Lea, Eddy, Chaves, and Roosevelt) with little to no enrollment of lands in the northern portion of the New Mexico range in Quay, Curry, and DeBaca counties (CEHMM 2012). |
| **Administration** | Administered by WAFWA with oversight by the Service. WAFWA is a quasi-governmental organization of 23 public agencies charged with the protection and management of fish and wildlife resources in the western part of the United States and Canada. The WAFWA Board of Directors consists of leaders from western fish and wildlife agencies. | Administered by CEHMM, a 501(c)(3) organization established in 2004 that is dedicated to cutting-edge applied research programs, community support, education, and cooperative conservation. The CEHMM Board of Directors is a diverse group of scientists, academics, politicians, and private citizens. CEHMM is funded through Federal and state grants and various donor contributions. |
| **Permit Duration** | 30 years | 20 Years |

| CCAA Component | Alternative B<br>Range-wide Oil and Gas CCAA (tiers to RWP) | Alternative C<br>Range-wide Oil and Gas CCAA, Excluding New Mexico |
|---|---|---|
| **Conservation Measures** | General Habitat Conservation Measures:<br>• WAFWA-approved LEPC management plan for Enrolled Properties with offset units.<br>• Use available options to avoid focal areas, connectivity zones, or within 1.25 miles of known leks (see the 2013 CHAT and state fish and wildlife agency staff for more information).<br>• Focus energy development on lands already altered or cultivated (such as row-crop agriculture or developed oilfields), and away from areas of undeveloped native grasslands or shrublands.<br>• Select fragmented or degraded habitats over relatively intact areas, and select sites with lower LEPC habitat potential over sites with greater habitat potential.<br>• No restrictions on well pad density.<br>• Seasonal use restrictions within the plan are designed to minimize the harassment related to construction, maintenance, surveying, or seismic operations during key breeding, nesting, and brooding periods; those seasonal use restrictions are focused within 1.25 miles of known leks. | General Habitat Conservation Measures:<br>• Establish plans of development for Enrolled Properties.<br>• Well-planned oil and gas development to minimize disturbance and fragmentation of habitat, including three specific strategies to conserve suitable or occupied SDL habitat (provides conservation of LEPC habitat where ranges overlap, but not throughout the entire coverage area):<br>  ○ Placing well pads more than 100 meters from occupied or suitable habitat.<br>  ○ Limiting well pad densities to less than 13 pads per square mile.<br>  ○ Allowing seismic testing no more than once every 5 years.<br>• Construct new infrastructures in locations that avoid occupied and suitable LEPC habitat<br>• Construct all infrastructures supporting well development (including roads, power lines, and pipelines) within the same corridor.<br>• Avoid well pad construction within 1.5 miles of an active lek unless reviewed and approved by CEHMM and the Service. |
| | Minimize use of herbicide treatments and limit this use to the footprint or right-of-way for the project. | For LEPC, herbicide treatment should not be applied around large oak motts or within 1.5 miles of active lek sites. |
| | Provide escape ramps in all open water sources for LEPC. | Provide escape ramps in all open water sources and trenches for LEPC. |
| | Bury new distribution lines within 1.25 miles of leks active within the previous 5 years. | Bury new distribution power lines that are planned within 2 miles of occupied LEPC habitat (measured from the lek). |
| | | No leasing of any lands within the Conservation Lands (enrolled lands identified in the CI that provide conservation benefits for the LEPC and/or SDL under this CCAA) to oil and gas development, including roads, fences, or power lines, where the non-Federal landowner has discretion. |

| CCAA Component | Alternative B<br>Range-wide Oil and Gas CCAA (tiers to RWP) | Alternative C<br>Range-wide Oil and Gas CCAA, Excluding New Mexico |
|---|---|---|
| | | CEHMM would implement conservation measures for the LEPC by providing technical assistance through which cooperating non-Federal landowners can implement these measures for the LEPC on their properties or contribute funds to have conservation measures implemented in other high-priority areas. |
| | Install appropriate fence markings along new fences within 0.25 mile of a lek. | Install fence markers along fences that cross through occupied habitat within 2 miles of an active lek. |
| | Timing restrictions for nonemergency operations and construction and maintenance activities, where humans are present, that cannot be avoided and must occur from March 1 through July 15. | Timing restrictions from March 1 through June 15. |
| **Mitigation** | Habitat loss will be mitigated following the procedures explained in the Range-wide Oil and Gas CCAA when complete avoidance is not possible. Uses a 2:1 mitigation ratio that ensures that offsets are greater than impacts, resulting in a net conservation benefit. | Conservation benefits for the LEPC are expected in the form of avoidance of negative impacts, reclamation of disturbed areas, and voluntary enhancement and restoration of habitat. Mitigation payments for oil and gas developments are assessed on a per well basis. Payments can fund land acquisition, conservation easements, and habitat improvement programs designed to offset impacts. |
| **Easements (type and duration)** | The value of 25 percent of the habitat offset units will be targeted toward permanent easements to support long-term or dynamic conservation and population strongholds. The remaining 75 percent of the conservation efforts will be targeted toward short-term or static contracts (5 to 10 years). | No specific easement requirements. |
| **Funding** | Provided through the Mitigation Framework. | Funding for recruiting willing landowners, identifying appropriate lands for enrollment, surveying for LEPC, preparing CIs, and planning for habitat conservation and management is not included in the New Mexico CCAA/CCA. Funding for habitat enhancement is provided through outside sources such as Partners for Fish and Wildlife and the NRCS. |

# CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

## Introduction

This chapter describes the resources potentially impacted by the alternatives and the likely environmental consequences resulting from implementation of the alternatives. This chapter is organized by impact topics that were derived from internal scoping with the Service and WAFWA and consideration of Federal laws, regulations, and orders. Resource topics retained for analysis in this EA include soils; water resources; vegetation; listed, proposed, and candidate species; other wildlife; cultural resources; socioeconomics; land use; and prime farmland. Resource topics that were excluded from further consideration because the proposed actions would be expected to have no effect or the effects would be less than minor are described below in the *Resources and Issues Dismissed from Further Consideration* section in this chapter.

The RWP, and this Range-wide Oil and Gas CCAA, would cover all lands currently occupied or potentially occupied by the LEPC in Colorado, Kansas, Oklahoma, New Mexico, and Texas. The current estimated occupied range of the LEPC in these five states is about 19.8 million acres and with a 10-mile buffer, this encompasses an area of approximately 40.2 million acres (Van Pelt et al. 2013). While resource conditions and land uses vary widely over this large geographic area, habitat for the LEPC occurs in four primary ecoregions: Sand Shinnery Oak Prairie, Sand Sagebrush Prairie, Mixed Grass Prairie, and Shortgrass Prairie/CRP Mosaic (Figure 1). The *Affected Environment* section for each resource topic provides an overview of the current conditions and past and ongoing activities that have affected the environment in the broad Covered Area. The *Environmental Consequences* section for each resource provides analysis of the anticipated impacts on the resource under the No Action and action alternatives.

Resource impacts are discussed in terms of the context of the intensity, duration, and type of impact. The intensity and type of impact is described as negligible, minor, moderate, or major and as adverse or beneficial. Table 2 describes the impact thresholds for each resource topic used in the analysis. The duration of impacts is analyzed separately for each resource because impact duration varies for each resource. Impact duration is defined as short-term or long-term for each resource. Effects can be direct, indirect, or cumulative. Direct effects are caused by an action and occur at the same time and place as the action. Indirect effects caused by the action occur later or farther away. Cumulative effects consider the incremental effects of the action when added to other past, present, and reasonably foreseeable actions. These effects are discussed in the *Cumulative Effects* section.

**Table 2. Impact thresholds.**

| Resource | INTENSITY | | | | DURATION | |
|---|---|---|---|---|---|---|
| | **Negligible** | **Minor** | **Moderate** | **Major** | **Short-term** | **Long-term** |
| Soils | Soils would not be affected or the effects would be below or at the lower levels of detection. | The effects on soils would be detectable. The effects on soil erosion potential or productivity would be small, as would be the area affected. If mitigation were needed to offset adverse effects, it would be relatively simple to implement and would likely be successful. | The effects on soil erosion potential or productivity would be readily apparent. The resulting change to soil character would cover a relatively wide area. Mitigation measures would likely be necessary to offset adverse effects and would likely be successful. | The effects on soils productivity would be readily apparent and would substantially change the character of the soils at a landscape level (i.e., occurring across several different major land resource areas or ecological units within the Covered Area). Mitigation measures to offset adverse effects would be needed, extensive, and their success could not be guaranteed. | Impacts would last less than 2 years. | Impacts from the proposed actions would be greater than 2 years. |
| Water Resources | Water resources and water quality would not be affected or the effects would be below or at the lower levels of detection. Any effects on water resources and quality would be slight. | The effects on water resources and water quality would be detectable but small, as would be the area affected. | The effects on water resources and water quality would be readily apparent. The resulting change to water resources and water quality would cover a relatively wide area. | The effects on water resources and water quality would be readily apparent and would substantially change the character of water resources and quality throughout the landscape (i.e., occurring across several different major land resource areas or ecological units within the planning area). | Impacts would last less than 1 year. | Impacts from the proposed actions would occur for more than 1 year. |

| Resource | INTENSITY | | | | DURATION | |
|---|---|---|---|---|---|---|
| | **Negligible** | **Minor** | **Moderate** | **Major** | **Short-term** | **Long-term** |
| Vegetation | Direct or indirect impacts would have perceptible but small changes in the size, integrity, or continuity of vegetation within the Covered Area. | Disturbance, protection, restoration, or rehabilitation of vegetation would be measureable or perceptible but limited in size. The overall viability of plant communities would not be affected and the communities would recover. | Disturbance, protection, restoration, or rehabilitation of vegetation would occur over a relatively wide area. Impacts would cause a change in plant communities (e.g., abundance, distribution, quantity, or quality), but the impacts would remain localized. | Disturbance, protection, restoration, or rehabilitation of vegetation at a landscape level (i.e., occurring across several different major land resource areas or ecological units within the Covered Area). | The physical impacts from the proposed actions would require less than one growing season for the full recovery of plant communities. Beneficial effects would be observed for one growing season. | The physical impact from the proposed actions would require more than one growing season for the full recovery of plant communities. Beneficial effects would be observed for more than one growing season. |
| Listed, Proposed, and Candidate Species | The proposed actions would have no measurable effects on a listed, proposed, or candidate species. | The effects on listed, proposed, or candidate species are expected to be discountable or insignificant. | The effects on a listed, proposed, or candidate species may occur as a direct or indirect result of the project activities or interrelated or interdependent actions, and the effects would not be discountable or insignificant. | The proposed project activities could jeopardize the continued existence of a listed, proposed, or candidate species or adversely modify critical habitat. A moderate benefit would also occur if the beneficial effects of the project activities would likely reduce the need for the species to be listed in its current category (i.e., delist or downlist). | Impacts would occur for less than 5 years. | Impacts would occur for more than 5 years. |
| Other Wildlife | The proposed actions would not affect wildlife or the effects would be so slight that they would not be of any measurable or perceptible consequence to the wildlife species' population. | Effects on wildlife populations or habitat would be measurable or perceptible but would be limited in size. | Disturbance, protection, restoration, or rehabilitation of wildlife habitat or populations would occur over a relatively wide area. | Disturbance, protection, restoration, or rehabilitation of wildlife habitat or populations would occur at a landscape level (i.e., occurring across several different major land resource areas or ecological units within the Covered Area). | Impacts would occur for less than 5 years. | Impacts would occur for more than 5 years. |

| Resource | INTENSITY | | | | DURATION | |
|---|---|---|---|---|---|---|
| | **Negligible** | **Minor** | **Moderate** | **Major** | **Short-term** | **Long-term** |
| Cultural Resources | The proposed actions would not affect cultural resources or the effects would be below or at the lower levels of detection. Any effects on cultural resources would be slight. | The effects on cultural resources and the affected area would be detectable and localized. | The effects on cultural resources would be readily apparent and would substantially impact the character of a historic property. | The effects on cultural resources would be readily apparent and would significantly change the character of a historic property. | Impacts from the proposed actions would occur for less than 1 year. | Impacts from the proposed actions would occur for more than 1 year. |
| Socioeconomics | The proposed actions would not affect socioeconomic conditions or the effects would be below the level of detection. | The effects on socioeconomic conditions and the affected area would be detectable and small. | The effects on socioeconomic conditions would be readily apparent. Any effects would result in changes to socioeconomic conditions over a relatively wide area. | The effects on socioeconomic conditions would be readily apparent and would cause substantial changes to socioeconomic conditions in the region (i.e., occurring across several different counties). | Impacts from the proposed actions would last for less than 5 years. | Impacts from the proposed actions would last longer than 5 years. |
| Land Use | Land owners or users would not likely be aware of the effects associated with the proposed actions. | Land owners or users would likely be aware of the effects associated with the proposed actions; however, the effects would be slight and likely short-tern. | Land owners or users would be aware of the effects associated with the proposed actions. The effects would be readily apparent. Land owners or users may be subjected to use restrictions or delays in obtaining permits or leases. | Land owners or users would be highly aware of the effects of the proposed actions and would likely be subjected to significant use restrictions or delays in obtaining permits or leases. | Impacts from the proposed actions would occur for less than 1 year. | Impacts from the proposed actions would occur for more than 1 year. |

| Resource | INTENSITY | | | | DURATION | |
|---|---|---|---|---|---|---|
| | **Negligible** | **Minor** | **Moderate** | **Major** | **Short-term** | **Long-term** |
| Prime Farmland | The effects of the proposed actions would not result in the loss of prime farmland. | The effects on prime farmland would be detectable. The loss of prime farmland would affect a relatively small area. | The effects on prime farmland would be readily apparent and the resulting change would cover a relatively large area. | The effects on prime farmland would be readily apparent and would substantially change the productivity of the farmland at a landscape level (i.e., occurring across several different major land resource areas or ecological units within the Covered Area). | The effects would be less than 2 years. | The effects would be more than 2 years. |

# Soils

## *Affected Environment*

Soil types and characteristics vary widely within the five-state region supporting LEPC habitat. In general, the Sand Shinnery Oak Prairie ecoregion of LEPC habitat in eastern New Mexico and northwest Texas is found on near-level plains to semi-stabilized dunes where soils are predominately sandy (Service 2012a). Sand Sagebrush Prairie habitat, common in southeastern Colorado, western Oklahoma, and southwest Kansas, is also found primarily on coarse-textured sandy soils in flat to rolling terrain. These sandy soils are typically low in fertility and are susceptible to wind erosion, particularly following surface disturbance, fires, and periods of drought. Sandy soils also are well drained, dry, and can be difficult to revegetate. Mixed Grass and Shortgrass Prairie LEPC habitat in north Texas, Oklahoma, and Kansas occurs on fine, loamy, and coarse-textured soils. Finer textured soils in the eastern portion of LEPC habitat generally have moderate water-holding capacity, higher organic matter content and fertility, and are easier to revegetate.

The soils in the Covered Area have been affected by a variety of land uses. Much of the suitable LEPC habitat is rural property used for ranching, farming, and oil and gas operations. The conversion of native prairie to agricultural lands is one of the components that has resulted in the loss of LEPC habitat. More than 2.4 million acres of native prairie (23 percent) has been converted to cropland within current LEPC focal areas and connectivity zones (Van Pelt et al. 2013). This conversion has impacted soil characteristics as a result of tillage, fertilization, irrigation, grazing, herbicide application, and other agricultural practices. Use of prescribed fire as part of vegetation management for livestock can benefit vegetation suitability for LEPC by limiting the encroachment of red cedar and woody vegetation. However, fire also can affect soil physical and chemical characteristics, water infiltration rates, and erosion. Oil and gas development impacts soils through construction of roads, well pads, processing facilities, pipelines, and ongoing operation and maintenance throughout the productive life of the well until the site is reclaimed. Wind and solar farms, transmission lines, roads, and OHV use have also contributed to short- and long-term habitat losses in the Covered Area. Across LEPC habitat types within the Covered Area, about 2.8 million acres have been disturbed by oil and gas development, wind and vertical structures, transmission lines, roads, and other infrastructure. About 23 percent of the impacts are attributable to past and current oil and gas development (Van Pelt et al. 2013).

## *Environmental Consequences*

### *Alternative A: No Action*

Under the No Action Alternative, soils would continue to be affected by ongoing land uses such as agriculture, livestock grazing, road construction, OHV use, and other land development activities similar to existing conditions. Impacts from oil and gas development are projected to disturb about 2.2 to 3.2 million acres of potential LEPC habitat within the Covered Area over the 30-year period ending in 2040 (Van Pelt et al. 2013). Soil management, erosion control, and protection would be governed by current land use practices and existing regulatory mechanisms.

**Implementation of RWP**

For lands voluntarily enrolled by the oil and gas industry in the RWP, impacts from oil and gas operations are anticipated to be further reduced due to conservation measures that minimize the area of soil disturbance and soil impacts associated with oil and gas development. The area impacted by oil and gas development over the 30-year period under the conservation strategy of the RWP is anticipated to be less than the 2.2 to 3.2 million acres of potential LEPC habitat projected to be disturbed within the Covered Area over the next 30 years, although a value is difficult to estimate given a variety of factors, such as level of participation in RWP, degree of co-location of facilities, and other factors. Oil and gas operations within previously disturbed areas would reduce new soil disturbances and the potential for erosion and loss of soil productivity. Conservation practices, such as minimizing the number of well pads through the use of directional drilling and other technologies, placement of pipelines and transmission lines along existing disturbed corridors, controlling road access, and minimizing OHV use, would reduce adverse effects on soils. Locating oil and gas facilities to minimize and avoid new disturbances in native undisturbed prairie would all contribute to protecting soil resources and habitat for LEPC. Conservation measures that conserve and enhance existing populations and habitats, restore degraded habitat, and other activities that improve the status of the LEPC would also protect soil resources. While implementation of conservation measures would have short-term adverse impacts on soils associated with any ground-disturbing activities, the impacts would be substantially less than if those conservation measures were not implemented under the RWP.

Overall, soil impacts from direct disturbance as a result of current land management practices and earthwork under the No Action Alternative would be **long-term**, **minor to moderate**, and **adverse.** Impacts from implementation of conservation measures that minimize soil disturbance would be **long-term**, **minor**, and **beneficial** for lands voluntarily enrolled in the RWP.

### *Alternative B: Range-wide Oil and Gas CCAA (Proposed Action)*

Under the Proposed Action, impacts on soil resources on lands enrolled under the Range-wide Oil and Gas CCAA would be similar to lands enrolled under the RWP in Alternative A. Range-wide Oil and Gas CCAA Participants would follow the same conservation measures and mitigations as those enrolled under the RWP. The regulatory assurances would likely encourage a high level of enrollment into the Range-wide Oil and Gas CCAA, thereby providing conservation benefits to a larger area than is present under the existing conservation programs (Alternative A). Short-term minor adverse impacts on soils are possible with implementation of conservation measures. Overall, implementation of conservation measures under the Proposed Action would have a **long-term**, **minor to moderate**, and **beneficial** effect on soils.

### *Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico*

Impacts on soil resources under this alternative would be similar to those described for the Proposed Action. In New Mexico, the existing New Mexico CCAA/CCA contains provisions to minimize impacts on soil resources by limiting areas of new soil disturbance and restoring disturbed habitat, which would benefit soils and LEPC. However, restoration and preservation of additional habitat areas for LEPC under the WAFWA Mitigation Framework through the Range-wide Oil and Gas CCAA would not be implemented in New Mexico. Mitigation measures would primarily include avoidance and minimization conservation measures with limited funding for habitat protection and restoration, thus protection of soil resources would likely be less under Alternative C compared with Alternative B. Overall, conservation and mitigation

measures under Alternative C would have a **long-term, minor to moderate**, and **beneficial effect** on soils.

# Water Resources

## *Affected Environment*

The Covered Area is a semiarid climatic zone with annual precipitation in the eastern portion of LEPC habitat ranging from about 20 to 25 inches compared with about 15 to 20 inches in the western portion of their range (Western Regional Climate Center 2013). Precipitation supports native plant communities adapted to the semiarid climate. Irrigation is required for much of the cropland and the most productive rangeland. The Ogallala Aquifer (also called the High Plains Aquifer) is the primary source of water for agricultural use in the Covered Area; however, ground water withdrawals are currently exceeding recharge. The Ogallala Aquifer Initiative is a NRCS program with measures to reduce aquifer use, improve water quality, and enhance the viability of croplands and rangelands in the Covered Area and beyond (NRCS 2013a).

The primary large rivers in the Covered Area include the Arkansas River, Cimarron River, Canadian River, and Red River. Numerous smaller perennial, ephemeral, and intermittent streams also provide water for irrigation, municipal use, livestock, fish, and wildlife. Population growth, agricultural, industry, and economic growth have increased the demand for ground water and surface water in the region. Hydrologic function varies with site-specific conditions, but undeveloped areas with deeper soils and established plant communities help support natural hydrologic processes. Non-Federal rangelands in most of the Covered Area have experienced less than a 10-percent change in hydrologic function from reference conditions (NRCS 2010).

Surface water quality in the Covered Area varies with adjacent land uses in the respective watersheds. Ground water quality from the Ogallala Aquifer is generally suitable for irrigation and public supply, but leakage down inactive irrigation wells has resulted in the introduction of nitrate and dissolved solids in some areas (NRCS 2009). Surface and ground water quality is affected by fertilizer, pesticides, feedlots, and other agricultural operations. Water quality near urban development is affected by municipal use, nonpoint stormwater runoff, and wastewater treatment plant discharges. Development of oil and gas requires water for drilling and fracking and often generates produced water from the well that requires storage, treatment, and discharge. Earthwork for preparation of well pads, roads, pipelines, and other infrastructure can result in erosion that contributes sediment and other pollutants to streams. Accidental discharges of produced water or drilling fluids also has the potential to introduce contaminants into water bodies.

## *Environmental Consequences*

### *Alternative A: No Action*

Under the No Action Alternative, management of water resources would continue under current practices. Surface water and ground water withdrawals would continue to meet agricultural, municipal, and industrial uses similar to existing conditions and according to existing regulatory mechanisms. Water quality would continue to be affected by land management practices on cropland, rangeland, urban development, and other industrial activities. Ongoing and future oil and gas development on 2.2 to 3.2 million acres (Van Pelt et al. 2013) in the Covered Area over

the 30-year period ending in 2040 has the potential to impact water resources from ground disturbances, water use and discharges, and accidental spills of petroleum products or contaminants.

**Implementation of RWP**

For lands voluntarily enrolled by the oil and gas industry in the RWP, impacts on water resources from oil and gas operations are anticipated to be further reduced. Conservation measures that minimize and avoid new disturbances on native prairie and undeveloped land would benefit hydrologic processes. Habitat restoration activities would enhance and restore the function and integrity of the rangeland ecosystem and contribute to minimizing runoff and erosion and, therefore, improve water quality. Implementation of conservation measures would also contribute to maintaining natural hydrologic functions and improving water quality. Short-term minor adverse impacts on water resources are possible with implementation of conservation measures such as burying electrical lines and soil preparation for revegetation, but the impacts would be less than if the conservation strategy of the RWP was not implemented.

Overall, impacts on water resources and quality for lands managed under current practices would be **long-term, minor to moderate**, and **adverse**. Implementation of conservation measures that reduce ground disturbance and improve hydrologic function would have a **long-term**, **minor**, and **beneficial** effect on water resources for lands voluntarily enrolled in the RWP.

### *Alternative B: Range-wide Oil and Gas CCAA (Proposed Action)*

Under the Proposed Action, impacts on water resources on lands enrolled under the Range-wide Oil and Gas CCAA would be similar to lands enrolled under the RWP in Alternative A. Range-wide Oil and Gas CCAA Participants would follow the same conservation measures and mitigation as those enrolled under the RWP. The regulatory assurances would likely encourage a high level of enrollment into the Range-wide Oil and Gas CCAA, thereby providing conservation benefits to a larger area than is present under the existing conservation programs (Alternative A). Short-term minor adverse impacts on water resources are possible with implementation of conservation measures. The conservation measures under the Proposed Action would have **long-term, minor to moderate, and beneficial** effects on water resources.

### *Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico*

Impacts on water resources under Alternative C would be similar to those described for the Proposed Action. The existing New Mexico CCAA/CCA contains provisions to minimize impacts on water resources by limiting areas of new disturbance and limited funding for restoring disturbed habitat that would benefit water resources and water quality. Restoration and preservation of additional habitat areas for LEPC under the WAFWA Mitigation Framework would not be implemented in New Mexico, thus beneficial effects on water resources would likely be less under Alternative C than under Alternative B. The conservation measures under this alternative would have **long-term, minor to moderate, and beneficial** effects on water resources.

## Vegetation

### *Affected Environment*

LEPC occupied range coincides with four habitat ecoregions: 1) Sand Shinnery Oak Prairie in the eastern New Mexico-northwest Texas panhandle; 2) Sand Sagebrush Prairie in southeastern

Colorado, southwestern Kansas, and western Oklahoma; 3) Mixed Grass Prairie in the northeast Texas panhandle, northwest Oklahoma, and south-central Kansas; and 4) Shortgrass Prairie/CRP Mosaic in northwestern Kansas and eastern Colorado.

Much of the vegetation in these ecoregions has been affected by land uses such as conversion of native habitats to agriculture and pasture uses, fire suppression, grazing practices such as overgrazing (leading to homogenous habitats), loss of native herbivores (such as prairie dogs), and oil and gas development. Crop production has resulted in replacement of the native plant communities with irrigated or nonirrigated crops in many locations. Some rangelands have been planted with nonnative species, such as Old World bluestems (*Bothriochloa* spp.). Invasive plant species have become established in much of the Covered Area, including Russian thistle (*Salsola iberica*), cheatgrass (*Bromus tectorum*), eastern red cedar (*Juniperus virginiana*), and Johnson grass (*Sorghum halepense*). CRP fields occur throughout the Covered Area and are comprised of lands previously seeded with either native or nonnative grasses.

### *Sand Shinnery Oak Prairie*

The Sand Shinnery Oak Prairie ecoregion is comprised of 49 percent grassland, 41 percent shrubland, 9 percent cropland, and 1 percent other cover types (Van Pelt et al. 2013, Appendix D). Common plant species include shinnery oak (*Quercus havardii*), sand sagebrush (*Artemesia filifolia*), little bluestem (*Schizachyrium scoparium*), sand bluestem (*Andropogon hallii*), soapweed yucca (*Yucca glauca*), purple threeawn (*Aristida purpurea*), hairy grama (*Bouteloua hirsuta*), black grama (*Bouteloua eriopoda*), fall witchgrass (*Digitaria cognata*), New Mexico needlegrass (*Stipa neomexicana*), and dropseeds (*Sporobolus* spp.). Grasslands occur throughout this ecoregion in flat and rolling plains interspersed within shinnery oak-dominated areas. The dominant shrub species in grassland areas is commonly soapweed yucca. Other common species include sand bluestem, giant dropseed (*Sporobolus giganteus*), snakeweed (*Gutierrezia*), honey mesquite (*Prosopis glandulosa*), tobosa (*Hilaria mutica*), little bluestem, sand sagebrush, catclaw mimosa (*Mimosa aculeaticarpa* var. *biuncifera*), shinnery oak, and collegeflower (*Hymenopappus flavescens*). Agricultural fields and CRP fields are also interspersed in this ecoregion. CRP fields are made up of lands previously seeded with either native or nonnative grasses.

### *Sand Sagebrush Prairie*

The Sand Sagebrush Prairie ecoregion is comprised of 46 percent grassland, 23 percent shrubland, 31 percent cropland, and less than 1 percent other cover types (Van Pelt et al. 2013, Appendix D). The vegetation of this ecoregion is characterized by a sparse to moderately dense woody layer dominated by sand sagebrush. The sand sagebrush shrubs are typically scattered within a sparse to moderately dense layer of tall, mid-, or short grasses. Associated plant species vary with geography, precipitation, disturbance, and soil texture. Grass species such as sand bluestem, sand dropseed (*Sporobolus cryptandrus*), prairie sandreed (*Calamovilfa longifolia*), giant sandreed (*Calamovilfa gigantea*), needle and thread (*Hesperostipa comata*), and gramas (*Bouteloua* spp.) are often present. Other shrub species also may occur including soapweed yucca, honey mesquite, and three-leaf sumac (*Rhus trilobata*).

### *Mixed Grass Prairie*

The Mixed Grass Prairie ecoregion is comprised of 77 percent grassland, 9 percent shrubland, 12 percent cropland, and 2 percent other cover types (Van Pelt et al. 2013, Appendix D). The vegetation is typically blue grama and buffalograss (*Buchloe dactyloides*), with blue grama as

the dominant species. Other common plant species include sideoats grama (*Bouteloua curtipendula*), threeawns (*Aristida* spp.), sand dropseed, vine-mesquite (*Panicum obtusum*), little bluestem, sand bluestem, Indiangrass (*Sorghastrum nutans*), switchgrass (*Panicum virgatum*), Canada wildrye (*Elymus canadensis*), and western wheatgrass (*Pascopyrum smithii*). Shrubs such as sand sage, shinnery oak, soapweed yucca, pricklypear (*Opuntia* spp.), winterfat (*Krascheninnikovia lanata*), and three-leaf sumac also occur in this plant community. CRP lands in the mixed grass prairie are often planted with mid- and tall grasses such as little bluestem, big bluestem, switchgrass, western wheatgrass, and nonnative species such as Old World bluestem.

### *Shortgrass/CRP Mosaic*

The Shortgrass/CRP Mosaic ecoregion is comprised of, less than 1 percent shrubland, 39 percent cropland, and less than 1 percent other cover types (Van Pelt Appendix D). The vegetation is a mixture of native shortgrass prairie and CRP grasslands planted with a mix of native warm season grasses. Blue grama and buffalograss are the dominant species in the shortgrass prairie. Sideoats grama, hairy grama, little bluestem, and western wheatgrass are also present. CRP lands are often planted with mid- and tall grasses such as little bluestem, big bluestem, switchgrass, western wheatgrass, and nonnative species such as Old World bluestem.

## *Environmental Consequences*

### *Alternative A: No Action*

Under the No Action Alternative, vegetation management would continue under current practices. Brush control methods such as herbicide application and prescribed fire would continue to be implemented on non-Federal lands to improve forage for livestock and wildlife within the Covered Area. Impacts on vegetation from energy development activities, recreational use, livestock grazing, and agricultural activities would continue at current levels per existing land use practices and state and local regulations. Impacts from oil and gas activities would include direct loss of vegetation and degradation or changes to vegetation communities from introduction of noxious weeds. Existing guidelines for oil and gas activities in New Mexico include recommended mitigations to control undesirable plant species, which would reduce impacts on vegetation (Jankowitz and Gruber 2007). Based on Annual Energy Outlook projections produced by the U.S. Energy Information Administration, oil and gas activities are expected to impact 2.2 to 3.2 million acres of potential LEPC habitat (sand shinnery oak prairie, sand sagebrush prairie, mixed grass prairie, and shortgrass/CRP mosaic) in the Covered Area over the 30-year period ending in 2040 (Van Pelt et al. 2013).

Non-Federal landowners would have little incentive to voluntarily protect and manage plant communities and prevent habitat fragmentation for the benefit of the LEPC. Conservation of LEPC habitat on non-Federal lands would not necessarily be part of the considerations in any management of existing vegetation within the Covered Area. Any protection of vegetation that provides habitat for the LEPC would be incidental to existing land uses or through the desires of individual landowners.

#### Implementation of RWP

For lands voluntarily enrolled by the oil and gas industry in the RWP, impacts on vegetation resources from oil and gas operations are anticipated to be further reduced. Implementation of the conservation measures such as brush management, prescribed grazing, range planting, prescribed burning, and grassland establishment would assist with the conservation and restoration of those plant communities preferred by the LEPC on Enrolled Properties. In

addition, habitat fragmentation and the direct loss of suitable habitat would be reduced on Enrolled Properties under the RWP or on other lands that would be treated with contributed funds. Implementation of conservation measures would allow vegetation management from energy development activities to occur through a comprehensive landscape-level approach. Large contiguous blocks of suitable habitat would be targeted for improvement under the RWP to provide the greatest benefit to LEPC. Mitigation practices such as prescribed fire and prescribed grazing on lands included within the WAFWA Management Framework would result in temporary alteration of vegetation, although the impacts would be substantially less than if these conservation measures were not implemented under the RWP, and would result in a net benefit to vegetation over the long term. Participants would have an incentive to conserve and manage plant communities for the benefit of LEPC and prevent habitat fragmentation. Reclamation efforts on abandoned oil and gas facilities within the Covered Area would reduce fragmentation, restore native habitat, and promote LEPC habitat above and beyond that which are currently occurring.

Overall, impacts on vegetation managed under current practices would be **long-term, minor to moderate**, and **adverse**. Implementation of conservation measures that reduce ground disturbance and improve vegetative health would have a **long-term**, **minor**, and **beneficial** effect on vegetation under the No Action Alternative.

### *Alternative B: Range-wide Oil and Gas CCAA (Proposed Action)*

Under the Proposed Action, impacts on vegetation on lands enrolled under the Range-wide Oil and Gas CCAA would be similar to lands enrolled under the RWP in Alternative A. Range-wide Oil and Gas CCAA Participants would follow the same conservation measures and mitigation as those enrolled under the RWP. The regulatory assurances would likely encourage a high level of enrollment in the Range-wide Oil and Gas CCAA, thereby providing conservation benefits to a larger area than is present under the existing conservation programs (Alternative A). Short-term minor adverse impacts on vegetation are possible with implementation of conservation measures. Overall, the conservation measures under the Proposed Action would have **long-term, moderate, and beneficial** effects on vegetation.

### *Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico*

Impacts on vegetation under Alternative C would be the same as under Alternative B in Colorado, Kansas, Oklahoma, and Texas. In New Mexico, restoration and preservation of additional vegetation that provides habitat for LEPC under the WAFWA Mitigation Framework would not be implemented range-wide. Mitigation measures would include only avoidance and minimization by Participants in the New Mexico CCA/CCAA (Service 2012a), thus long-term losses of vegetation could potentially be greater under Alternative C compared with Alternative B. Implementation of conservation and mitigation measures under Alternative C would have a **long-term**, **moderate**, and **beneficial** effect on vegetation**.**

## Listed, Proposed, and Candidate Species

### *Affected Environment*

All federally listed threatened, endangered, proposed, and candidate species (listed and candidate species) known to occur within the Covered Area (Appendix C) were reviewed to determine which species may be impacted by implementation of the alternatives. Most of

these listed species have different habitat requirements than LEPC and it is unlikely that lands occupied by these other listed and candidate species would be enrolled in the Range-wide Oil and Gas CCAA. Thus, only those species that may be impacted by the Range-wide Oil and Gas CCAA are analyzed in this chapter (Table 3).

**Table 3. Listed and candidate species potentially impacted by implementation of the alternatives.**

| Species | Status[1] | Location |
|---|---|---|
| Lesser prairie-chicken | C | CO, KS, NM, OK, TX |
| Sprague's pipit (*Anthus spragueii*) | C | NM, TX |
| Northern aplomado falcon (*Falco femoralis septentrionalis*) | E-EXP | NM |
| Black-footed ferret (*Mustela nigripes*) | E, E-EXP | CO, KS, NM, OK, TX |

[1] Status under the Endangered Species Act: E – Endangered E-EXP - Endangered, experimental nonessential population; C - Candidate for listing. Service 2013a.

## *Lesser Prairie-Chicken (Candidate)*

The LEPC is a distinct species of North American prairie grouse that inhabits rangelands dominated primarily by shinnery oak (*Quercus havardii*), bluestem, and sand sagebrush (*Artemesia filifolia*)-bluestem vegetation types (Bent 1932; Copelin 1963; Snyder 1967; Merchant 1982; Haukos 1988; Behney et al. 2010). Major factors affecting the status of the LEPC are conversion, degradation, and fragmentation of habitat. The conversion of native sand sagebrush and shinnery oak rangeland to improved pastures and cropland has been documented as an important factor in the decline of the LEPC. A mixture of heavily, moderately, and lightly grazed and ungrazed native rangelands are all essential components of LEPC habitat, and are most beneficial when they occur in a mosaic pattern on a landscape scale. However, in many rangelands, an insufficient amount of lightly grazed or ungrazed habitat is available to support successful LEPC nesting. Livestock grazing that leaves less than adequate residual cover remaining in the spring is detrimental to LEPC populations because grass height is reduced below that necessary for nesting cover, and desirable food plants are markedly reduced (TPWD 2005).

The current EOR for LEPC is more than 19,776 acres with more than 41,000 acres within the EOR+10 (Van Pelt et al. 2013). The RWP estimates that approximately 30 percent of the area within the Covered Area is currently suitable habitat for LEPC. Based on a Maximum Entropy Lek Habitat Model developed by USGS (Jarnevich et al. 2011), the RWP estimates there are currently 12,063,048 acres of suitable habitat range-wide (Van Pelt et al. 2013). Aerial surveys in 2013 estimated 17,616 LEPCs within the five–state Covered Area, down from 34,440 in 2012 (McDonald et al. 2013). In October 2011, the Service published a Candidate Notice of Review that confirmed the LEPC is warranted for listing under the ESA but precluded by higher listing priorities. On December 11, 2012, the Service, BLM, and CEHMM (2008) expressed concerns that a number of existing and expanding threats are currently outside of the regulatory authority of the states to control the proposed listing LEPC as threatened (77 FR 73828).

*The Service (2012a) identified the following threats in their listing proposal:*

- *Habitat conversion from agriculture*
- *Livestock grazing*
- *Wind power and energy transmission development and operations*
- *Petroleum production*
- *Shrub control and eradication*
- *Altered fire regimes and invasion by woody plants*
- *Climate change and extreme weather events*
- *Collision mortality*
- *Disease and parasites*
- *Predation*
- *Hunting losses*
- *Insecticides*
- *Hybridization*
- *Competition from ring-necked pheasants*
- *Roads, pipelines, and other linear features*

## *Sprague's Pipit (Candidate)*

The Sprague's pipit is a small songbird that is endemic to the Northern Great Plains (Robbins and Dale 1999). Sprague's pipit both breeds and winters on the North American prairie. The breeding range includes parts of Montana, North Dakota, South Dakota, and Minnesota and parts of Canada, while its wintering range includes northern Mexico and parts of southern Arkansas, northwest Mississippi, southern Louisiana, southeast Arizona, Texas, and southern Oklahoma (Robbins and Dale 1999) along the southern edge of the Covered Area , . Breeding bird surveys suggest the species is in steep decline (Peterjohn and Sauer 1999) with an 80-percent decrease from 1966 through 2007 in its U.S. and Canadian breeding range (Sauer et al. 2008).

In September 2010, the Service found that Sprague's pipit was warranted for listing under the ESA but precluded by other listing priorities. While improper grazing and mowing can have impacts on Sprague's pipit, overall habitat fragmentation from conversion of native prairie to other uses is likely having greater impacts on the species (Service 2010).

## *Northern Aplomado Falcon (Endangered; Experimental Nonessential Population)*

A reintroduced population of the northern aplomado falcon (*Falco femoralis septentrionalis*) has been designated as experimental nonessential within New Mexico and Arizona according to Section 10(j) of the ESA. In recent years, individual falcons have been observed in the western portion of the Range-wide Oil and Gas CCAA Covered Area (BLM 2008). Suitable habitat for the northern aplomado falcon includes palm and oak savannahs, various desert grassland associations, and open pine woodlands (Jonsgard 1990; Keddy-Hector 2000). The essential habitat elements appear to be open terrain with scattered trees, relatively low ground cover, an abundance of insects and small to medium-sized birds, and a supply of nest sites. It is not anticipated that northern aplomado falcons occupy lands enrolled in the Range-wide Oil and Gas CCAA due to the Covered Area being at the eastern edge of the historic range of the species and differences in habitat requirements between this species and the LEPC; however, migratory or foraging falcons could occasionally occur within the Covered Area.

### *Black-footed Ferret (Endangered; Experimental Nonessential Population)*

The black-footed ferret is an endangered carnivore and is the only ferret species native to North America. Ferrets prey primarily on prairie dogs (*Cyonomys* spp.) and use prairie dog burrows for shelter and denning (Henderson et al. 1969; Hillman and Linder 1973; Forrest et al. 1985). Because ferrets depend almost exclusively on prairie dogs for food and their burrows for shelter, and the ferret's current range directly overlaps that of certain prairie dog species (Anderson et al. 1986), it is commonly assumed that ferrets were historically endemic to the range of three prairie dog species (Gunnison's, white-tailed, and black-tailed).

Today, largely due to a number of anthropogenic factors, including land conversion, poisoning, and introduced disease, most of the prairie dog species occur in highly fragmented subpopulations (Luce 2003). The same factors that have impacted prairie dogs have also impacted ferrets. While poisoning of prairie dogs is regarded as a major factor in the historical decline of prairie dogs and black-footed ferrets (Forrest et al. 1985; Cully 1993; Forest and Luchsinger 2005), currently most poisoning is more limited in nature and is undertaken by landowners at localized locations (Service 2009). However, Sylvatic plague, caused by a nonnative bacterium, can be devastating to both prairie dogs and ferrets. Since 2005, plague has been detected in prairie dogs in all 12 states throughout the historical range of the ferret (Abbot and Roche 2012).

All of these factors led to the decline in ferret populations and by 1987, the last remaining wild black-footed ferrets were taken into captivity for captive breeding purposes and released back into the wild (Hutchins et al. 1996; Garelle et al. 2006). As of 2012, about 800 ferrets exist at 19 reintroduction sites across their historical range (Service 2013b). Currently there are no known wild or introduced populations of black-footed ferrets within the Covered Area, although a potential reintroduction site has been identified in Logan County, Kansas, in the north end of the Covered Area (Black-footed Ferret Recovery Implementation Team 2013). Captive breeding and the release of surplus ferrets continues in efforts to establish more ferret populations throughout their range.

### *Environmental Consequences*

The following analyses of the environmental consequences of each alternative are focused on LEPC. Sprague's pipit and LEPC inhabit open native grasslands and Sprague's pipit and northern aplomado falcon may migrate or forage within the Covered Area. All three species are adversely affected by habitat fragmentation from conversion of native prairie to other uses. The effects on all three species, both adverse and beneficial, would be similar under all alternatives.

Both adverse and beneficial effects on black-footed ferrets would be negligible under all alternatives because there are currently no known populations of ferrets within the Covered Area and there is very little potential for future overlap of occupied ranges of ferrets and LEPC, either through reintroduction or range expansion. Any adverse or beneficial effects, either direct or indirect, of any alternative on ferrets would be negligible.

#### *Introduction*

All three alternatives include conservation measures and programs that avoid, minimize, and mitigate adverse impacts of oil and gas development; however, these measures vary widely by the type of measure, level of avoidance/minimization, mitigation requirements, enforcement, and funding mechanisms. Some mitigation measures are presented as voluntary guidelines,

whereas others are regulated by state agencies (Colorado and Kansas). Some regulated conservation measures in Colorado are more voluntary in nature on private lands. Table 4 provides a comparison by alternative of some of the more pertinent conservation measures.

All of these conservation activities would positively impact LEPC and other listed and candidate species, although to varying degrees, as shown in Table 4. Some of the existing conservation measures and state guidelines and regulations are more protective or restrictive than the conservation measures of the RWP and others are less protective. Overall, the conservation measures of the RWP and the New Mexico CCAA/CCA are more comprehensive and consistently applied than the existing state programs. Additionally, because the RWP assesses impacts and establishes mitigation requirements across the entire range of LEPC, these conservation measures would likely be more effective. Because the RWP would be available to landowners under all action alternatives, the primary differences between the alternatives is the level of regulatory certainty provided to Participants and the number of acres and Participants anticipated to enroll in the Range-wide Oil and Gas CCAA or other conservation program under each alternative.

**Table 4. Existing and proposed conservation measures by alternative.**

| | **Alternative** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **All (No Action)** | | | | | | Range-wide Oil and Gas **CCAA** |
| **Conservation Measure** | **RWP** | **Colorado** | **Kansas** | **Oklahoma** | **Texas** | **New Mexico CCA/CCAA** | |
| Management Plan | Yes | Optional | No | No | No | Yes | Same as RWP |
| No Surface Occupancy near Leks | 1.25 miles from leks | 0.6 mile from leks | 0.125- to 0.24-mile setback | No restriction | Voluntary: 1 to 2 miles from lek | 1.5 miles from leks | Same as RWP |
| Avoid Sensitive Wildlife Areas | Focal areas and connectivity zones | 2.2 miles from lek and focal areas | | Preplanning to avoid LEPC | | Avoids SDL habitat | Same as RWP |
| Seasonal Restrictions (dates) | 1.25 miles from lek (March 1 to July 15) | 2.2 miles from lek (March 15 to June 15) | None | Restriction between 3:00 and 9:00 a.m. (March 1 to May 1) | March 1 to July 31 | March 15 to June 15 | Same as RWP |
| Incentives to Co-locate Facilities and Avoid High-quality Habitat | Yes | Yes | No | Voluntary | No | Yes | Same as RWP |
| Well Density (maximum) | No restriction | 1 per section | 6 per section | No restriction | No restriction | 13 per section | Same as RWP |
| Bury Power Lines (distance) | 1.25 miles from lek | Yes | No | Voluntary | No | 2 miles of a lek | Same as RWP |
| Mark Fences | 0.25 mile from lek | No | No | Voluntary | No | 2 miles of a lek | Same as RWP |

| | **Alternative** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **All (No Action)** | | | | | | Range-wide Oil and Gas **CCAA** |
| **Conservation Measure** | **RWP** | **Colorado** | **Kansas** | **Oklahoma** | **Texas** | **New Mexico CCA/CCAA** | |
| Raptor Deterrents | Optional – 1.25 miles from lek | No | No | No | Voluntary | No | Same as RWP |
| Mitigation | Establishes Mitigation Framework and Fees | Reclaim disturbed areas | Reclaim disturbed areas | Reseed disturbed areas | Remediate inactive facilities, compensate for impacts | Reclaim disturbed areas/voluntary enhancement | Same as RWP |
| Enforcement | WAFWA compliance monitoring | CPW | KCC | No | No | CEHMM monitoring/ enforcement | Same as RWP |
| Assurances Provided[1] | No | No | No | No | No | Yes | Yes |

1. So long as Participants comply with the terms of the Range-wide Oil and Gas CCAA and their CI, they will not incur additional land use restrictions on Enrolled Properties and will receive incidental take authorization for Covered Activities should the LEPC become listed.

## *Alternative A: No Action*

Under the No Action Alternative, management of listed and candidate species would continue under current practices. Those current practices include conservation measures already in place for oil and gas activities at the Federal, state, and local levels (including the RWP, New Mexico CCAA/CCA, and others), as summarized in the No Action Alternative in Chapter 2.

The conservation practices under current management, including CCAA/CCAs; voluntary guidelines (Oklahoma, New Mexico, and Texas); and regulations (Colorado and Kansas) would continue to encourage measures that avoid and minimize habitat fragmentation from oil and gas activities. Some measures are focused on habitat in general and alleviate impacts on all listed and candidate species. Other measures are intended to alleviate impacts specific to LEPC, but would also apply to the other listed and candidate species to the extent that habitat overlaps. Most recently, as of October 2013, the RWP has become an available conservation plan for management of oil and gas and other actions for the LEPC.

A variety of oil and gas development actions have the potential to adversely affect listed and candidate species and LEPC, including direct mortality from collisions, habitat loss, habitat fragmentation, and displacement from suitable habitat because the species tends to avoid developed areas, as summarized in the Service's proposed listing rule for the LEPC (Service 2012a). Several sources have documented avoidance of many types of infrastructure by nesting LEPC hens (Pitman et al. 2005; Hagen et al. 2010; Pruett et al. 2009). Beyond direct mortality, habitat loss, and reduced reproduction, OHV travel, mineral exploration, and construction activities may also disrupt lekking behavior, breeding, and nest and brood attendance. In addition, construction and maintenance activities related to oil and gas development may result in increased travel on primary and secondary roads that lead to increased disturbance beyond what is expected from these roads. As described in the *Vegetation* section in this chapter, impacts from oil and gas activities would include direct loss of vegetation and degradation or changes to vegetation communities and LEPC habitat.

Based on Annual Energy Outlook projections produced by the U.S. Energy Information Administration, oil and gas activities are expected to impact 2.2 to 3.2 million acres of potential LEPC habitat within the EOR+10 over a 30-year period (Table 5) (Van Pelt et al. 2013).

**Table 5. Estimation of the acres impacted by new wells based on an average 17.94-acre impact per well pad (under low and high oil and gas price scenarios).**

| | Acres of Potential Habitat Impacted | | | | | |
|---|---|---|---|---|---|---|
| **Ecoregion** | **EIA Low Price Scenario** | | | **EIA High Price Scenario** | | |
| | **10-Year** | **20-Year** | **30-Year** | **10-Year** | **20-Year** | **30-Year** |
| ***Shortgrass*** | 109,208 | 218,415 | 327,623 | 159,763 | 319,527 | 479,300 |
| ***Sand Sage*** | 125,818 | 251,635 | 377,453 | 184,063 | 368,126 | 552,200 |
| ***Mixed Grass*** | 213,457 | 426,914 | 640,371 | 312,273 | 624,546 | 936,838 |
| ***Shinnery Oak*** | 284,896 | 569,792 | 854,689 | 416,784 | 833,568 | 1,250,378 |
| ***TOTAL*** | **733,379** | **1,466,756** | **2,200,136** | **1,072,883** | **2,145,767** | **3,218,716** |

This approach for estimating take of habitat includes several conservative assumptions that suggest the actual magnitude of impacts would be significantly less than represented in Table 5 (Van Pelt et al. 2013). This analysis assumes that any development action that occurs outside of preexisting impact buffers may result in incidental take. However, much of the habitat within the EOR is not suitable habitat, and development within those areas would not result in adverse

effects (Van Pelt et al. 2013). Additionally, implementing current management and conservation practices, including regulated conservation buffers in Colorado and Kansas, would further reduce adverse effects on LEPC and other listed and candidate species. Estimating the potential take of LEPC based on the anticipated impacted acreage is extremely difficult and problematic because of these conservative assumptions, annual LEPC population fluctuations, and limited knowledge of LEPC seasonal ranges and the future locations of oil and gas activities.

Existing regulations, laws, and policies may not be sufficient to prevent the listing of candidate species under the ESA without the voluntary cooperation of additional stakeholders. The conservation measures and regulatory authority (volunteer versus regulatory) vary widely across the states; and suitable habitat for listed and candidate species within the Covered Area, including LEPC focal areas and connectivity zones, would continue to be lost and fragmented range-wide.

Continued implementation of the New Mexico CCAA/CCA would include conservation measures that reduce and/or eliminate threats on Federal lands and non-Federal lands providing net conservation benefits to LEPC on enrolled lands in New Mexico. Reclamation efforts on abandoned pads, roads, and caliche pits on BLM lands in New Mexico and private lands enrolled in the New Mexico CCAA/CCA would continue to address and reduce habitat fragmentation, restore native habitat, and promote LEPC conservation only in New Mexico (BLM 2008).

**Implementation of RWP**

For lands voluntarily enrolled by the oil and gas industry in the RWP, the conservation strategy is summarized as follows:

- Encourages avoidance and protection of focal areas, connectivity zones, and areas within 1.25 miles of known leks.
- Implements seasonal use restrictions to minimize harassment related to Covered Activities during key breeding, nesting, and brooding periods.
- Concentrates all development activities (e.g., roads, power lines, and facilities) within or near already altered or cultivated areas.
- Encourages development in undeveloped native grasslands and shrublands so that large areas of undisturbed wildlife habitat remain.
- Concentrates the placement of compensation actions through off-site mitigation in focal areas and connectivity zones.
- Implements practices such as directional drilling and clustering wells to reduce impacts on LEPC.

The anticipated effects on the LEPC from implementation of the RWP for oil and gas development area are as follows.

### *Threat Removal and Minimization*

The conservation strategy set forth in the RWP for oil and gas activities includes implementing specific conservation measures to eliminate or reduce threats to LEPC. The conservation strategy promotes the avoidance of high-quality habitat (i.e., focal areas, connectivity zones, and active leks) by oil and gas development in which oil and gas operators pay higher mitigation fees for development in areas of higher quality habitat and, conversely, pay lower mitigation

fees for development in areas of lower quality habitat. For example, development of a well pad in high-quality habitat in a focal area (i.e., CHAT 1) in the sand sagebrush ecoregion could result in $41,764 in mitigation fees. Conversely, development of the same well pad in low-quality habitat in a CHAT 4 area in the sand sagebrush ecoregion could result in only $1,336 in mitigation fees. This incentivized conservation system is anticipated to result in a reduction of future adverse impacts on higher quality LEPC habitat, although actual amounts are difficult to calculate.

While this conservation strategy does allow for development in areas of high-quality habitat, it is anticipated that the differences in mitigation fees will focus the development into areas of lower quality habitat. Furthermore, the mitigation fees will be used for the generation of offset (mitigation) units, which will further benefit the LEPC, as described below. The co-location of facilities and infrastructure such as well pads, roads, pipelines, distribution lines and other features is anticipated to further reduce the impact from habitat loss. Burying power lines and installing fence markers will reduce the threat of LEPC collisions with these structures.

The identification and subsequent conservation of habitat within the focal areas and connectivity zones will further provide for the maintenance of large blocks of habitat needed by LEPC. The habitat goal in the RWPs for focal areas and connectivity zones that limits the development impacts in the focal areas and connectivity zones to no more than 30 percent and 60 percent, respectively, further provides for the maintenance of large blocks of LEPC habitat.

The RWP conservation strategy also provides for the avoidance and minimization of disturbance of birds in occupied habitat for most operations, with the exception of during emergency situations and during necessary maintenance. During the reproductive season, active leks will be avoided by 1.25 miles; this distance is expected to encompass 85 percent of the area used by nesting females around a lek (Pitman et al. 2005). Therefore, this conservation measure will allow for the disturbance of female birds that are nesting outside the 1.25 mile avoidance buffer area, affecting an approximated 15 percent of the nesting area around an active lek. Guidance for avoidance during seismic operations and year-round noise abatement measures will further reduce the disturbance impacts on LEPC.

### *Mitigation - Habitat Maintenance, Enhancement, and Restoration*

A variety of maintenance, enhancement, and restoration activities would be implemented under the RWP and would be funded through its mitigation fees. These activities include, but are not limited to, grazing management, burning, reseeding disturbed areas, and implementing vegetation/weed control. Mitigation offset units under the RWP mitigation framework would be generated through implementation of restoration practices that include seeding previously tilled ground with an approved mix of native grasses and forbs or controlling tall woody vegetation, such as red cedar and mesquite, through an approved brush management treatment. These funds would be expended in the highest priority focal areas and connectivity zones, creating large contiguous blocks of native and restored habitats benefiting all listed and candidate species. Mitigation may occur either on the Enrolled Properties or on other lands within the Covered Area to maximize the conservation benefit. Impacts from habitat maintenance, enhancement, and restoration may include temporary or permanent abandonment of occupied habitat, short-term loss of habitat, and temporary displacement of LEPC and other wildlife species during active restoration.

The mitigation framework of the RWP would ensure that all surface disturbance impacts on Enrolled Properties would be mitigated at a 2:1 offset to impact unit ratio, resulting in a long-

term benefit in perpetuity. The value of 25 percent of the habitat offset units would be targeted toward permanent easements to support long-term or dynamic conservation and population strongholds. The remaining 75 percent of the conservation efforts will be targeted toward short-term or static contracts (5 to 10 years). The inclusion of habitat conservation under long-term agreements (permanent or greater than 30-year terms) would be encouraged under this framework, further resulting in large contiguous blocks of LEPC habitat.

Mitigation offset units must be secured prior to the commencement of Impact Activities, with the exception of the oil and gas activities during the Waiver Period in the first year of implementation of the RWP. In this case, oil and gas operators will be able to conduct impact activities prior to securing offset units. During the first year of the RWP, impacts would occur to LEPC habitat but may not be offset during that time period, depending on the availability of offset units.

Implementation of these conservation measures of the RWP would also have short-term adverse effects including short-term loss of habitat and temporary displacement of LEPC and other wildlife species during active restoration. LEPC appear to be adaptable to changing habitat conditions (i.e., structure and grass species composition), and grassland habitats can be restored in a relatively short period of time, but could displace LEPC and other species from habitat for 2 and 8 years, respectively (Van Pelt et al. 2013). LEPC habitats with shrub species (sand sagebrush and shinnery oak) would likely take longer than grasslands to be restored and reoccupied by LEPC. LEPC exhibit strong site fidelity (Campbell 1972) and oil and gas activities within or near active leks could result in temporary displacement or complete abandonment of leks. Because of this strong site fidelity, it is also uncertain how quickly LEPC would expand into newly restored habitat, although recent range expansion in central Kansas provides a good indication that future range expansion would likely occur.

Mitigation fees are calculated, in part, by the area that would be impacted, either directly from disturbance/removal of habitat or indirectly by the area of LEPC avoidance due to the presence of a new structure; these areas are therefore known as impact buffers. A comparison of the proposed RWP impact buffers with the avoidance distances described in the existing literature (Pitman et al. 2005, Hagen et al. 2011, Pruett et al. 2009) shows that buffer distances vary somewhat, depending on the goals and methods of the studies, sample size, and site variability, but there is a general consistency with the RWP impact buffers and those described in the existing literature, as shown in Table 6. However, some of the buffers are less than literature values (e.g., primary roads) and some are greater (e.g., buildings and compressor stations). This comparison indicates that the RWP impact buffers appear to be appropriate for estimating the mitigation structure and fees.

**Table 6. Buffer distances for different types of oil and gas-related developments established under the WAFWA Mitigation Framework and avoidance distance from the literature referenced in the Proposed Rule listing LEPC.**

| Type of Impact | WAFWA Buffer Distance in Feet (meters) | Avoidance Distance in the Literature in Feet (meters) |
|---|---|---|
| Oil and gas pads and small compressor stations* | 656 (200) | 262.5[1]-984.2[2] (80 -300) |
| Transmission line >69 kV | 1,312 (400) | 1,312[1]-2,625[3] (400-800) |
| Distribution lines <69 kV | 33 (10) | NA-2,297[2] |
| Secondary roads | 220 (67) | NA |

| | | |
|---|---|---|
| Primary roads | 1,640 (500) | 2,600[1]-2,789[2] (792-850) |
| Industrial buildings and other compressor stations** | 2,188 (667) | 1,640 (500)[1] |
| Residential buildings (houses) | 436 (133) | 3,281[1]-4,593[2] (1,000-1,400) |
| Private roads (e.g., ranch roads) | 33 (10) | 29.5 (9)[1]-NA |

*Includes compressor stations with footprints of <5 acres that are muffled to <75 dB at 30 feet.
**Includes all other compressor stations and electrical substations.
NA = Not Available.
Sources: [1] Pitman et al. 2005, [2] Hagen et al. 2011, [3] Pruett et al.

In summary, the RWP conservation strategy provides incentives to avoid areas of quality LEPC habitat, but also allows for impacts to occur throughout LEPC range, including focal and connectivity zones, as long as the habitat goals of no more than 30 percent development impacts in focal areas and 60 percent in connectivity zones are maintained. These short-term adverse effects would be counterbalanced by the long-term benefits of the conservation measures that would result in a direct 2:1 net conservation benefit for LEPC and other species in LEPC habitat in perpetuity. Long-term beneficial effects of implementing the mitigation strategy and conservation measures provide a net long-term benefit to LEPC and other listed and candidate species in the following ways:

1. Concentrates limited resources for species conservation in the most important focal areas and connectivity zones, allowing for the restoration, enhancement, and maintenance of large blocks of habitat needed by LEPC.
2. Places an emphasis for conservation on focal areas, connectivity zones, and high-quality habitat.
3. Identifies areas where oil and gas development should be avoided, which also helps identify areas where development is of less concern for LEPC. This method provides oil and gas operators with the guidance they typically seek for their development planning purposes, and helps avoid conflicts over impacts on the species.
4. Provides incentives specifically for oil and gas operators to avoid, minimize, and mitigate impacts on LEPCs from their actions.
5. Where avoidance and minimization of such impacts is not possible, the framework described in Appendix A of the CCAA and Exhibit B of the CI quantifies the impacts of development, quantifies the amount of mitigation necessary to offset the impacts, and then values these offsets.
6. Provides operators with certainty as to how oil and gas exploration and development would continue in the event the LEPC is listed.

In general, impacts on listed and candidate species from existing management under the No Action Alternative would be **negligible in New Mexico** because most lands with oil and gas resources have already enrolled or would likely continue to be enrolled in the New Mexico CCAA/CCA. Impacts on listed and candidate species under the No Action Alternative over the remainder of LEPC range would be variable. **Long-term moderate adverse** impacts on listed and candidate species would likely continue in many areas of Colorado, Kansas, Oklahoma, and

Texas, particularly on lands not enrolled in an existing conservation program. Impacts on listed and candidate species for states enrolled in an existing conservation program would be **long-term, moderate,** and **beneficial** as a result of implementing conservation measures.

### *Alternative B: Range-wide Oil and Gas CCAA (Proposed Action)*

Under the Proposed Action, impacts on LEPC and other listed and candidate species occurring on lands enrolled under the Range-wide Oil and Gas CCAA would be similar to lands enrolled under the RWP in Alternative A. Range-wide Oil and Gas CCAA Participants would follow the same conservation measures and mitigation framework as those enrolled under the RWP. The regulatory assurances would likely encourage a high level of enrollment in the Range-wide Oil and Gas CCAA, thereby providing conservation benefits to a larger area of LEPC habitat than is present under the existing conservation programs (Alternative A). Overall, impacts on listed and candidate species under the Proposed Action would be **long-term**, **moderate,** and **beneficial**.

### *Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico*

Under Alternative C, non-Federal landowners in Colorado, Kansas, Oklahoma, and Texas could choose to enroll in the RWP or the Range-wide Oil and Gas CCAA. New Mexico landowners would be able to enroll in the RWP or the New Mexico CCAA/CCA, or both. New Mexico landowners who choose to enroll in the existing New Mexico CCAA/CCA for their lands commit to conservation activities very similar to those under the Proposed Action; however, slight differences exist (Table 1). The New Mexico CCAA/CCA has some conservation measures that are slightly more protective than the Range-Wide Oil and Gas CCAA. For example, active leks are avoided by up to 1.5 miles in New Mexico compared with 1.25 miles under the Range-wide Oil and Gas CCAA, electrical lines are buried within 2 miles of leks compared with 1.25 miles, and markers are installed on fences within 2 miles of leks compared with 0.25 mile. Conversely, the Range-wide Oil and Gas CCAA provides more conservation measures than the New Mexico CCAA/CCA by implementing seasonal restriction for an additional month (March 1 to July 15 compared with March 1 to June 15), providing a funding mechanism that ties impacts to payments and, most importantly, mitigating habitat loss at a 2:1 ratio.

Impacts on listed and candidate species under this alternative would be **long-term**, **moderate,** and **beneficial,** although to a lesser degree than the Proposed Action.

## Other Wildlife

### *Affected Environment*

A variety of wildlife occurs in the Covered Area. The species discussed below serve only as a representative sample of wildlife typically found within the Sand Shinnery Oak Prairie, Sand Sagebrush Prairie, Mixed Grass Prairie, and Shortgrass/CRP Mosaic Prairie plant communities. Wildlife habitat in the Covered Area has been affected by land uses including conversion of native habitats to agriculture and pasture uses; fire suppression; habitat fragmentation; grazing practices (overgrazing, which leads to homogenous habitats); and loss of native herbivores (such as prairie dogs).

Wildlife species occurring on lands to be included in the Range-wide Oil and Gas CCAA vary greatly depending on location, proximity to development, and vegetation community. Fish and wildlife agencies in the five states in the Covered Area have developed Wildlife Action Plans (WAPs) to describe the health and status of wildlife and habitat in each state, identify potential

threats to wildlife, and identify actions needed to conserve wildlife and their habitats. Information on wildlife in each state within the Covered Area can be found in the WAP for each state and is summarized below.

### *Colorado*

The Colorado WAP identifies 210 Species of Greatest Conservation Need (SGCN) including 26 mammals, 87 birds, 26 fish, 9 amphibians, 48 invertebrates, and 14 reptiles. Some of these species are mountain plover, ferruginous hawk, white-tailed jackrabbit, swift fox, and black-tailed prairie dog. For a complete species list, refer to the Colorado WAP (Colorado Division of Wildlife 2006).

### *Kansas*

The Kansas WAP identifies 317 SGCN including 22 mammals, 100 birds, 67 fish, 17 amphibians, 64 invertebrates, and 47 reptiles. Some of these species are grasshopper sparrow, Eastern meadowlark, swift fox, and various butterflies. For a complete species list, refer to the Kansas WAP (Wasson et al. 2005).

### *New Mexico*

The New Mexico WAP identifies 1,166 wildlife species across the state with more than 452 identified as SGCN including 42 mammals, 74 birds, 37 fish, 15 amphibians, 252 invertebrates, and 32 reptiles. Some of these species are prairie vole, white-tailed jackrabbit, and swift fox. For a complete species list, refer to the New Mexico WAP (NMDF 2006).

### *Oklahoma*

The Oklahoma WAP identifies more than 800 wildlife species across the state with more than 248 identified as SGCN including 26 mammals, 74 birds, 52 fish, 16 amphibians, 58 invertebrates, and 22 reptiles. Some of these species are black-tailed prairie dog, burrowing owl, logger-head shrike, and swift fox. For a complete species list, refer to the Oklahoma WAP (ODWC 2005).

### *Texas*

The Texas WAP identifies thousands of wildlife species across the state with more than 951 identified as SGCN including 91 mammals, 110 birds, 231 fish, 70 reptiles and amphibians, and 449 invertebrates. Some of these species are black-tailed prairie dog, burrowing owl, pronghorn, and American badger. For a complete species list, refer to the Texas WAP (TPWD 2005).

## *Environmental Consequences*

### *Alternative A: No Action*

Under the No Action Alternative, wildlife would continue to be impacted at current levels by energy development. Impacts from oil and gas activities would include habitat loss, habitat degradation, and avoidance behavior by wildlife. Existing guidelines for oil and gas activities in New Mexico include recommended mitigations to reduce impacts on big game and raptors (Jankowitz and Gruber 2007). Oil and gas activities are expected to impact 2.2 to 3.2 million acres of potential LEPC habitat in the Covered Area over the 30-year period ending in 2040 (Van Pelt et al. 2013). Impacts on LEPC habitat would also affect other wildlife habitat. Additional

protection would not be afforded wildlife above and beyond what is currently provided through ongoing land management practices and Federal and state regulations, laws, and policies.

**Implementation of RWP**

For lands voluntarily enrolled by the oil and gas industry in the RWP, impacts on wildlife resources from oil and gas operations are anticipated to be further reduced. Implementation of the conservation measures would directly benefit wildlife species occupying the shrubland and grassland habitats used by LEPC. Conservation measures such as avoiding and minimizing impacts on habitat and enhancing habitat, restoring degraded habitat, creating new habitat, limiting development, treating undesirable vegetation, minimizing traffic, avoiding activities in the early morning hours during the spring lekking and nesting season, and developing noise abatement programs would benefit all wildlife in shrubland and grassland habitats. Management practices under the RWP, such as brush management and prescribed fire on lands included within the Covered Area would result in temporary displacement of wildlife and temporary loss of wildlife habitat, but are expected to provide a long-term benefit. Overall, impacts on wildlife would be substantially less than if these conservation measures were not implemented under the RWP. The conservation measures implemented under the RWP alternative would be above and beyond those conservation activities currently being implemented. Therefore, the RWP would result in additional conservation of wildlife species within the Covered Area, and would result in a net benefit to wildlife over the long term.

Overall, impacts on wildlife under current practices would be **long-term, minor to moderate**, and **adverse**. Implementation of conservation measures under the RWP that improve wildlife habitat would have a **long-term, minor to moderate**, and **beneficial** effect on wildlife under the No Action Alternative.

### *Alternative B: Range-wide Oil and Gas CCAA (Proposed Action)*

Under the Proposed Action, impacts on other wildlife species on lands enrolled under the Range-wide Oil and Gas CCAA would be similar to lands enrolled under the RWP in Alternative A. Range-wide Oil and Gas CCAA Participants would follow the same conservation measures and mitigation as those enrolled under the RWP. The regulatory assurances would likely encourage a high level of enrollment in the Range-wide Oil and Gas CCAA, thereby providing conservation benefits to a larger area than is present under the existing conservation programs (Alternative A). Overall, impacts on wildlife under the Proposed Action would be **long-term**, **moderate,** and **beneficial**.

### *Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico*

Impacts on wildlife under Alternative C would be the same as under Alternative B in Colorado, Kansas, Oklahoma, and Texas. In New Mexico, restoration and preservation of additional habitat areas for LEPC under the WAFWA Mitigation Framework would not be implemented over the EOR+10 in New Mexico. However, benefits to wildlife and LEPC habitat under Alternative C would be similar to Alternative B (Proposed Action) for participating cooperators and areas covered under the New Mexico CCCA/CAA. These landowners would have the option to participate in the New Mexico CCAA/CCA (Service 2012a). Enrolled Properties in the New Mexico CCCA/CCA would have benefits to wildlife similar to Alternative B; however, these benefits under the New Mexico CCA/CCAA would not be as extensive as those in Alternative B. The differences between the New Mexico CCAA/CCA and the Range-wide Oil and Gas CCAA include differences in the setbacks for avoidance of leks (1.25 miles for the Range-wide Oil and Gas CCAA and 1.5 miles for the New Mexico CCAA/CCA) and differences in conditions in areas

where power lines must be buried (within 1.25 miles of a lek under the Range-wide Oil and Gas CCAA and within 2 miles for the New Mexico CCAA/CCA). In general, the requirements of the New Mexico CCAA/CCA for avoidance and minimization are more stringent, but the New Mexico CCAA/CCA is not as comprehensive for restoration and preservation of additional habitat areas for LEPC as the Range-wide Oil and Gas CCAA. Thus long-term losses of wildlife habitat could potentially be greater under Alternative C compared with Alternative B. Under Alternative C, impacts on wildlife would be **long-term, moderate,** and **beneficial**, but to a lesser extent than under Alternative B.

# Cultural Resources

## *Affected Environment*

The majority of the Covered Area is within the High Plains section of the Great Plains Province, which has been occupied since at least 11,000 years before present (B.P.) by Native Americans of the Clovis Culture, and was visited and later occupied by Euroamericans beginning in the 16th century A.D. Evidence for human habitation could date back as far as 10,000 to 40,000 years B.P. (Stout 2010; Wycoff et al. 2003), although much of the evidence for the Paleoindian Period (10300 to 8000 B.P.) occupation of the High Plains is from excavated sites in the Llano Estacado region of eastern New Mexico and the western Texas Panhandle (Holliday 1997). After approximately 8000 B.P. (Archaic Period), climate in the West became much dryer and unpredictable, and most of the large mammals that characterized the Paleoindian Period had become extinct. In response to dryer climate, humans began to rely much more on a variety of plants and a greater number of smaller animals. This is evidenced by the shift from large unnotched projectile points to a greater diversity of smaller notched forms, and a significant increase in the use of grinding stones used to process plant foods (Zier and Kalasz 1999).

The transition between the Archaic Period and the Late Prehistoric Period is best characterized in the archaeological record by the appearance of ceramic technology and the adoption of the bow and arrow (Larmore et al. 2011). After A.D. 800, the number of archaeological sites increases dramatically, suggesting that population in the Covered Area and throughout the West and Midwest was increasing as humans adapted to smaller territories and greater population densities by increased reliance on agriculture. This period is characterized in the northern portion of the Covered Area by increased reliance on agriculture and bison hunting. People affiliated with the Plains Village cultural pattern lived in permanent earth lodges organized into small hamlets and larger villages on terraces next to watercourses and tended fields of corn and beans. Contemporaries of the Plains Village people living in the southern portion of the Covered Area had more cultural affinity to the Mogollon People. Sometime between A.D. 1200 and 1400, the Athapaskan ancestors of the modern Apache and Navahoe entered the area from the north. Ancestors of the Apache were in the area by the time Spanish explorers and adventurers entered the area (Larmore et al. 2011; Stout 2010).

Francisco Vasquez de Coronado was the first documented European to enter the Covered Area, in an ultimately failed attempt to find Cibola, the city of gold. His expedition did not find gold, but it did encounter bison herds and groups of nomadic bison hunters who, prior to the introduction of the horse, used dogs as beasts of burden (Hogan 2006; Sebastian and Levine 1989). Some of the Native Americans Coronado encountered are believed to be ancestors of the Apache. Later in time, the Covered Area was part of Comanche territory, with sedentary Wichita farmers to the east. Although it is difficult to identify archaeological sites from this

period, the presence of European and Mexican, and later American, manufactured trade goods such as beads and metal arrow points denotes sites dating to this period (Sebastian and Levine 1989).

The Louisiana Purchase of 1803 made most of the Covered Area under U.S. jurisdiction. Trails from the north first brought trade and then Euroamerican settlers to the area. The Santa Fe Trail entered New Mexico from Colorado west of the Canadian River and was a primary commercial route connecting Missouri to Santa Fe between 1821 and 1880. A spur of the trail, the Cimarron Route, also entered New Mexico from the east through Kansas, Oklahoma, and Texas, passing directly through the northern portion of the Covered Area (National Park Service 2013).

Known historic properties eligible for the National Register of Historic Places (NRHP) most likely include buildings and structures within developed and urban environments and archaeological sites that meet criteria for providing the potential for significant information important to the interpretation of prehistory. Because much of the non-Federal land in the Covered Area is unlikely to have been surveyed for cultural resources, additional archaeological sites and historic properties potentially eligible for the NRHP are likely present.

## *Environmental Consequences*

### *Alternative A: No Action Alternative*

Under the No Action Alternative, effects on cultural resources would continue to be guided by existing regulatory mechanisms. Typically, protection of cultural resources is limited on private lands, which are not subject to compliance with the National Historic Preservation Act (NHPA). Thus, impacts on cultural resources in the absence of a CCAA from ongoing oil and gas development would continue at current levels and could adversely affect known or unknown cultural resources. These impacts would continue to be managed on a case-by-case basis when required by state and local regulatory requirements.

**Implementation of RWP**

For lands voluntarily enrolled by the oil and gas industry in the RWP, implementation of the conservation measures could potentially impact known or unknown cultural resources similar to other existing management. Typically, known historic properties and structures would be avoided, but ground-disturbing activities have the potential to impact undiscovered buried cultural resources. In most cases, restoration activities would be occurring on lands previously disturbed by other land uses such as croplands, degraded rangeland, roads, and abandoned facilities, so the potential for new impacts on cultural resources is expected to be negligible with shallow surface disturbances. Impacts on any cultural or historic properties have likely already occurred from previous land disturbances. Avoidance and minimization conservation measures would reduce the potential for adverse impacts on cultural resources by concentrating new activities within areas of previous disturbance and thereby reducing the footprint of new ground disturbances.

Overall, proposed LEPC habitat management activities are expected to have limited impacts on cultural resources because most actions would involve limited surface disturbance and/or would occur within areas of previous disturbance. Direct disturbance to known historical properties would be avoided to the extent feasible. Compliance with the NHPA and consultation with the State Historic Preservation Office (SHPO) would be conducted on a case-by-case basis depending on the nature of the specific conservation measures and the potential for impacting historic

properties. Should significant unrecorded cultural resources be discovered during implementation of conservation measures, participating entities would contact the SHPO to take the appropriate action per the NHPA or other regulatory mechanisms. Avoiding and minimizing new disturbances would benefit cultural resources by reducing future land disturbances.

Overall, while conservation measures would reduce the potential for impacting cultural resources through the minimization of ground disturbances, **long-term minor to moderate adverse** impacts are possible in the absence of NHPA compliance.

### *Alternative B: Range-wide Oil and Gas CCAA (Proposed Action)*

Under the Proposed Action, impacts on cultural resources on lands enrolled under the Range-wide Oil and Gas CCAA would be similar to lands enrolled under the RWP in Alternative A. Range-wide Oil and Gas CCAA Participants would follow the same conservation measures and mitigation as those enrolled under the RWP.

However, specific to the Range-wide Oil and Gas CCAA, the Service would require compliance with Section 106 of the NHPA for certain activities to minimize impacts on historic properties from Participant and WAFWA actions. NHPA compliance would be required for burying new distribution lines within 1.25 miles of leks that have been active within the previous 5 years when a) ground disturbance occurs in areas that have not been previously disturbed, such as in native grassland and shrubland; or b) where a new disturbance would exceed the level of a previous disturbance (i.e., a trench for burying distribution lines in a cultivated field would still need NHPA compliance because the trench would likely exceed the depth of disturbance previously caused by the crop cultivation). For actions that would be implemented by WAFWA, NHPA compliance would be addressed on a case-by-case basis, such as conservation measures that result in ground disturbances. Some conservation practices that could be of concern for historic properties include brush management that involves removal of the roots (i.e., grubbing of mesquite), and potentially the removal of existing structures such as tank batteries, pump jacks, and turbines. Existing structures that are older than 50 years may be historic properties, the removal of which may require NHPA compliance. Planted grass management is not considered a concern since it would occur in previously tilled acreage.

Implementation of the Proposed Action and associated conservation measures is not expected to adversely impact cultural resources because appropriate compliance and mitigation under the NHPA would be conducted when implementing actions with the potential to impact historic properties. The regulatory assurances associated with the Range-wide Oil and Gas CCAA would likely encourage a high level of enrollment, thereby providing conservation benefits to a larger area than is present under the existing conservation programs (Alternative A). Cultural resource effects under this alternative would be **negligible to minor** and **adverse** over the long term with compliance and mitigation measures under the NHPA implemented.

### *Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico*

The effects on cultural resources under this alternative would be **negligible to minor** and **adverse** over the long term, similar to those described for the Proposed Action, with the exception of in New Mexico. Impacts on cultural resources in New Mexico would be subject to local regulatory compliance on private lands and the NHPA on public lands.

# Socioeconomic Setting

## *Affected Environment*

The human population of the Covered Area is dominated by rural agricultural communities. Outside of the few larger towns and cities, the overall population density is sparse, with less than 10 people per square mile throughout most of the Covered Area (U.S. Census Bureau 2011). The racial composition is primarily white, but with a growing proportion of people of Hispanic ethnicity (greater than 25 percent) in counties in Colorado, New Mexico, Texas, and southwestern Kansas (RUPRI 2008-2009). Most of the counties within the Covered Area (except for those in New Mexico) have seen a decline in population in recent years, some with a 10-percent or greater reduction between 2000 and 2010 (U.S. Census Bureau 2011). The estimated poverty rate in 2007 was between 13 and 20 percent, or in some cases greater in Colorado, New Mexico, and Texas and a few counties in Kansas and Oklahoma. By comparison, the poverty rate for the entire United States in 2007 was 13.2 percent (RUPRI 2008-2009).

Agricultural production is the primary economic activity in the region. Based on 2007 statistics, the crop acres per farm are among the highest in the country in the Covered Area, which contributes to the market value of products sold per farm also being among the highest (Kotkin 2012). Oklahoma, Texas, and New Mexico have seen an increase in oil and gas exploration associated with the Anadarko, Palo Duro, and Permian basins (Energy Information Administration 2011). While oil and gas development in the Covered Area is expected to expand, projections of future oil and gas development are uncertain. Section XVII of the Range-wide Oil and Gas CCAA describes oil and gas development trends and several future development scenarios. Wind energy generation has also increased, with more than a dozen large wind farms in the region (National Renewable Energy Laboratory 2009).

## *Environmental Consequences*

### *All Alternatives*

None of the alternatives are anticipated to affect demographic trends or the overall economic trends within the Covered Area.

### *Alternative A: No Action*

The financial cost of the No Action Alternative is uncertain because the costs of LEPC conservation and ESA compliance would be borne by each individual Participant on a case-by-case basis. As described above in Chapter 2 and in the RWP, numerous existing programs outline regulatory guidelines and requirements and/or provide assistance available to landowners for management and conservation of LEPC. The overall effect of individual and disparate LEPC conservation and ESA compliance on socioeconomic conditions within the five-state Covered Area is uncertain. This uncertainty is because the number and type of oil and gas development activities, the corresponding ESA compliance requirements for those activities, and the proportion of oil and gas Participants who choose to not pursue development activities due to ESA requirements are not known. Likewise, the magnitude of impacts that those disparate and uncertain individual economic decisions would have on the regional economy is not known.

**Implementation of RWP**

For lands voluntarily enrolled by the oil and gas industry in the RWP, the RWP is anticipated to benefit the Participants by providing a consistent conservation framework and fee program throughout the range of the LEPC. The RWP would also benefit technical service providers on an individual and localized scale as they assist Participants with implementation of the conservation measures. Participants in the RWP would be required to pay enrollment and mitigation fees based on the location and nature of their development impacts. Despite the required mitigation fees, it is expected that Participants would elect to participate because the benefits of ESA coverage, if the LEPC is listed, outweigh the enrollment costs, provided the 4(d) rule is promulgated. In addition, some landowners would receive additional economic benefits on an individual basis by participating in the offset (mitigation) generation program, which would result in compensation for the landowner. While implementation of the RWP may result in direct costs or benefits to individual Participants, it is not expected to measurably affect overall economic trends and activity on a broader regional scale, including agriculture and energy development. This expectation is because the incremental economic costs and benefits of implementation are likely to be small in comparison with the overall regional economy.

Overall, the No Action Alternative is expected to result in **long-term negligible benefits** to socioeconomic conditions throughout the Covered Area.

### *Alternative B: Range-wide Oil and Gas CCAA (Proposed Action)*

Under the Proposed Action, the effects on socioeconomic conditions within the Covered Area are expected to be similar to lands enrolled under the RWP in Alternative A. Range-wide Oil and Gas CCAA Participants would follow the same enrollment and mitigation fee structure as those enrolled under the RWP, although implementation of the Proposed Action would further benefit Participants by providing additional regulatory certainty as they conduct the Covered Activities. Implementation of the Range-wide Oil and Gas CCAA is also anticipated to improve the cost efficiency of LEPC conservation and ESA compliance throughout the Covered Area. These potential economic benefits to Participants include the opportunity to expand oil and gas operations with assurances that no additional land use restrictions or financial commitments would be required of them should the LEPC be listed or in the case of changed circumstances, and incentives to implement specific conservation measures. The regulatory assurances would likely encourage a higher level of enrollment into the Range-wide Oil and Gas CCAA, thereby providing economic consistency benefits to a larger area than is present under the existing conservation programs (Alternative A). The Proposed Action is expected to result in **long-term negligible benefits** to socioeconomic conditions throughout the Covered Area.

### *Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico*

Alternative C would have the same benefits to the overall socioeconomic conditions as the Proposed Action by providing Participants with the potential economic benefits and assurances associated with Range-wide Oil and Gas CCAA coverage. However, the potential individual economic benefits to some landowners are less likely to occur in Alternative C since the conservation measures of the existing New Mexico CCAA/CCA do not specifically include measures such as conservation easements that have a direct financial benefit to landowners. This distinction would not change the determination of **long-term negligible benefits** to socioeconomic conditions.

# Land Use

## *Affected Environment*

The Covered Area is dominated by private land, along with a mix of federally and state-owned lands. As shown in Figure 3 and Table 7, the Covered Area in Kansas and Texas is almost exclusively private while Colorado, New Mexico, and Oklahoma have a small percentage of state land. No tribal lands were located within the Covered Area (USGS 2011) and Federal lands are excluded from Range-wide Oil and Gas CCAA coverage.

**Table 7. Land ownership percentage within the Covered Area.**

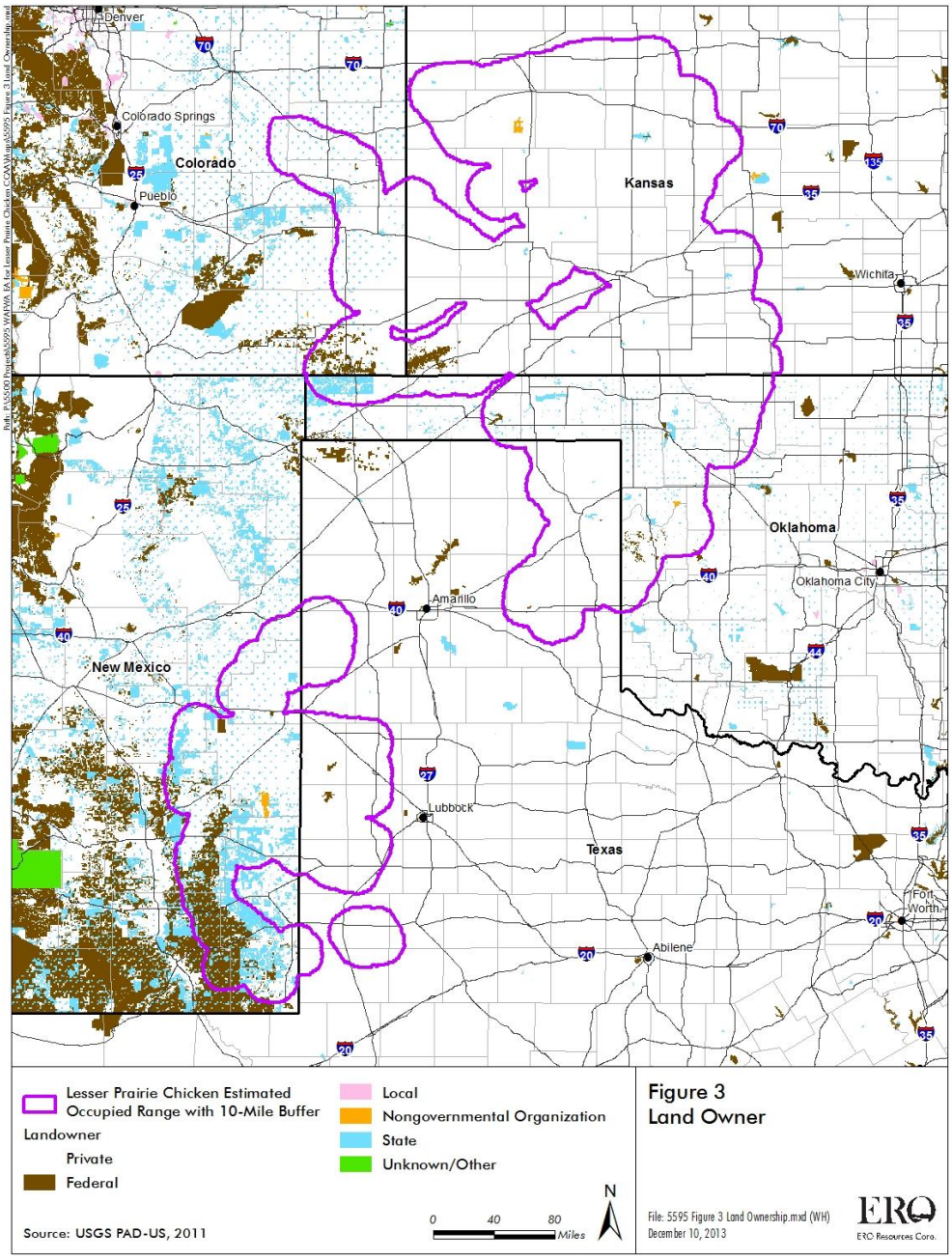
| | Private | State | Federal | Other |
|---|---|---|---|---|
| Colorado | 94 | 3 | 3 | < 1 |
| Kansas | 99 | < 1 | < 1 | < 1 |
| New Mexico | 74 | 15 | 11 | < 1 |
| Oklahoma | 96 | 4 | < 1 | < 1 |
| Texas | 99 | < 1 | < 1 | n/a |

Source: USGS PAD-US 2011.

Land use throughout the Covered Area is primarily rangeland used for livestock grazing, irrigated and nonirrigated cropland, and small-scale development associated with energy development, infrastructure, and local communities. As described in the *Vegetation* section in this chapter, cropland comprises about 21 percent of the LEPC focal areas and about 24 percent of the connectivity zones and expansion areas. The remainder of the Covered Area consists of grassland, shrubland, and other land cover types.

Farms and ranches make up nearly all of the Covered Area, although the type of agricultural production varies by region. Most of the Covered Area in Kansas and Colorado is cropland used for dry-farmed crops such as winter wheat, while other crops include grain sorghum, pinto beans, alfalfa, corn, sugar beets, and grass hay. In north Texas and Oklahoma, most of the area is used for livestock ranching on open range or improved pasture. The principal crops grown in this area are wheat, sorghum, and hay. In west Texas and New Mexico, land use is dominated by cropland to the east (in Texas) and transitions to rangeland to the west in New Mexico. The principal crops are wheat, grain sorghum, and corn in the northern part of this area and cotton, grain sorghum, and peanuts in the southern part. Beef cattle production occurs on open rangeland and improved pastures (NRCS 2013b).

**Figure 3. Land Owner**



## *Environmental Consequences*

### *Alternative A: No Action*

Under the No Action Alternative, existing land uses within the Covered Area, including agriculture and energy development, would continue. This alternative would not affect land use and ownership within the Covered Area.

**Implementation of RWP**

For lands voluntarily enrolled by the oil and gas industry under the RWP, Participants would have a wide range of options for LEPC conservation. Implementation of the RWP conservation measures would require that at least 25 percent of the impact units created by oil and gas developments would be offset in long-term offset units, most likely within a population stronghold using conservation easements. These easements would occur on a negotiated basis with Participants, would benefit Participants with increased regulatory certainty, and are not expected to change the primary and existing uses of Enrolled Property.

Overall, land use and ownership would not change under current practices, but the No Action Alternative would result in **long-term minor benefits** for lands voluntarily enrolled in the RWP within the Covered Area.

### *Alternative B: Range-wide Oil and Gas CCAA (Proposed Action)*

Under the Proposed Action, impacts on land uses on lands enrolled under the Range-wide Oil and Gas CCAA would be similar to lands enrolled under the RWP in Alternative A. Range-wide Oil and Gas CCAA Participants would follow the same conservation measures and mitigation as those enrolled under the RWP. Participants would benefit from increased regulatory certainty under the Range-wide Oil and Gas CCAA as they conduct the Covered Activities without additional requirements of ESA compliance. The regulatory assurances would likely encourage a high level of enrollment in the Range-wide Oil and Gas CCAA, thereby providing conservation benefits to a larger area than is present under the existing conservation programs (Alternative A). Alternative B would result in **long-term moderate benefits** to land use and ownership.

### *Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico*

This alternative would have similar benefits to land use and ownership as the Proposed Action. Participants in New Mexico would still have the opportunity to enroll in the existing New Mexico CCAA/CCA; however, the New Mexico CCAA/CCA does not provide a commitment or funding to create conservation easements. Benefits to land use and ownership in New Mexico would be less extensive because no other options would be available for LEPC conservation and ESA compliance. Alternative C would result in **long-term moderate benefits** to land use and ownership.

# Prime Farmland

## *Affected Environment*

In 1980, the Council of Environmental Quality directed Federal agencies to assess the effects of their actions on farmland soils classified as prime or unique by the United States Department of Agriculture, NRCS. Prime farmland is defined as soil that has the best combination of physical and chemical characteristics for producing crops such as common foods, forage, fiber, and oil

seed; and unique farmland produces specialty crops such as fruits, vegetables, and nuts. The Covered Area includes areas of prime farmland primarily in Kansas, Oklahoma, and the Texas Panhandle (NRCS 2000).

The majority of prime farmland is cropland, although some prime farmland is used as rangeland. Use of prime farmland as pastureland is limited in the Covered Area (NRCS 2000). Ground water from the Ogallala Aquifer is the primary source of water for irrigated prime farmland (NRCS 2006). In some areas, irrigated agricultural lands have been converted to dryland farming or nonirrigated permanent vegetation where ground water supplies have diminished or are uneconomical for use. Typically, prime farmlands are not eligible for the CRP, but some conservation priority programs, such as the Conservation Reserve Enhancement Program and SAFE program, allow for enrollment in some states. Irrigated cropland does not provide suitable habitat for LEPC; however, agricultural lands that are converted from croplands to native grasslands provide habitat for LEPC and other grassland wildlife species.

## *Environmental Consequences*

### *Alternative A: No Action*

Under the No Action Alternative, activities on prime farmland would continue similar to existing conditions and existing regulatory programs. Landowners would continue to irrigate prime farmland for croplands, rangeland and, to a limited extent, pastureland in the Covered Area. Any conversion of prime farmland to other agricultural uses or other development would continue at current levels. Oil and gas development could potentially result in adverse impacts on prime farmland for the duration of development and production activities. Prime farmland impacts in New Mexico would be negligible because very little prime farmland is present.

**Implementation of RWP**

For lands voluntarily enrolled by the oil and gas industry in the RWP, impacts on prime farmland from oil and gas operations are anticipated to be further reduced because of the incentives for Participants under the RWP to minimize surface disturbance. Ongoing and future oil and gas development has the potential to occur on prime farmlands. Conservation measures under the RWP that minimize new land disturbances and that concentrate oil and gas activities in existing areas of disturbance would reduce potential impacts on prime farmland. Habitat restoration and avoidance/minimization measures as part of the RWP may result in the conversion of prime farmland currently used for crops to rangeland. While this would change prime farmland use, it would provide better long-term conservation of prime farmland soils and reduce the potential for wind and water erosion. No loss in prime farmland is anticipated as a direct result of the conservation measures in the RWP.

Overall, impacts on prime farmland under current practices would be **long-term, minor**, and **adverse**. The effects on prime farmland are expected to be **long-term, minor, and beneficial** with conservation measures that reduce impacts on prime farmland and allow for establishment of permanent native grasslands that benefit LEPC.

### *Alternative B: Range-wide Oil and Gas CCAA (Proposed Action)*

Under the Proposed Action, impacts on prime farmland on lands enrolled under the Range-wide Oil and Gas CCAA would be similar to lands enrolled under the RWP in Alternative A. Range-wide Oil and Gas CCAA Participants would follow the same conservation measures and mitigation as those enrolled under the RWP. The regulatory assurances would likely encourage

a high level of enrollment into the Range-wide Oil and Gas CCAA, thereby providing conservation benefits to a larger area than is present under the existing conservation programs (Alternative A). Thus, the Proposed Action would have **long-term minor beneficial** effects on prime farmland.

### *Alternative C: Range-wide Oil and Gas CCAA, Excluding New Mexico*

The effects on prime farmland would be similar to those under Alternative B because there is very little prime farmland in New Mexico. Thus, the effects on prime farmland are expected to be **long-term**, **minor**, and **beneficial** with conservation measures that reduce impacts on prime farmland and allow for establishment of permanent native grasslands.

## Resources and Issues Dismissed from Further Evaluation

Impact topics were dismissed from further analysis if it was determined that the alternatives do not have the potential to cause a substantial change to these resources or their values. Impacts resulting from implementation of the conservation measures were evaluated as opposed to the forecasted future oil and gas development that would occur regardless of the issuance of a permit. The regulatory context and baseline conditions relevant to each impact topic were analyzed in the process of determining if a topic should be retained or dismissed from further analysis. A brief discussion of resource topics that were considered but dismissed from detailed analysis and the rationale for dismissing them from further analysis is provided below.

### *Environmental Justice*

Executive Order (EO) 12898, "General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" requires all Federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. Communities in the Covered Area contain minority and low-income populations; however, environmental justice was dismissed as an impact topic because implementation of the no action or action alternatives would not result in any identifiable adverse human health effects and would not disproportionately affect any minority or low-income populations or communities. Therefore, there would be no direct or indirect adverse effects specific to any minority or low-income population.

### *Indian Trust Resources*

Secretarial Order 3175 requires that any anticipated impacts on Indian trust resources from a proposed project or action by Department of the Interior agencies be explicitly addressed in environmental documents. The Federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights. The order represents a duty to carry out the mandates of the Federal law with respect to American Indian and Alaska Native tribes. There are no known federally administered Indian trust resources in the Covered Area (NationalAtlas.gov 2013); therefore, Indian trust resources were dismissed as an impact topic in this EA.

### *Floodplains*

EO 11988, "Floodplain Management" requires an examination of impacts on floodplains and potential risks involved in placing facilities within floodplains. Floodplains are present along

numerous rivers and streams within the Covered Area. Conservation measures under the action alternatives, such as habitat restoration, may occur within floodplains. Typically, habitat restoration and reclamation actions within a floodplain would have a beneficial effect by contributing to the maintenance of floodplain functions and values. Because the action alternatives would not adversely impact floodplains and any effects are likely to be beneficial, floodplains were dismissed as an impact topic in this EA. Oil and gas development under the No Action Alternative would typically have minimal impacts on floodplain characteristics and placement of facilities. An active floodplain is generally avoided because of potential impacts on equipment structures and safety concerns. Therefore, floodplains were dismissed as an impact topic in this EA.

## *Air Quality*

The Clean Air Act of 1963 (42 USC 7401 et seq.) was established to promote public health and welfare by protecting and enhancing the nation's air quality. The act establishes specific programs that provide protection for air resources and air quality-related values. Air quality varies throughout the Covered Area depending on local and regional emission sources. Contributions to air quality from the predominantly rural areas present in the Covered Area may include fugitive dust from agricultural operations and roads, power plant emissions, vehicle emissions, oil and gas operations, and urban and industrial emissions. Implementation of the action alternatives would not measurably impact local or regional air quality because oil and gas operations would occur regardless of implementation of the action alternatives. Actions that restore or rehabilitate disturbed lands to improve LEPC habitat would have beneficial impacts on air quality by reducing the potential for generating fugitive dust. Conservation measures that result in minimizing new land disturbance also would benefit air quality. Air quality and emissions under the No Action Alternative would not change from existing conditions. Because the action alternatives would not adversely impact air quality and the impacts are expected to be beneficial, this topic was dismissed from detailed discussion in the EA.

## *Climate Change*

Climate change typically refers to changes in average climatic conditions, such as temperature and precipitation. Reports by the U.S. Climate Change Science Program, the National Academy of Sciences, and the United Nations Intergovernmental Panel on Climate Change provide evidence that climate change is occurring as a result of rising greenhouse gas (GHG) emissions and could accelerate in the coming decades. While climate change is a global phenomenon, it manifests differently depending on regional and local factors. Climate change science is a rapidly advancing field and new information is being collected and released continually. The No Action Alternative would not result in any change in GHG emissions or effects on climatic change. GHG emissions under the Proposed Action would result from vehicle and equipment emissions associated with habitat restoration activities. These periodic short-term emissions of GHGs would have a negligible contribution to climate change. Conservation measures that lead to the long-term establishment of native prairie and reduced land management actions would result in a slight reduction in GHG. Because the No Action and action alternatives would have less than negligible effects on climate change, this topic was eliminated from detailed discussion in the EA.

### *Visual Quality*

Visual quality in the Covered Area varies widely depending on the land use, topography, vegetation cover, presence of natural features, level of development, and scenic vistas. Roads, agricultural practices, ranching operations, transmission lines, oil and gas development, land development, buildings, and structures all influence the visual character of the landscape. Because oil and gas operations would occur regardless of the implementation of the action alternatives, no additional adverse effects on visual quality would occur in the Covered Area. Conservation measures that avoid and minimize surface disturbances would have a beneficial impact on visual quality, as would habitat restoration activities. Short-term minor effects on visual quality are possible from implementation of some conservation measures such as ground disturbance for habitat restoration. Because impacts under the implementation of the RWP, which is common to all alternatives, would be beneficial due to an anticipated reduction in surface disturbances, visual quality was dismissed as an impact topic in this EA.

## Cumulative Effects

Cumulative effects are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions" (40 CFR 1508.7). Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time. This section analyzes cumulative effects of the alternatives when combined with the effects of other relevant past, present, and reasonably foreseeable future activities.

### *Past and Present Actions*

The *Affected Environment* section provides existing information on the current condition of resources in the five-state Covered Area that are the result of past and present actions and constitute the environmental baseline for the analysis of direct, indirect, and cumulative effects. In general, many actions have occurred across the Covered Area over the last several centuries. Collectively, these activities have substantially affected the landscape. Some of the more significant past and ongoing activities include agricultural production; livestock grazing; oil, gas, mineral, and renewable energy development; utility corridors for transmission lines, pipelines, and utilities; roads; urban development; and changes in land use. Other important past and present actions that have shaped this baseline and are considered in the cumulative effects analysis are described below.

### *LEPC Threats*

A number of past and ongoing actions have affected, or have the potential to affect, LEPC and its habitat. Threats identified by the Service (2012a) include the following:

- Habitat conversion from agriculture
- Livestock grazing
- Collision mortality
- Shrub control and eradication
- Altered fire regimes and invasion by woody plants
- Insecticides

- Wind power and energy transmission development and operations
- Petroleum production
- Roads and other linear features
- Predation
- Disease
- Hunting loss and other recreational disturbances
- Hybridization
- Competition from ring-necked pheasants (*Phasianus colchicus*)

Current levels of impacts on LEPC habitat within the Covered Area from infrastructure developments were estimated in the RWP (Van Pelt et al. 2013). The total acreage of existing impacts on the four vegetation ecoregions from oil and gas development, wind and vertical structures, transmission lines, roads, and other infrastructure (net of overlapping impacts) is about 2.8 million acres. Roads account for approximately 56 percent of the impacts, oil and gas development account for approximately 23 percent of the impacts, and transmission lines account for about 16 percent of the impacts. More than 2.4 million acres of native prairie has been converted to cropland within current LEPC focal areas and connectivity zones (Van Pelt et al. 2013). Native prairie has also been impacted by livestock grazing and associated land management practices, such as control and eradication of sand shinnery oak and sand sagebrush, altered fire regimes, and invasion of woody plants, which have affected the quality of LEPC habitat.

### *Endangered Species Act Listing Decisions*

As described in the *Listed, Proposed, and Candidate Species* section in this chapter, four species for potential Federal listing are known to occur within the Covered Area and occupy habitats that may be impacted by the Range-wide Oil and Gas CCAA alternatives. These include lesser prairie-chicken, Sprague's pipit, northern aplomado falcon, and black-footed ferret. Decisions to designate these species as candidate or endangered, nonessential experimental populations under the ESA are past actions that are part of the existing context of wildlife conservation and management for the Covered Area.

## *Reasonably Foreseeable Activities*

Reasonably foreseeable future activities are actions and activities that are independent of the action alternatives, but could result in cumulative effects when combined with the effects of the alternatives. These activities are anticipated to occur regardless of which alternative is selected. "Reasonably foreseeable future actions," as defined by the U.S. Environmental Protection Agency (EPA) (1999), are not speculative—they have been approved, are included in short- to medium-term planning and budget documents prepared by government agencies or other entities, or are likely (over the permit term), given trends. Reasonably foreseeable future actions that could result in cumulative effects are described below.

### *Energy Development*

Previous oil and gas development has impacted more than 2.4 million acres of LEPC habitat, and future development is anticipated to continue and expand within the Covered Area. Projections of future oil and gas development from the RWP indicate about 123,000 to 179,000 new wells could be drilled over a 30-year period by 2040 (Van Pelt et al. 2013). The estimated area of disturbance in LEPC habitat from these new wells would range from about 2.2 to 3.2 million

acres. Wind energy farms and transmission lines have impacted about 2.3 million acres of LEPC habitat, and wind development over the next 30 years is expected to impact about 960,000 acres (2.3 percent) and transmission lines an additional 604,000 acres (1.4 percent) (Van Pelt et al. 2013).

### *Habitat Conservation Plans (HCPs)*

A HCP is a post-listing tool designed to mitigate for impacts on federally threatened or endangered species. Nineteen wind energy companies have been working with the Service on the Great Plains Wind Energy HCP to address threats related to wind industry development for federally listed species, including the LEPC. Another HCP for oil and gas activities is currently being prepared by the Environmental Defense Fund.

### *Safe Harbor Agreements*

A Safe Harbor Agreement describes the overall conservation strategy and activities that will be carried out to provide a net conservation benefit to the Covered Species. A Programmatic Safe Harbor Agreement EA was released in August 2013 (Service 2013b) for the black-footed ferret. The scope of that agreement includes the entire range of the black-footed ferret and encompasses the Covered Area of the RWP. LEPC leks in areas characterized by sparse, low vegetation, including prairie dog towns and black-footed ferret introductions and management actions could benefit LEPC conservation efforts as well.

### *Changes in Land Use*

Future land development and changes in land use are anticipated throughout the Covered Area. Conversion of agricultural land to rangeland is possible where water supplies are diminishing. In some areas, rangeland and CRP land is converted to cropland for economic reasons. Residential and urban development would expand primarily from existing areas of development, but may result in impacts on native prairie habitat suitable for LEPC.

### *Climate Change*

As previously described, climate changes are expected to occur in the future. Some model projections indicate increased temperatures, evaporation, and lower precipitation, with greater changes more likely in the southern part of the Covered Area (Union of Concerned Scientists 2009). These changes may accelerate depletion of ground water aquifers and reduce water available for irrigation of crops and rangeland. This reduced availability of water may lead to increased conversion of irrigated land to dryland farming or native plant communities. Climate change is also likely to affect native plant and animal communities and could affect the suitability of habitat for LEPC. Warmer temperatures, less precipitation, more extreme storms, and prolonged droughts in the southwest part of LEPC range may shift the composition of plant communities to those less favorable as LEPC habitat (Van Pelt et al. 2013). Prolonged drought could cause population fluctuations that threaten the persistence of fragmented populations. Intense storms during the nesting season may cause significant local reductions in reproductive success or survival.

## *Cumulative Effects of the Alternatives*

The potential cumulative effects of the proposed alternatives, when combined with the effects of past, present, and reasonably foreseeable future actions, are described below. Impacts on resources that would not contribute substantially to cumulative effects are not discussed.

### *Soils, Vegetation, Water Resources, Wildlife, and Listed and Threatened Species*

Past, present, and reasonably foreseeable changes in land use, energy development, and climate change have resulted in, or are likely to result in, adverse impacts on natural resources. Existing LEPC conservation programs minimize and mitigate some of those impacts. Implementation of conservation measures under the No Action and action alternatives would contribute beneficial effects to natural resources in the Covered Area by taking actions to minimize new disturbances and restore disturbed habitat for the benefit of LEPC. Future land management practices such as vegetation and grazing management and prescribed burning under the proposed Range-wide Oil and Gas CCAA are anticipated to substantially improve LEPC habitat (Van Pelt et al. 2013). Habitat conservation and improvements for the LEPC would provide direct and indirect cumulative benefits to soils, native vegetation, water resources, and other species of wildlife, and listed and threatened species that use similar habitat. Implementation of the Range-wide Oil and Gas CCAA would decrease the overall surface disturbance attributed to oil and gas development and conservation measures would preserve, enhance, and restore LEPC habitat for the long-term benefit of LEPC. These cumulative beneficial effects would reduce threats to LEPC in the Covered Area.

While the impacts of past, present, and reasonably foreseeable activities on natural resources would be long-term and adverse, the Proposed Action would contribute minor to moderate beneficial effects, although the overall cumulative impacts would remain adverse. The No Action Alternative would contribute both adverse and beneficial effects on overall cumulative effects on natural resources. Cumulative natural resource effects under Alternative C would be similar to the Proposed Action, although there would be fewer beneficial effects in New Mexico.

### *Cultural Resources*

Cultural resources have been affected by a variety of past and present land development activities, including agriculture, roads, utilities, oil and gas development, and residential and urban growth. Reasonably foreseeable actions from similar activities are also likely to impact cultural resources in the future. Cultural resources would have minimal protection from oil and gas development on private property under the No Action Alternative. Under Alternatives B and C, certain ground-disturbing activities associated with implementation of conservation measures related to oil and gas development would require compliance with the NHPA. Thus, Alternatives B and C would contribute to long-term beneficial cumulative effects on cultural resources with requirements to evaluate and protect historic properties in accordance with the NHPA.

### *Socioeconomics and Land Use*

Past, present, and reasonably foreseeable activities have established the existing framework of agricultural land use and expanding energy development within the Covered Area. Listing decisions for sensitive species, including the LEPC, have the potential to result in minor to moderate adverse effects on some landowners as increased regulatory uncertainty may complicate land use and economic activities. Other existing conservation and regulatory compliance programs, including NRCS programs, CCAAs, and HCPs have reduced those impacts by providing landowners with certainty as they conduct economic and land use activities. The proposed alternatives would contribute to the cumulative benefits of those programs by providing landowners with increased regulatory certainty as they conduct oil and gas-related activities. Overall, implementation of the RWP conservation strategy under the No Action

Alternative and Alternative B is expected to result in long-term minor cumulative benefits to socioeconomic and land use conditions in the Covered Area. These cumulative benefits would be the same in Alternative C, excluding New Mexico where they would not occur.

### *Prime Farmland*

Prime farmlands throughout the Covered Area have been designated for cropland, rangeland, and pastures. Proposed conservation measures under the Range-wide Oil and Gas CCAA for Alternatives B and C are anticipated to benefit prime farmlands to the extent that disturbance to these lands is minimized and degraded and disturbed lands are restored. A long-term beneficial cumulative effect on prime farmlands is anticipated when the conservation measures under the No Action and action alternatives are added to ongoing prime farmland conservation measures. Cumulative beneficial effects on prime farmland would be less under the No Action Alternative than the action alternatives because fewer conservation measures would be implemented.

# CHAPTER 4. LIST OF PREPARERS

The following individuals assisted in the preparation of this EA:

| Name | Title/Role | Affiliation |
|---|---|---|
| Ron Beane | Project Manager/Wildlife Biologist | ERO Resources Corporation |
| Nicole Bauman | Assistant Project Manager/Environmental Specialist | ERO Resources Corporation |
| Bill Mangle | Natural Resource Planner | ERO Resources Corporation |
| Mark DeHaven | Senior Environmental Scientist | ERO Resources Corporation |
| Steve Butler | Biologist | ERO Resources Corporation |
| Wendy Hodges | GIS and Mapping Support | ERO Resources Corporation |
| Kay Wall | Technical Editor | ERO Resources Corporation |

# CHAPTER 5. CONSULTATION AND COORDINATION

## Internal Scoping

Internal scoping was conducted by an interdisciplinary team of professionals from the Service, WAFWA, Oil and Gas Participants, and consultants. Team members met in August 2013 to discuss the NEPA process for the Range-wide Oil and Gas CCAA, purpose and need for the project, potential alternatives and environmental impacts, and resource protection.

## External Scoping

Public participation for the RWP was comprehensive and included several opportunities for public comment. Because the RWP is considered an umbrella document for the Range-wide Oil and Gas CCAA, no additional public scoping meetings were held for this process.

## Stakeholder Coordination

During the development of the RWP, WAFWA representatives met with stakeholder groups on numerous occasions to solicit information and feedback, disseminate information about the RWP, and develop partnerships to assist with the long-term implementation of the RWP. These meetings included multi-stakeholder forums, group presentations, and individual consultations described in *Chapter 1. Introduction, Purpose of, and Need for Action*. The following organizations were represented at the various stakeholder meetings or commented on the Draft RWP.

AWEA
BLM Pecos District
BP
Chesapeake
Clean Line
Colorado Parks and Wildlife
Common Ground Capital
Conoco Phillips
Devon Energy
Ecosystem Management Research Institute
Environmental Defense Fund
Infinity Wind Power
Kansas Department of Wildlife, Parks, and Tourism
Kansas Farm Bureau
Mid-Continent Oil & Gas Association of Oklahoma, Inc.
Natural Resources Conservation Service, Science Advisor
New Mexico Department of Game and Fish
Norvento
OGE Energy Corp
OIPA
Oklahoma Department of Wildlife Conservation
Oklahoma Independent Petroleum Association
Permian Basin Petroleum Association
Plains Cotton Growers
SandRidge Energy
Schafer Grass Seeding
Texas Comptroller of Public Accounts
Texas Oil & Gas Association
Texas Parks & Wildlife Department
Theodore Roosevelt Conservation Partnership
U.S. Fish and Wildlife Service
USDA APHIS at the National Wildlife Research Center
USDA Farm Services Agency
USDA Forest Service
Westar Energy
Western Association of Fish and Wildlife Agencies
Western Farmers Electric Cooperative
Wildlands Inc.

## Agency Consultation

Compliance with Section 106 of the NHPA shall be addressed on a case-by-case basis by the Participants or WAFWA, as appropriate, and would be completed prior to implementation of conservation measures with the potential to affect historic properties. The Proposed Action that may require NHPA compliance is the burying of new distribution lines within 1.25 miles of leks that have been active within the previous 5 years. Compliance would be required for a) ground disturbance in areas that have not been previously disturbed, such as in native grassland and shrubland; or b) where a new disturbance would exceed the level of a previous disturbance (i.e., a trench for burying distribution lines in a cultivated field would still need NHPA compliance since the trench would likely exceed the depth of disturbance previously caused by the crop cultivation).

For actions that would be implemented by WAFWA, NHPA compliance would be addressed on a case-by-case basis but may be required for the conservation practices that result in ground disturbances. Some conservation practices that could be of concern for historic properties include brush management that involves removal of the roots (i.e., grubbing of mesquite) and the removal of existing structures, such as tank batteries, pump jacks, and turbines. Existing structures that are older than 50 years potentially may be historic properties, the removal of which may require NHPA compliance. Planted grass management is not considered a concern since it would occur in previously tilled acreage.

The process for NHPA compliance includes a step-wise approach of identifying historic properties in the area of potential effect, which may include a file records search and/or field evaluations, and developing minimization and mitigation measures, where appropriate. The

Service would be responsible for conducting consultation with the SHPO. This process is outlined in greater detail in the Range-wide Oil and Gas CCAA for actions implemented by the Participants and in the 10(a)(1)(A) permit for actions implemented by WAFWA.

## American Indian Consultation

The Service initiated consultation with American Indian tribes and organizations per Executive Order 13175, Secretarial Order 3206, and the Department of the Interior Policy on Consultation with Indian Tribes. Letters were sent to the 68 Tribes on December 12, 2013 informing them of the proposed project and soliciting comments (see list of tribes below). Information from the tribes also was requested to determine if the tribes wanted to be involved in the environmental compliance process.

The following Tribes received consultation letters:

**Colorado**

Ute Mountain Ute
Southern Ute Indian Tribe

**Kansas**

Kickapoo Tribe
Iowa Tribe of Kansas and Nebraska
Prairie Band of Potawatomi of Kansas
Sac and Fox Nation

**New Mexico**

Pueblo of Acoma
Pueblo of Isleta
Jicarilla Apache Nation
Mescalero Apache Tribe
Pueblo of Picuris
Pueblo of Sandia
Pueblo of San Ildefonso
Pueblo of Santa Ana
Kewa Pueblo - formally Pueblo of Santo Domingo
Pueblo of Tesuque
Pueblo of Zuni
Pueblo of Cochiti
Pueblo of Jemez
Pueblo of Laguna
Pueblo of Nambe
Pueblo of Pojoaque
Pueblo of San Felipe
Ohkay Owingeh
Pueblo of Santa Clara
Pueblo of Taos
Pueblo of Zia
Ramah Navajo Chapter

**Oklahoma**

Absentee-Shawnee Tribe
Apache Tribe of Oklahoma
Cherokee Nation
Chickasaw Nation
Citizen Potawatomi Nation
Delaware Nation
Fort Sill Apache Tribe
Kaw Nation
Alabama-Quassarte Tribal Town
Caddo Nation
Cheyenne-Arapaho Tribes
Choctaw Nation of Oklahoma
Comanche Nation of Oklahoma
Eastern Shawnee Tribe
Iowa Tribe of Oklahoma
Kialegee Tribal Town

Kickapoo Tribe of Oklahoma
Kiowa Tribe of Oklahoma
Miami Tribe
Modoc Tribe
Muscogee (Creek) Nation
Osage Nation
Otoe-Missouria Tribe
Ottawa Tribe
Pawnee Nation
Peoria Tribe of Indians of Oklahoma
Ponca Tribe
Quapaw Tribe
Sac and Fox Nation
Seminole Nation of Oklahoma
Seneca-Cayuga Tribe
Shawnee Tribe
Thlopthlocco Tribal Town
Tonkawa Tribe of Oklahoma
United Keetoowah Band of Cherokee Indians
Wichita and Affiliated Tribes
Wyandotte Nation

**Texas**

Alabama-Coushatta Tribe Of Texas
Kickapoo Traditional Tribe of Texas
Ysleta Del Sur Pueblo

## Environmental Assessment Review and List of Recipients

The EA will be released for a 30-day public comment period. To inform the public of the availability of the EA, the Service will publish and distribute a letter to the mailing list established for the Range-wide Oil and Gas CCAA process; area tribes; and Federal, state, and local agencies. The Service will provide a press release to the area media. Interested individuals may obtain a copy of the EA upon request. The EA will also be available for review on the Mountain-Prairie Region Ecological Services website at *http://www.fws.gov/coloradoes/*. Comments can be provided in writing to Field Supervisor, Colorado Ecological Services Field Office, 134 Union Blvd., Ste. 670, Lakewood, CO 80228; or via email to *lesserprairiechicken@fws.gov*.

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# Appendix A
# Oil and Gas Candidate Conservation Agreement with Assurances

(*Document is available as a combined CCAA/CI on the website*)

# Appendix B
# Certificate of Inclusion

(*Document is available as a combined CCAA/CI on the website*)

# Appendix C
# Listed and Candidate Species Known to Occur within the Covered Area

**Appendix C. Federally Threatened, Endangered and Candidate Species that Occur within the Covered Area.**

| **Common Name (*Scientific Name*)** | **Location** | **Status*** | **Determination[1]** | **Rationale for Determination** |
|---|---|---|---|---|
| **Reptiles** | | | | |
| Sand dune lizard (*Sceloporus arenicolus*) | NM, TX | C | PI | Range overlaps. See EA for more information |
| **Birds** | | | | |
| Black-capped vireo (*Vireo atricapilla*) | OK | E | NI | Habitats do not overlap[2]. |
| Least tern (*Sterna antillarum)* | KS, CO, OK, NM, TX | E | NI | Habitats do not overlap[2, 3] |
| Lesser prairie chicken (*Tympanuchus pallidicinctus)* | KS, CO, OK, NM, TX | C - Proposed T | PI | |
| Mexican Spotted Owl *(Strix occidentalis lucida)* | NM | T | NI | Habitats do not overlap[2] |
| Piping Plover *(Charadrius melodus)* | CO, OK, TX | T | NI | Habitats do not overlap[2,3] |
| Sprague's Pipit (*Anthus spragueii*) | NM, TX | C | PI | Possible range / habitat overlap. See EA for more information |
| Whooping Crane (*Grus Americana*) | KS, OK, TX | E | NI | Habitats do not overlap[2,3] |
| Northern aplomado falcon (*Falco femoralis septentrionalis*) | NM, TX | E-EXP | PI | Endangered, experimental nonessential section 10(j) within New Mexico |
| **Fish** | | | | |
| Arkansas River Shiner *(Notropis girardi)* | KS, OK, NM | T | NI | Habitats do not overlap[3] |
| Arkansas darter *(Etheostoma cragini*) | KS, CO, OK | C | NI | Habitats do not overlap[3] |
| Topeka shiner *(Notropis Topeka)* | KS, SD, NE | E | NI | Habitats do not overlap[3] |

| Common Name (*Scientific Name*) | Location | Status* | Determination[1] | Rationale for Determination |
|---|---|---|---|---|
| Pecos bluntnose shiner *(Notropis simus pecosensis)* | NM | T | NI | Habitats do not overlap[3] |
| Arkansas River Shiner (*Notropis girardi*) | KS, OK, NM | T | NI | Habitats do not overlap[3.] |
| Arkansas darter *(Etheostoma cragini*) | KS, CO, OK | C | NI | Habitats do not overlap[3.] |
| Pecos gambusia (*Gambusia nobilis*) | NM | E | NI | Habitats do not overlap[3.] |
| **Flowering Plants** | | | | |
| gypsum wild-buckwheat (*Eriogonum gypsophilum*) | NM | T | NI | Habitats unlikely to overlap[4.] |
| Kuenzler hedgehog cactus (*Echinocereus fendleri var. kuenzleri*) | NM | E | NI | Ranges and habitats unlikely to overlap[4.] |
| Lee pincushion cactus (*Coryphantha sneedii var leei*) | NM | T | NI | Ranges and habitats unlikely to overlap[4.] |
| Pecos sunflower (*Helanthus paradoxus*) | NM | T | NI | Habitats do not overlap [3,4.] |
| **Invertebrates** | | | | |
| Koster's springsnail (*Jutumia kosferi*) | NM | E | NI | Habitats do not overlap[3,5] |
| Noel's Amphipod' (*Gammarus desperatus*) | NM | E | NI | Habitats do not overlap[3,5] |
| Pecos assiminea snail (*Assiminea pecos*) | NM | E | NI | Habitats do not overlap[3,5] |
| Roswell springsnail (*Pyrgulopsis roswellensis*) | NM | E | NI | Habitats do not overlap[3,5] |
| Texas Hornshell (*Popenaias popei*) | NM | C | NI | Habitats do not overlap[3,5] |
| **Mammals** | | | | |
| Black-footed ferret (*Mustela nigripes*) | CO, NM,KS, OK,TX | E, E-EXP | PI | Endangered, experimental nonessential population with some range overlaps. See EA for more information |

*T = Federally Threatened Species, E = Federally Endangered Species, E-EXP = Endangered, experimental nonessential population, C = Candidate

[1.] NI = No Impact and not carried forth in the analysis in Chapter 4; PI = Potential Impact and discussed further in EA

[2.] Birds of North America Online. (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: http://bna.birds.cornell.edu/bna/species/181

[3.] While aquatic habitats will not support LEPC, streams or ponds may be part of a contiguous parcel of land that contains the necessary habitat to support LEPC. LEPC management, reintroduction, or other conservation action of the CCAA will not be carried out in proximity to aquatic environments and therefore will not affect aquatic species or shorebirds.

[4.] New Mexico Rare Plant Technical Council. 1999. New Mexico Rare Plants. Albuquerque, NM: New Mexico Rare Plants Home Page. http://nmrareplants.unm.edu (Latest update: 30 March 2012).

[5.] New Mexico Game and Fish . 1996. Wildlife Notes: Springsnails of New Mexico. Available online at http://wildlife.state.nm.us/education/wildlife_notes/documents/springsnails.pdf

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