FINAL

Environmental Assessment for the

Oil and Gas

Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-Chicken

LPC Conservation LLC

Colorado, Kansas, New Mexico, Oklahoma, and Texas

May 2022

U.S. Fish and Wildlife Service
Arlington Ecological Services Field Office
2005 Northeast Green Oaks Boulevard, Suite 140
Arlington, Texas 76006

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

ACRONYMS AND ABBREVIATIONS

Applicant	LPC Conservation LLC
AWWI	American Wind Wildlife Institute
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	Best Management Practice
CCAA	Candidate Conservation Agreement with Assurances
CCAA Administrator	LPC Conservation LLC
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CI	Certificate of Inclusion
CI-holders	oil and gas companies enrolled under the HCP or CCAA
Covered Activities	activities that may result in take of listed species for which LPC Conservation LLC has requested an incidental take permit
Covered Species	species that would be covered by the incidental take permit (lesser prairie-chicken [*Tympanuchus pallidicinctus*])
Conservation Program	activities that would benefit the lesser prairie-chicken through habitat preservation and restoration
CRP	Conservation Reserve Program
CWA	Clean Water Act
DPS	distinct population segment
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act of 1973
ESP	Enhancement of Survival Permit
FERC	Federal Energy Regulatory Commission
FR	Federal Register
Guidelines	*Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands*
HCP	*Oil and Gas Habitat Conservation Plan for the Lesser Prairie-Chicken*
HCP Administrator	LPC Conservation LLC
IPaC	Information for Planning and Consultation
ITP	incidental take permit
LEPC	lesser prairie-chicken
LEPC habitat	herbaceous and hay/pasture land cover types
MLRA	Major Land Resource Area
MW	megawatt

ACRONYMS AND ABBREVIATIONS – CONT'D.

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
Permit Area	the area in which Covered Activities occur
PV	photovoltaic
Plan Area	all areas affected by activities associated with the Covered Activities and Conservation Program
Proposed Action	issuance of an incidental take permit and implementation of the *Oil and Gas Habitat Conservation Plan for the Lesser Prairie-Chicken*
Service	U.S. Fish and Wildlife Service
SGP CHAT	Southern Great Plains Crucial Habitat Assessment Tool
SHPO	State Historic Preservation Office
SPCC Plan	Spill Prevention, Containment, and Countermeasure Plan
SWPPP	Stormwater Pollution Prevention Plan
THPO	Tribal Historic Preservation Office
U.S.	United States
USC	United States Code
USDA	U.S Department of Agriculture
USEPA	U.S. Environmental Protection Agency
WEST	Western EcoSystems Technology
WNS	white-nose syndrome

1 PROJECT OVERVIEW AND BACKGROUND

1.1 Introduction and Background

The U.S. Fish and Wildlife Service (Service) received an application for a 30-year Incidental Take Permit (ITP), pursuant to the provisions of Section 10(a)(1)(B) of the Endangered Species Act of 1973, as amended (ESA; 16 United States Code [USC] §§ 1531–1544 [1973]) for the incidental take of lesser prairie-chicken (LEPC; *Tympanuchus pallidicinctus*) due to habitat loss, fragmentation, and degradation resulting from oil and gas development in Colorado, Kansas, New Mexico, Oklahoma, and Texas (Figure 1-1). Under Section 10 of the ESA, applicants may be authorized, through issuance of an ITP, to conduct activities that may result in take of species as long as the take is incidental to, and not the purpose of, otherwise lawful activities. In the case of non-listed species, such as LEPC, the ITP becomes effective if the species becomes listed during the life of the ITP. While the LEPC is not federally listed at this time, on June 1, 2021, the Service issued a Proposed Rule to list two distinct population segments (DPS) of the LEPC under the ESA, and requested public comments on the proposed listing (86 Federal Register [FR] 29432). The Service proposes to list the Southern DPS as endangered, and the Northern DPS as threatened with a rule issued under ESA section 4(d), providing exceptions to ESA take prohibitions for agriculture and prescribed burning. The Service will consider public comments received as well as new data that becomes available, and will issue a Final Rule in the FR (typically within one year of the data of the Proposed Rule), which will become effective 30 days later. Based on this process, the earliest the LEPC would be federally protected as an endangered or threatened species is July 2022.

The Applicant, LPC Conservation LLC (Applicant), has prepared the *Oil and Gas Habitat Conservation Plan for the Lesser Prairie-Chicken* (HCP; Attachment A) that specifies, among other things, the impacts that would be likely to result from taking LEPC due to enrolled oil and gas projects, and the measures the Applicant and all participants would undertake to minimize and mitigate such impacts. Due to the LEPC being proposed for federal listing, the Applicant is applying for an ITP to provide long-term assurances that no unauthorized take of LEPC would occur that could give rise to liability for the Applicant and enrolled companies. This Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended, per the update to the implementing NEPA regulations published on July 16, 2020, with an effective date of September 14, 2020 (85 FR 43304; 42 USC §§ 4321 – 4347; 42 USC §§ 4371 – 4375 [2020]) to evaluate the effects of implementing the Applicant's proposed HCP.

In the HCP, the Applicant notes that the LEPC range is within a geographic region where oil and gas development has been ubiquitous since the early 1900s. Portions of the LEPC range contain the highest densities of existing oil and gas projects and associated infrastructure in the U.S. (see Figure 2a and 2b in the HCP). Additionally, new technologies (e.g., fracking) have resulted in increased production in and near the LEPC range.

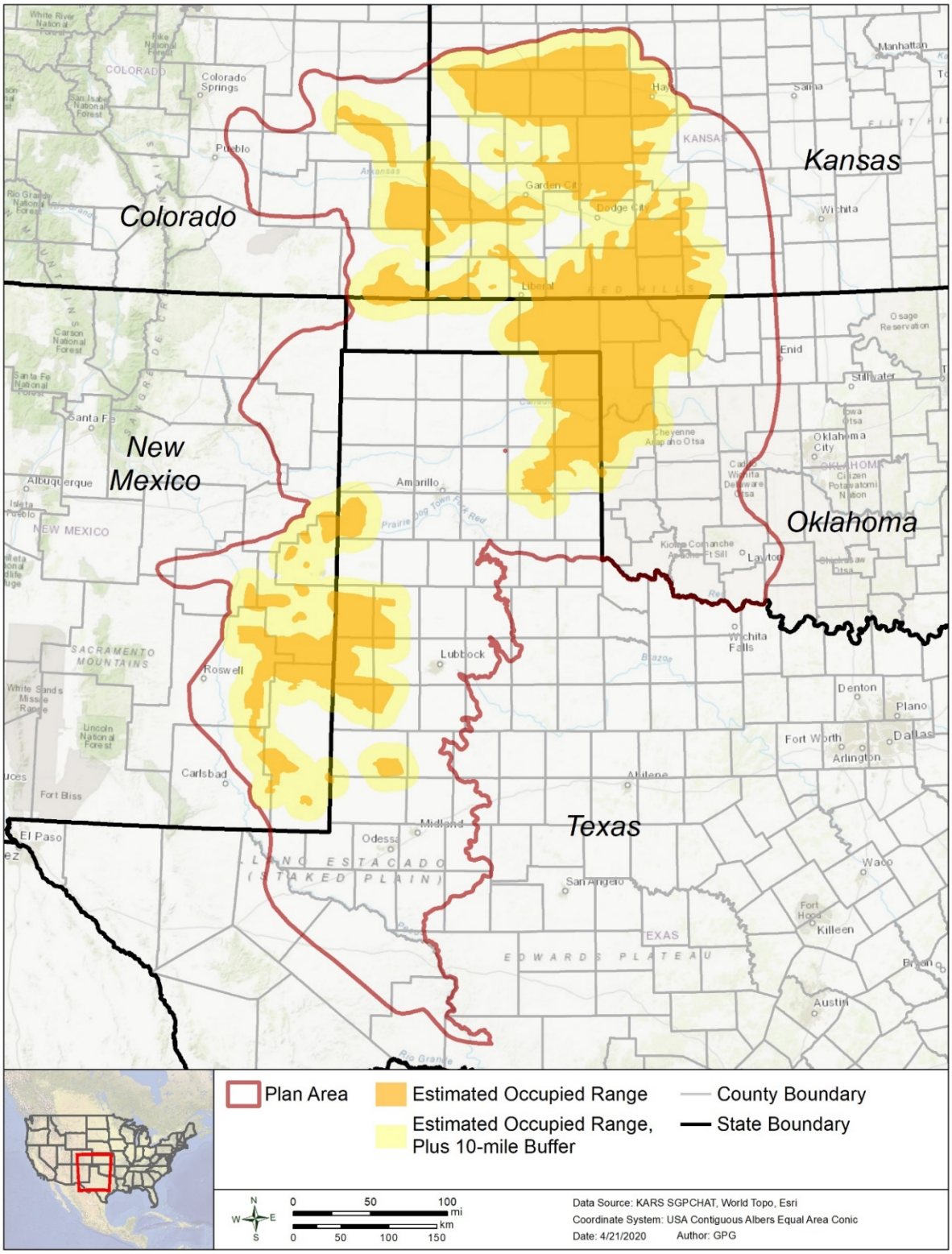

Figure 1-1. Plan Area and estimated occupied range of lesser prairie-chicken in Colorado, Kansas, New Mexico, Oklahoma, and Texas.

Implementation of the HCP would offset covered impacts by encouraging avoidance of LEPC habitat (i.e., herbaceous and hay/pasture land cover types) and, where complete avoidance is not possible, minimizing impacts to the LEPC. Remaining impacts to the LEPC would be offset by protecting stronghold habitat (important conservation areas within the species' native habitat, which have a minimum size of 25,000 acres and support multiple leks [Service 2012a]), as well as areas of high-quality habitat and suitable patch size to support viable LEPC populations, and by restoring currently unsuitable habitat.

1.1.1 Permit Structure

The ITP would follow a Programmatic structure, with LPC Conservation LLC serving as the permit holder following the terms of the HCP, under which a project could be enrolled through a Certificate of Inclusion (CI; see Section 1.3 in the HCP). Although a participant could have multiple projects enrolled in the HCP, each project would be assigned a unique CI. Enrolled projects would agree to and abide by all Applicant-committed obligations and requirements as described in Section 5 of the HCP. Should the LEPC become listed during the life of the ITP, incidental take associated with enrolled projects would be covered under the ITP as long as the CI-holders remain in compliance with the terms of the HCP. The Applicant would act as the administrator of the HCP, and thus, would oversee all HCP-related activities of enrolled projects to collectively manage HCP and CI commitments. The Applicant would also serve as the fiscal representative for the ITP and would manage endowments for funding the Conservation Program (see Section 5 of the HCP).

1.1.2 Plan Area and Permit Area

The Plan Area includes all lands that would be affected by the Covered Activities (as described in Section 2 of the HCP and Section 3 of this EA) and the Conservation Program (as described in Section 5 of the HCP and Section 3.1.1 of this EA). As the geographic area where covered impacts would occur, the NEPA analysis and the ESA Section 7 intra-Service conference are focused on the Plan Area, depicted on Figure 1-1.

The Permit Area is a subset of the Plan Area and includes areas where take of LEPC may occur associated with implementation of the HCP, but excludes protected lands (as described in Section 1.5 of the HCP). The specific boundaries of the Permit Area cannot be reasonably delineated at this time because they are dependent on the locations of the projects that enroll in the HCP and on the locations of exclusion areas. As such, the Permit Area shares the same boundary as the Plan Area (Figure 1-1).

1.2 Regulatory Background

1.2.1 Endangered Species Act

The Service is responsible for implementing and enforcing federal wildlife laws, including the ESA. Federally listed threatened and endangered species and designated critical habitat are governed by the ESA and its implementing regulations (50 Code of Federal Regulations [CFR] Parts 13 [1974] and 17 [1975]). The Service also maintains a list of species that are proposed for listing under the ESA. Proposed species are plant and animal species for which the Service has

sufficient information to propose them as endangered or threatened under the ESA, but the development of a proposed listing decision is precluded by other higher priority listing activities. These species are not afforded statutory protection under the ESA; however, federal agencies are required to confer with the Service on any agency action that is likely to jeopardize the continued existence of a proposed species, or result in the destruction or adverse modification of proposed critical habitat.

Section 9 of the ESA prohibits certain activities that affect listed species. For the purpose of the EA and the proposed ITP, the most relevant activity is the take of wildlife species listed under the ESA. The ESA defines the term "take" to include harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these acts (16 USC § 1532.19 [1973]). Take of listed wildlife is illegal unless otherwise authorized by the Service (or National Marine Fisheries Service in marine systems) pursuant to Section 10 of the ESA.

Section 10 of the ESA allows for exceptions to the take prohibitions described in Section 9 of the ESA. Section 10(a)(1)(B) of the ESA allows the Service and National Marine Fisheries Service to authorize the taking by non-federal entities (e.g., states, counties, local governments, private landowners) if such take is incidental to an otherwise lawful activity. To receive a permit, the applicant submits a conservation plan (also referred to as an HCP) that meets the criteria included in the ESA and its implementing regulations (50 CFR Part 17 [1975] and Part 222 [1999]).

Because issuance of an ITP under Section 10(a)(1)(B) of the ESA constitutes a federal action, the Service conducted an intra-agency conference under Section 7(a)(4) of the ESA. The intra-agency conference is between the Assistant Regional Director for Ecological Services and the field office that assisted the applicant in developing the HCP (in this instance, the Arlington Ecological Services Field Office). The Service's internal conference on the issuance of an ITP under Section 10(a)(1)(B) represents the last internal "check" that the fundamental standard of avoiding jeopardy has been satisfied. Formal conference terminates with the preparation of a conference opinion, which provides the Service determination as to whether the Proposed Action is likely to jeopardize the continued existence of a species or result in the destruction or adverse modification of proposed critical habitat (available online: Arlington Ecological Services Field Office – News).

Because the LEPC is currently proposed for listing under the ESA, and would not officially be listed as threatened or endangered until July 2022 at the earliest, it would also be possible for the Applicant to develop a Candidate Conservation Agreement with Assurances (CCAA) and apply for an Enhancement of Survival Permit (ESP) under Section 10(a)(1)(A) of the ESA. As described below in Section 3.2 of this EA, the Service has considered working with the Applicant on a CCAA and issuing an ESP as an alternative to the Proposed Action. Regulations for an ESP associated with a CCAA under the ESA can be found at 50 CFR 17.22(d)(1) for endangered wildlife species and 50 CFR 17.32(d)(1) for threatened wildlife species.

1.2.2 National Environmental Policy Act

NEPA is an environmental law fashioned to ensure careful decision-making with respect to the environment. NEPA also established the CEQ in the Executive Office of the President to formulate and recommend national policies to ensure that the programs of the federal government exercise careful decision-making with respect to the environment. The CEQ set forth regulations (40 CFR Parts 1500–1508 [2020]) to provide direction to Federal agencies to determine what actions are subject to review; ensure that relevant environmental information is identified and considered early in the review process; ensure that Federal agencies conduct environmental reviews in a coordinated, consistent, predictable and timely manner; and to promote concurrent environmental reviews by federal agencies (40 CFR 1500.1(b)).

NEPA review also provides an opportunity for the public to be involved in the acting agency's decision-making process. The public had the opportunity to comment on the draft EA as well as the HCP and other application materials for 30 days, beginning on February 11, 2022. These materials were made available on the FR and the Service's Arlington Ecological Services Field Office news webpage (Arlington Ecological Services Field Office - News). The Service received several comments from state agencies, non-governmental organizations, and other interested parties. Substantive comments have been incorporated into the final EA; a summary of comments received on the draft EA and the Service's responses to those comments is included as Attachment E.

The culmination of the EA process is either a Finding of No Significant Impact or a decision to prepare an Environmental Impact Statement. This final EA and its analyses assist the Service with making an informed decision on issuance of an ITP.

2 PURPOSE AND NEED

2.1 Purpose of the Environmental Assessment

The Service's purpose in considering the Proposed Action is to fulfill our authority under the ESA, Section 10(a)(1)(B). Non-federal applicants, whose otherwise lawful activities may result in take of species, can apply to the Service for incidental take authority so that their activities may proceed without potential violations of Section 9 of the ESA. In the case of non-listed species in an ITP, the take authority becomes effective should the species become listed during the life of the ITP.

The purpose of the federal action is to address the application for an ITP to authorize take of the LEPC for Covered Activities (as described in Section 2 of the HCP and Section 3 of this EA) within the Permit Area. If the HCP meets the issuance criteria described in Section 10(a)(2)(B) of the ESA and 50 CFR 13.21 are met, then the Service shall issue an ITP for Covered Activities.

2.2 Proposed Action – Issuance of an Incidental Take Permit

The proposed federal action being evaluated by this EA is the request from LPC Conservation LLC to the Service for an ITP authorizing take of the LEPC, a species currently proposed for listing under the ESA, and the implementation of the associated HCP. The Applicant is seeking a

30-year permit term to implement its HCP with the potential for renewal pursuant to 50 CFR § 13.22. The Service's Proposed Action is to issue an ITP to the Applicant on the conditions predicated in the HCP. The purpose of issuing an ITP to the Applicant is to authorize take of LEPC associated with projects that obtain CIs through the process summarized below in Section 3.1.4, and described in detail in Section 5.4.1 of the HCP, should the species become listed during the life of the ITP and HCP.

2.3 Need for Proposed Action

Section 10 of the ESA specifically directs the Service to issue ITPs to non-federal entities when the criteria in Section 10(a)(2)(B) are satisfied by the Applicant. Once we receive an application for an ITP, we need to review the application to determine if it meets issuance criteria. We also need to ensure that issuance of the ITP and implementation of the HCP complies with other applicable federal laws and regulations. We must ensure our permit decision complies with the National Historic Preservation Act of 1966 (NHPA; 16 USC § 470 et. seq. [1966]); treaties; and Executive Order (EO) 11998 (1977), EO 11990 (1977), EO 13186 (2001), EO 12630 (1988), and EO 12962 (1995). In addition, the Service enforces other requirements of the ESA in addition to Section 10. If we issue an ITP, we may condition the permit to ensure the permittee's compliance with all ESA requirements.

In November 2020, the Service received an application from LPC Conservation LLC for an ITP for LEPC under the authority of Section 10(a)(1)(B) of the ESA. If the application is approved and the Service issues a permit, the ITP would authorize the Applicant to take the LEPC as a result of habitat loss, fragmentation, and degradation from the development and operation of oil and gas projects, should the species become listed during the life of the ITP and HCP. The Service has prepared this EA to inform the public of our Proposed Action and the effects of the Proposed Action and its alternatives, seek information from the public, and to use information collected and analyzed to make better informed decisions concerning this ITP application.

2.4 Decision to be Made

The Service must decide whether to issue or deny the ITP. If the permit issuance criteria contained in Section 10(a)(1)(B) of the ESA are satisfied, the Service is required to issue the ITP to the Applicant. The Service may decide to issue an ITP conditioned on implementation of the HCP as submitted by the Applicant, or to issue an ITP conditioned on implementation of the HCP as submitted together with other measures specified by the Service. If the ESA's criteria are not satisfied, the Service is required to deny the permit request.

The Service has analyzed the impacts of the proposed Covered Activities on all elements of the natural and human environment that could be affected, including other wildlife species that occur within the covered lands. The Service has identified Alternative 1 (the proposed action, described in Section 3.1) as the selected alternative, and determined that the Applicant that the permit issuance criteria have been satisfied. Rationale for selecting this alternative is included in the findings document supporting the decision of whether to issue or deny the ITP.

3 ALTERNATIVES

Pursuant to NEPA, an EA should include a discussion of alternatives to the Proposed Action and the impacts of both the Proposed Action and alternatives considered (Section 102(2)(e) of NEPA; 40 CFR 1501.5(c)(2e) [2020]). This section describes the Proposed Action and alternatives to that action, including an Action Alternative of Issuing an ESP for a CCAA, and the No-Action Alternative.

The alternatives described below were evaluated based on their capacity to meet the Service's purpose of and need for the action (described in Section 2). The potential effects on the human environment for each of the alternatives are described in detail in Section 5 – Environmental Consequences. As described in additional detail in Section 5.4, a substantial amount of growth in oil and gas development in this region is anticipated, with a steady increase over approximately the next 10 years followed by a plateau, or even decrease, through 2050 (U.S. Energy Information Agency [USEIA] 2020a, 2020b, 2020c, 2020d). As such, the Service assumes that a similar level of oil and gas development would occur in a 30-year period on private lands within the Plan Area regardless of whether this programmatic ITP, programmatic ESP, or neither permitting mechanism, is available. This assumption is based on the current regulatory environment, namely, that the LEPC is proposed for listing under the ESA, and therefore neither the species nor its habitat are afforded legal protection.[1] If the proposed rule to list the LEPC is adopted and the LEPC is effectively protected under the ESA in 2022, this may have some influence on the rate of development in the absence of this programmatic permit; however, the extent to which LEPC listing would deter oil and gas development is difficult to estimate. Based on the large estimated buildout for oil and gas development within the Plan Area (see Table 4 of the HCP), it is unlikely that listing the LEPC would deter development enough to warrant inclusion of speculative analysis in this EA.

3.1 Alternative 1 (Proposed Action): Issue an Incidental Take Permit for the Applicant's Habitat Conservation Plan

Under Alternative 1, the Service would approve the HCP and issue a programmatic ITP with a 30-year permit term to the Applicant for the incidental take of LEPC, should the species become listed during the life of the ITP and HCP, for Covered Activities in the Permit Area. As the ITP-holder, the Applicant (in the role of HCP Administrator) would oversee enrollment of projects, and manage the requirements of the HCP and ITP, as summarized below.

3.1.1 Covered Activities

The Covered Activities would include all ground disturbing activities associated with oil and gas extraction, storage, processing, and transportation within the Plan Area that could impact

[1] In Colorado, LEPC is a Tier 1 species of greatest conservation need (Colorado Parks and Wildlife 2015). The Colorado Oil and Gas Conservation Commission (Colorado Rule 1202) prohibits new ground disturbance within 1.25 miles of leks, and requires a Colorado Parks and Wildlife-approved Wildlife Mitigation Plan or other agency-approved conservation plan and compensatory mitigation for new development that cause the density of oil and gas locations to exceed one per square mile. The other four states included in the Plan Area have not implemented state-specific regulatory measures to minimize impacts on LEPC (Van Pelt et al. 2013).

potentially suitable LEPC habitat. In addition, the Covered Activities would include grassland improvement and management activities in potential LEPC habitat on mitigation parcels in order to manage the parcel for LEPC. Both ground disturbance from initial construction and placement of infrastructure due to the Covered Activities is assumed to permanently impact LEPC habitat. Beyond initial construction of a project or grassland improvement activities on mitigation parcels, further ground-disturbing activities associated with grassland improvement activities in those same areas would have minimal impacts to LEPC. Sections 2.1, 2.2, and 2.3 of the HCP provide additional detail on the types of Covered Activities that would be authorized under this Alternative.

Implementation of the HCP would use acres of suitable LEPC habitat impacted by the Covered Activities as a surrogate for exact numerical amounts of LEPC individuals taken, consistent with ESA regulations (80 FR 26832 [May 11, 2015]). As described in the HCP, Covered Activities authorized under the ITP would be limited to maximum take of up to 500,000 acres of potentially suitable LEPC habitat within the Plan Area.

Due to the linear nature of many oil and gas projects, it is likely that ground disturbance (i.e., the limits of all grading and physical disturbance of soils or vegetation) and/or operational buffers of some enrolled projects may extend beyond the Plan Area boundary; for example, if an enrolled project is located near the boundary of the Plan Area, it is possible that some portions of the project footprint would extend beyond the Plan Area and that a portion of the LEPC avoidance buffer associated with aboveground facilities would also extend beyond the Plan Area. The ITP would only be applicable to lands within the Plan Area; therefore, if impacts to potentially suitable LEPC habitat would occur outside of the Plan Area, they would not be considered Covered Activities and the CI-holders would need to ensure compliance with the ESA for those impacts under different means.

3.1.2 Avoidance and Minimization Measures

Section 5.3 of the HCP provides details on measures that would be taken by CI-holders to avoid and minimize the impact of the taking associated with enrolled projects. These measures are summarized here.

During the siting of new projects, measures to minimize the amount of impacts to potentially suitable LEPC habitat would include:

- locating new project infrastructure, associated temporary impact areas, and impact buffers outside of suitable habitat, or within spaces that have existing impacts;
- co-locating new infrastructure (e.g., pipelines, well pads, access roads, and electrical lines) within the impact buffers of other proposed or existing features on the landscape; and
- burying linear facilities (e.g., power lines and transmission lines), where practicable given geographic, geotechnical, and engineering constraints.

During the LEPC breeding season (March 1 – July 15), enrolled projects would implement the following measures to minimize disturbance associated with increased noise and human activity:

- minimize noise and blasting, traffic volume and speed, and access points; and
- within three miles of leks that have been documented as active within the previous five years;
    - avoid off-road travel, where feasible, and
    - avoid non-emergency activities between 3:00 a.m. and 9:00 a.m.

3.1.3 Mitigation

Impacts to suitable habitat that cannot be avoided or remain after minimization measures would be offset by CI-holders through one of three Service-approved mechanisms: the purchase of mitigation credits from a mitigation bank, an in-lieu fee program, or permittee-responsible mitigation projects. As described in Section 5.3.3 of the HCP, mitigation fees would cover the conservation and management of mitigation lands in perpetuity, fully offsetting the impacts of CI-holder enrolled projects on LEPC habitat.

All lands used to provide mitigation for impacts from Covered Activities in this Alternative would be managed under a Service-approved mitigation plan selected by the HCP Administrator. The Service's *Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands* (Guidelines, Service 2014b) would be used to determine siting of conservation lands to be used in mitigation (see Section 5.3.3 of the HCP). Under the Proposed Action, the primary mitigation strategy would be to create LEPC strongholds. Mitigation lands would be managed to either preserve or restore LEPC habitat, and mitigation parcels would provide either static or dynamic LEPC mitigation (described in detail in Section 5.1 of the HCP). In each of these cases, mitigation parcels and management would be approved by the Service.

Static mitigation includes land parcels (typically banking parcels) that would be managed for LEPC and protected in perpetuity through a conservation easement. Static mitigation remains in the same geographic location on the landscape and can include management activities to preserve (preservation: maintenance or enhancement of existing habitat) or restore (restoration: the conversion of unsuitable habitat into suitable habitat) LEPC habitat. Dynamic mitigation can also serve to preserve or restore LEPC habitat in perpetuity; however, unlike static mitigation, land utilized for dynamic mitigation can be moved within the landscape. The total mitigation offset for dynamic mitigation is retained in perpetuity, though the physical location of mitigation sites may shift within the landscape over time. Because of this, lands managed to provide dynamic LEPC mitigation can move within the Plan Area, but the total offset value (total acreage) does not diminish over time or with relocation. The Applicant anticipates 95% of all mitigation provided under the HCP would be static.

Mitigation in the form of habitat preservation and restoration (which may be in the form of static and/or dynamic mitigation) would focus on protecting currently suitable LEPC stronghold habitat and would be the preferred form of mitigation until 50,000 acres of Service-approved stronghold habitat or connectivity corridors have been preserved. To allow for flexibility, the initial 50,000 acres would support the same DPS where impacts would occur, but would not be limited to occurring in the same ecoregion. Some or all of these 50,000 acres may become protected through means other than this HCP; however, the HCP Administrator will ensure the

total 50,000 acres are prioritized over other mitigation parcels. After the initial 50,000 acres is secured, through this HCP or other means, the remaining mitigation would be balanced between preservation and restoration, with restoration of at least one acre of habitat for every one acre of LEPC habitat impacted. Restoration activities would include the removal of woody invasive species (e.g., mesquite [*Prosopis* spp.], eastern red cedar [*Juniperus virginiana*]), removal of old infrastructure such as old barns and unused roads, conversion of cultivated croplands into native grassland, and any additional restoration activities approved by the Service. Restoration activities would be implemented using the most current scientific strategies, knowledge, and expertise to ensure restoration success.

Impacts to LEPC habitat are assumed to be permanent, and due to the inherent uncertainty associated with mitigation, particularly habitat restoration parcels becoming fully functional, mitigation will be provided in perpetuity. Additionally, the mitigation is expected to fully offset the lost value of the impacted habitat because overall project impacts would be mitigated at ratio greater than 1:1, with higher mitigation ratios required for impacts to higher quality LEPC habitat. The Applicant proposes to rank the relative quality of LEPC habitat using by the Southern Great Plains Crucial Habitat Assessment Tool, version 3.0 (SGP CHAT), which is a spatial tool that helps to prioritize conservation efforts for the LEPC (Western Association of Fish and Wildlife Agencies 2020). SGP CHAT defines categorical mitigation offset requirements, based on the quality of the LEPC habitat that would be impacted. Category 1 represents the highest quality (focal) areas for LEPC, and Category 4 represents the relatively lowest quality areas, generally considered as areas as potentially suitable for future LEPC range expansion. Impacts to suitable LEPC habitat for each enrolled project would be determined through a project-specific impact assessment, and offset at a mitigation ratio determined according to the SGP CHAT category in which the impacts occur (see SGP CHAT categories and mitigation ratios in Section 5.3.3.1 of the HCP). If an updated version of SGP CHAT becomes available during the ITP term, it may be adopted into the HCP if agreed upon by the Service and HCP Administrator. Section 5.3.3.1 of the HCP provides a detailed description of the approach that would be followed to determine the exact amount of required mitigation acreage for a given enrolled project.

Mitigation provided to offset impacts would be of an equivalent or higher SGP CHAT category than the impacted areas. If mitigation is unavailable within an equivalent or higher SGP CHAT category and cannot be secured, coordination between the HCP Administrator, potential CI-holders, and the Service would occur to determine an agreed-upon solution.

As described above, impacts to suitable habitat would be offset through the purchase of mitigation credits from a Service-approved mitigation bank, in-lieu fee program, or permittee-responsible mitigation project. A project-specific Conservation Plan for Mitigation Parcels would be developed for all permittee-responsible mitigation projects, to ensure grassland improvement and maintenance activities would be appropriately executed and timed to minimize risks to any LEPC occupying the parcel at the time of the activities (see Section 9.2 of the HCP). The Applicant anticipates approximately 50,000 acres of mitigation would be from permittee-responsible mitigation projects (i.e., from a source other than a Service-approved mitigation bank or in-lieu fee program), which would be subject to Service approval during the CI application

review process. However, the requested take of up to 500,000 acres of LEPC habitat could be flexibly allocated among all Covered Activities, including permittee-responsible mitigation.

3.1.4 Enrollment, Monitoring, and Reporting Processes

3.1.4.1 Enrollment

A potentially eligible project seeking to obtain a CI would coordinate with the HCP Administrator and develop the required application materials; the application process is described in Section 8.4 of the HCP, with a sample application form provided as Appendix B to the HCP. Each project would complete the six-step impact assessment process (described in detail in Section 4.4 of the HCP) to determine the anticipated project-specific impacts to LEPC. Project-specific terms and conditions would be documented within a Participation Agreement, and the applicant for the CI would be required to submit an applicable enrollment fee (Section 7.2.2 of the HCP), administration fee (Section 7.2.3 of the HCP), and proof of funding assurances (Section 7.1 of the HCP). Once the required fees and funding assurances have been received, the HCP Administrator would issue the project a CI, following the process and terms described in Sections 8.5 and 8.6 of the HCP.

3.1.4.2 Monitoring and Reporting

Throughout the ITP term, the HCP Administrator would be required to conduct both compliance and effectiveness monitoring for all enrolled projects. Compliance monitoring would occur to ensure Covered Activities are conducted in accordance with the terms of the CIs, HCP, and ITP. Effectiveness monitoring would ensure that minimization and mitigation measures are implemented and having the intended effect. In addition, mitigation monitoring and reporting would be required for enrolled projects; although monitoring and reporting would be the responsibility of the provider of the mitigation (e.g., a bank, in-lieu fee program, or permittee-responsible mitigation), the HCP Administrator would provide the Service with a combined mitigation monitoring report for the enrolled projects. While the monitoring reports will document the primary information needed to determine compliance with the terms of the CIs, HCP, and ITP, the CI-holders would be required to grant the Service access to the land or property to verify site-specific details. The following sections summarize monitoring and reporting that would occur under Alternative 1, which are described in detail in Section 5.4 of the HCP.

Compliance Monitoring and Reporting

The HCP Administrator would submit a draft annual compliance monitoring report to the Service on or before March 15 of each year following ITP issuance. A detailed list of the items that would be monitored within the Plan Area both annually and cumulatively over the ITP term and included in the annual compliance monitoring report are provided in Section 5.4.2 of the HCP. CI-holders would be obligated to provide the HCP Administrator with documentation of project-specific compliance (documentation of project-specific impacts and mitigation offsets). Documentation of compliance from the CI-holders would be appended to the annual compliance monitoring report and provided to the Service.

Effectiveness Monitoring and Reporting

The HCP Administrator would be responsible for monitoring the progress made towards achieving the HCP's biological goals and objectives, which would be documented in an effectiveness monitoring report and provided to the Service annually (Section 5.4.3 of the HCP). The reporting timeline and general reporting methods described above for compliance monitoring would apply to the effectiveness monitoring report. Similarly, CI-holders would provide documentation to the HCP Administrator for project-specific minimization measures implemented to reduce impacts to suitable LEPC habitat, which would be appended to the effectiveness monitoring report. This report would also include a summary of the types and category of mitigation implemented, both for the reporting period and cumulatively.

Mitigation Monitoring and Reporting

Mitigation monitoring would be designed to demonstrate the conservation of relatively large tracts of un-fragmented LEPC habitat. The requirements for mitigation monitoring include interim and long-term management and monitoring, as well as reporting. Mitigation monitoring reports would be submitted by the mitigation entities to the HCP Administrator annually. Each report submitted by the mitigation entities would include itemized accounts of the management tasks conducted during the reporting period in accordance with the project-specific mitigation contracts and management plans, as described in Section 5.4.4 of the HCP. The HCP Administrator would then compile the received mitigation monitoring reports and submit the reports to the Service using the same reporting timeline and general reporting methods as the annual compliance monitoring report described above.

3.1.5 Adaptive Management

Implementation of the HCP has been designed to allow for adaptive management throughout the 30-year ITP term. As Section 5.5 of the HCP describes in more detail, the annual monitoring and reporting process would be used as a regular check to determine whether the HCP is being implemented correctly, and if progression is occurring towards the goals and objectives of the HCP. The Service would work with the HCP Administrator to determine whether and what kind of adaptive management measures may be warranted, as well as the appropriate monitoring approach to refine any resulting adjustments to minimization and/or mitigation measures.

Over the 30-year ITP term, there is uncertainty in the extent of take by Covered Activities (although impacts to suitable LEPC habitat would be limited to 500,000 acres), and in the overall risk to LEPC due to changes in the availability and/or quality of habitat. This, in turn, could affect the distribution and/or number of LEPC individuals within the Plan Area. Because of these uncertainties, changes in conservation measures would be evaluated in relation to impacts to habitat, and, as needed, addressed through adaptive management responses. Specific adaptive management measures and responses are described in detail in Section 5.5 of the HCP.

3.2 Alternative 2: Issue an Enhancement of Survival Permit for a Candidate Conservation Agreement with Assurances

Under Alternative 2, instead of issuing an ITP, the Service would issue an ESP to the Applicant for the Covered Activities described above in Section 3.1.1. The permit term for the ITP (Alternative 1) and ESP (Alternative 2) would be the same, at 30 years. Under this alternative, it is assumed the Applicant (in the role of CCAA Administrator) would require enrolled projects to implement all the avoidance, minimization, mitigation, monitoring, adaptive management, and reporting processes described in the HCP, which would be technically termed a CCAA under this alternative. Therefore, the description of the HCP as described in Sections 3.1.1 through 3.1.5 for Alternative 1 would also apply to Alternative 2, with the exceptions of the time period available for enrollment in the programmatic permit, and the ability to enroll large tracts of land, providing coverage for multiple projects.

Under Alternative 2, qualifying landowners or developers could obtain a CI under the programmatic ESP only until the effective date of the final rule listing the LEPC. This differs from Alternative 1, under which individual qualifying projects would be able to apply for a CI under the process as described in Section 3.1.4 for the entire permit term, regardless of whether and when the LEPC is listed under the ESA. Any CIs issued under Alternative 2 prior to the official listing date would receive take coverage under Section 10 of the ESA for the remaining portion of the 30-year ESP term, but no additional CIs would be issued after the effective date of the listing.

Under Alternative 2, landowners or developers could obtain a CI that includes all of their property interests and may include more than one project (referred to as "all activities" enrollment option), as long as the application materials include all of the information needed to quantify the impact to LEPC habitat and the resulting mitigation requirement (i.e., the site-specific impact assessment has been conducted for lands where take coverage is requested, allowing the required mitigation ratio to be determined according to the SGP CHAT category in which the impacts would occur). In this way, a project that is planned, but not constructed, prior to listing the LEPC could be enrolled in the CCAA. However, after the effective date of the final rule listing the LEPC, oil and gas projects within the Plan Area on land that was not previously enrolled in the CCAA would need to pursue other avenues (avoid take, or apply for separate individual or programmatic ITPs under Section 10(a)(1)(B) of the ESA) to maintain compliance with the ESA.

It is unknown exactly when potential participating landowners or developers would enroll during the 30-year permit term; it is also unknown when and if the LEPC will be officially listed under the ESA. For purposes of the analysis in this EA, the Service assumes that the LEPC would be listed as early as May 2022 with an effective date in July 2022, providing a minimum time period of approximately 6 months for eligible landowners or developers to enroll in the CCAA under the programmatic ESP. Under Alternative 2, the Service assumes that landowners or developers would likely enroll larger areas of land under the CCAA, through an "all activities" enrollment option, soon after issuance of an ESP, prior to an LEPC listing decision, in order to take advantage of the legal certainties associated with the take authorization for any Covered

Activities on those lands that occur after the listing decision. Under this assumption, it is likely that a similar amount of projects would effectively be enrolled under both Alternatives 1 and 2.

Because it is anticipated that a similar level of oil and gas development within the Plan Area would occur regardless of whether the programmatic ITP or the programmatic ESP is available through the Applicant, it is likely that Alternative 2 would result in a similar amount of overall acres of impacts associated with these types of development being enrolled in conservation plans (with associated mitigation) as Alternative 1. Early in the permit term, it is likely that many landowners and developers would enroll larger areas in the CCAA, through an "all activities" enrollment option in order to ensure take associated with the Covered Activities would be authorized if the LEPC is listed. If the LEPC is listed, oil and gas projects within the Plan Area on land that was not previously enrolled in the CCAA would need to pursue other avenues to maintain compliance with the ESA, which would likely include implementation of conservation and mitigation plans for unavoidable impacts to LEPC.

3.3 Alternative 3: No-Action Alternative

Under the No-Action Alternative, the Service would not issue an ITP or an ESP, and therefore this programmatic permitting structure would not be available for willing participants to apply for CIs through the Applicant's HCP. The Service assumes that many of the activities that would continue under the No-Action Alternative would include the Covered Activities described above in Section 3.1.1. While the LEPC remains unlisted, these otherwise potentially participating entities (i.e., oil and gas companies) could either apply for enrollment in one of the two permitted CCAAs,[2] or incorporate varying amounts of LEPC risk assessment, avoidance, and minimization measures in the design, construction, and operation of their projects. Conservation measures implemented would likely be associated with those directed by Federal, State, and local laws, policies, or regulations. Beyond what is required by Federal, State, and/or local agencies, the Conservation Programs would be implemented entirely at the discretion of the landowners and private developers.

If in the future the LEPC becomes federally listed, oil and gas projects would need to modify their design and/or operations under the No-Action Alternative to either avoid take, obtain an ITP under Section 7, or obtain an ITP under Section 10(a)(1)(B) of the ESA. As described in Section 1.1, the Service issued a Proposed Rule to list two DPSs of the LEPC under the ESA on June 1, 2021 (86 FR 29432). The Service will consider public comments received as well as new data that becomes available, and will issue a Final Rule in the FR (typically within one year of the date of the Proposed Rule), which will become effective 30 days later. Based on this timeline, the earliest the LEPC would be effectively federally listed as an endangered or threatened species is July 2022. Based on the large estimated buildout for oil and gas development within the Plan Area particularly during the early years of the permit term (see Table 4 of the HCP); the unpredictability of whether the LEPC will be listed under the ESA; and because the time of listing (if it occurs) is unknown, anticipating that project development would

[2] The two permitted CCAAs available for enrollment are through the Western Association of Fish and Wildlife Agencies/Foundation for Western Fish and Wildlife and CEHMM.

decline or that a reduced amount of LEPC habitat would be impacted if the LEPC becomes listed would be speculative and is not analyzed further in this EA.

Issuance of a programmatic ITP under Alternative 1, and to a lesser extent a programmatic ESP under Alternative 2, would allow for a greater number of projects to utilize a standardized enrollment process if the LEPC is listed. It is likely that issuance of a programmatic ITP under Alternative 1 or the issuance of a programmatic ESP under Alternative 2 would result in substantially more enrolled projects that would commit to following the avoidance, minimization, mitigation, monitoring, and adaptive management processes described above in Section 3.1, than the approach to LEPC protection that would occur under the No-Action Alternative.

4 AFFECTED ENVIRONMENT

The affected environment is the area and its resources (e.g., biological, physical, cultural) potentially impacted by the Proposed Action and alternatives. The affected environment includes portions of the Plan Area and includes all areas where the Covered Activities and Conservation Program (described in Section 3.1.3 of this EA and Chapter 5 of the HCP [Attachment A]) would occur. Because the Applicant is requesting authorization for incidental take of LEPC from habitat loss, fragmentation, and degradation associated with Covered Activities, our assessment focuses on areas where LEPC take may occur within the Plan Area.

A summary of our assessment of the affected environment is provided in Table 4-1, below. This EA presents a detailed analysis of those resources that would be subject to short- or long-term effects if a programmatic ITP or ESP is issued authorizing take of LEPC, which include the biological environment (vegetation; wildlife; and listed, proposed, and candidate species), the physical environment (land use, noise, visual resources), and cultural resources. Potential impacts to other resources (i.e., geology and soils, water resources, air quality, hazardous materials/waste, recreation, socioeconomic resources, and transportation) would be similar and minimized to the extent feasible under the three alternatives being considered; therefore, they are not discussed further.

While the affected environment includes all areas where the Covered Activities, including oil and gas development, would occur, the Service is not authorizing oil and gas development itself. Rather, the Service is making a decision on whether to authorize the take of LEPC that could occur as a result of oil and gas development. Oil and gas development is regulated by and under the jurisdiction of several federal agencies including, but not limited to, the Federal Energy Regulatory Commission (FERC), Pipeline and Hazardous Materials Safety Administration (PHMSA), and USEPA. Regulatory oversight by federal agencies is subject to a separate NEPA review that provides detailed analysis on the potential environmental impacts from oil and gas development. Similarly, oil and gas development is regulated at the state level (e.g., by the Railroad Commission of Texas, Colorado Department of Natural Resources' Colorado Oil and Gas Conservation Commission, Oklahoma Corporation Commission), which also includes review of potential environmental impacts associated with construction and operation.

Table 4-1. Resources Considered and Rationale for Exclusion or Inclusion in Detailed Analysis.

Resource	Not Present	Present, Excluded from Detailed Analysis	Present, Included in Detailed Analysis	Rationale
Biological Environment				
Vegetation			X	Each of the three alternatives[1] would result in both temporary and permanent impacts to vegetation (see Section 4.1.1).
Wildlife			X	Each of the three alternatives would affect locally occurring wildlife, likely resulting in both temporary and permanent impacts to wildlife (see Section 4.1.2).
Listed, Proposed, and Candidate Species			X	Each of the three alternatives may affect state- and/or federally listed, proposed, or candidate species, including the LEPC (see Section 4.1.3).
Physical Environment				
Air Quality		X		Ground disturbing activities associated with each of the three alternatives would have similar, localized, and minor to moderate effects on air quality. Impacts would occur during construction, maintenance, and decommissioning of enrolled projects, and during grassland improvement and management activities associated with the Conservation Program. These activities would be conducted in accordance with federal, state, and local air permit requirements. Air quality impacts would primarily be associated with increased fugitive dust levels and combustion emissions near construction activities, and would not be expected to result in a violation of ambient air quality standards. These localized, minor to moderate effects would be distributed throughout the Plan Area over the 30-year permit term, spreading out impacts over time and space, and would be similar across the three alternatives. As such, air quality impacts associated with ground-disturbing activities is excluded from further analysis. Long-term impacts to air quality would primarily be associated with operation of aboveground facilities (e.g., compressor stations) associated with the enrolled projects. However, operation of enrolled projects is not a Covered Activity. As such, air quality impacts associated with operation of the enrolled projects are beyond the scope of this assessment and excluded from further analysis.
Geology		X		Each of the three alternatives would result in localized, similar effects to geology during ground disturbance, including blasting, associated with enrolled projects and restoration activities. Blasting would be minimized during the LEPC breeding season. Enrolled projects would be developed in accordance with all applicable federal, state, and local regulations, and industry standard best management practices would be employed. Therefore, impacts to geology would be localized, spread throughout the Plan Area, and similar across the three alternatives. As such, impacts to geological resources are excluded from further analysis.

Table 4-1. Resources Considered and Rationale for Exclusion or Inclusion in Detailed Analysis.

Resource	Not Present	Present, Excluded from Detailed Analysis	Present, Included in Detailed Analysis	Rationale
Hazardous Materials/Waste		X		Ground disturbing activities associated with each of the three alternatives would have similar, localized, and minor effects associated with hazardous materials and waste. Impacts could occur during construction, maintenance, and decommissioning of enrolled projects, and during grassland improvement and management activities associated with the Conservation Program. To minimize potential release of hazardous materials, enrolled projects would implement project-specific Spill Prevention, Control, and Countermeasure Plans (SPCC Plan) in accordance with 40 CFR part 112; activities would also be conducted in accordance with federal, state, and local permit requirements, and industry-standard best management practices would be implemented. With the implementation of these measures, impacts associated with the release of hazardous materials and waste would be localized, minor, and similar across the three alternatives. As such, impacts associated with hazardous materials and waste are excluded from further analysis. Operation of enrolled projects is not a Covered Activity. As such, potential impacts associated with a release of hazardous materials or waste resulting from operation of the enrolled projects are beyond the scope of this assessment and excluded from further analysis.
Land Use			X	Each of the three alternatives would result in both temporary and permanent impacts to land use (including potential impacts to areas classified as prime farmlands or farmland of statewide importance) within the Plan Area (see Section 4.2.1).
Noise			X	Each of the three alternatives would result in both short-term impacts to noise levels within the Plan Area (see Section 4.2.2).
Soils		X		Ground disturbing activities associated with each of the three alternatives would have similar, localized effects on soils. Impacts to soils would occur during construction, maintenance, and decommissioning of enrolled projects, and during grassland improvement and management activities associated with the Conservation Program. To minimize adverse impacts to soils, enrolled projects would implement project-specific SPCC Plans, Stormwater Pollution Prevention Plans (SWPPP), and restoration plans; activities would also be conducted in accordance with federal, state, and local permit requirements, and industry-standard best management practices would be implemented. With the implementation of these measures, adverse impacts to soils would be localized, minor, and similar across the three alternatives. As such, impacts to soils are excluded from further analysis.
Visual Resources			X	Each of the three alternatives would result in impacts to visual resources within the Plan Area (see Section 4.2.3).

Table 4-1. Resources Considered and Rationale for Exclusion or Inclusion in Detailed Analysis.

Resource	Not Present	Present, Excluded from Detailed Analysis	Present, Included in Detailed Analysis	Rationale
Water Resources		X		Impacts to water resources would occur during construction, maintenance, and decommissioning of enrolled projects, and during grassland improvement and management activities associated with the Conservation Program. These activities would be conducted in accordance with federal (e.g., Sections 401, 402, and 404 of the Clean Water Act), state (e.g., isolated wetlands permits, floodplain permitting), and local permit requirements. Enrolled projects would also minimize impacts to water resource by implementing project-specific SPCC Plans and SWPPPs, and industry-standard best management practices would be implemented. With the implementation of these measures, adverse impacts to water resources would be localized, minor, and similar across the three alternatives. As such, impacts to water resources are excluded from further analysis. Implementation of the Conservation Program under Alternatives 1 and 2 would result in preservation or restoration of LEPC habitat in lands that would not be impacted under the No-Action Alternative. Activities associated with the Conservation Program would occur within upland grassland habitat; therefore, impacts to water resources would likely be limited to a decrease in sediment or nutrient inputs to surface waters from due to the conversion of cultivated croplands to upland grasslands. These impacts would be minor, beneficial, and distributed throughout the Plan Area. As such, water resources are excluded from further analysis.
Other Resources				
Cultural Resources			X	LEPC habitat within the Plan Area likely includes both known and unknown cultural resources. Implementation of each of the three alternatives could result in impacts to cultural resources (see Section 4.3).
Recreation		X		Publicly accessible recreational areas that are managed by state or federal agencies for sensitive species or resources would be precluded from being impacted by the Covered Activities under Alternatives 1 and 2 (see Sections 1.5 and 1.7 of the HCP), and would likely be avoided to the extent feasible during project development under Alternative 3 (No-Action). Enrolled projects may be located in close proximity to state- or federally managed recreational areas, and may occur within or near privately or locally owned recreational areas (e.g., parks, ranches, hunting lands). Impacts to these recreational areas would primarily limited to increased noise and visual impacts associated with construction activity, but could also include permanent visual impacts associated with aboveground facilities and the conversion of forested habitat to grassland along pipeline right-of-ways. These impacts are expected to be minor and would be similar under each of the three alternatives. Therefore, recreation has been excluded from further analysis.

Table 4-1. Resources Considered and Rationale for Exclusion or Inclusion in Detailed Analysis.

Resource	Not Present	Present, Excluded from Detailed Analysis	Present, Included in Detailed Analysis	Rationale
Socioeconomics		X		Each of the three alternatives would likely have both short- and long-term socioeconomic impacts. During construction, socioeconomic impacts would primarily be associated with an increased number of local construction jobs and the purchase of goods and materials in the communities where construction activities occur. Because these impacts would be temporary, minor, spread throughout the Plan Area and the permit term, and they would be similar under each of the alternatives considered, they are excluded from further analysis. Long-term impacts to the economy would primarily be associated with state, county, and local tax payments associated with operation of the enrolled projects. However, operation of enrolled projects is not a Covered Activity. As such, long-term socioeconomic impacts are beyond the scope of this assessment and excluded from further analysis.
Transportation		X		Each of the three alternatives would have limited temporary effects on transportation during construction of enrolled projects and restoration activities, respectively. Impacts to transportation associated with construction would typically be limited to temporary increases in traffic levels on roads in the vicinity of construction activities and increased wear on roads due to construction vehicle traffic (primarily due to vehicle weight). Construction and restoration activities would be conducted in accordance with road permit requirements, which typically include conditions to both minimize impacts to local traffic and to repair damage to roadways. Because these impacts would be temporary, minor, spread throughout the Plan Area and the permit term, and they would be similar under each of the alternatives considered, they are excluded from further analysis.

[1] Implementation of Alternative 1 (Proposed Action) and Alternative 2 (Issue and ESP for a CCAA) would include the Covered Activities (described in Section 3.1.1) and mitigation (described in Section 3.1.3). Implementation of Alternative 3 (No-Action Alternative) would include the same types of activities associated with oil and gas development described in Section 3.1.1, but because no permit would be issued, they are not referred to as Covered Activities.

4.1 Biological Environment

4.1.1 Vegetation

This section describes vegetation types within the Plan Area that could be impacted by the Covered Activities and the Conservation Program, focusing on the vegetation communities that support LEPC occupancy (i.e., herbaceous and hay/pasture land cover types [approximately 32% and less than 1% of the Plan Area, respectively; Table 2 in the HCP]). Other prominent vegetation communities within the Plan Area include cultivated cropland (33%) and shrub/scrub (29%), with the remaining vegetation communities each accounting for less than 1% of the Plan Area. While cultivated croplands may be converted to LEPC habitat as mitigation, this is not considered a natural vegetation community, so our analysis regarding cultivated croplands is focused more on land use implications (see Section 4.2.1).

The Plan Area lies primarily within the South-Central Semi-Arid Prairies Level II Ecoregion, with a small portion extending into the Warm Deserts Level II Ecoregion in the southwest. Within the South-Central Semi-Arid Prairies Ecoregion, the Plan Area is subdivided into the High Plains, Southwestern Tablelands, and Central Great Plains Level III Ecoregions. The southwestern portion of the Plan Area that extends into the Warm Deserts Ecoregion is further classified as the Chihuahuan Desert Level III Ecoregion (U.S. Environmental Protection Agency [USEPA] 2017). Characteristics of each of the ecoregions within the Plan Area are described briefly below (USEPA 2013).

- **High Plains Ecoregion** is characterized by smooth to slightly irregular plains with a large percentage of the ecoregion planted in cropland. Portions of the Plan Area in eastern Colorado, western Kansas, the Oklahoma panhandle, eastern New Mexico, and western Texas are within this ecoregion.
- **Southwestern Tablelands Ecoregion** surrounds the High Plains ecoregion and are composed of several canyons, badlands, mesas, and dissected river banks that preclude the area from being used as cultivated croplands. Most of the Southwestern Tablelands are sub-humid grasslands and semiarid rangelands. Within the Plan Area, the Southwestern Tablelands fall adjacent to the High Plains in eastern Colorado, southwestern Kansas, the Oklahoma panhandle, eastern New Mexico, and northwest Texas.
- **Central Great Plains Ecoregion** occurs at lower elevations within the Plan Area, receive more precipitation, and are now mostly cropland for winter wheat. The remainder of the Plan Area in central Kansas, central Oklahoma, and small areas of land in northwest Texas are within this ecoregion.
- **Chihuahuan Desert Ecoregion** is characterized by vast expanses of desert grassland and arid shrubland due to desertification and over-grazing, with islands of oak, juniper, and pinyon pine woodland at higher elevations. Within the Plan Area, this ecoregion only occurs in southeast New Mexico and southwest Texas.

The Plan Area occurs primarily within three Major Land Resource Areas (MLRA), as defined by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). For each MLRA, the NRCS has defined the dominant physical and biological characteristics, including plant species that the area can support. Given the large scale of the Plan Area, which

includes portions of five states, MLRA data was used to describe the primary vegetation communities present that could be affected by implementation of the HCP.

The western portion of the Plan Area is within the Western Great Plains Range and Irrigation Region, which primarily overlaps the High Plains and Southwestern Tablelands ecoregions. This MLRA supports short or mid prairie grasses such as sand bluestem (*Andropogon hallii*), needle and thread (*Hesperostipa comata*), prairie junegrass (*Koeleria macrantha*), blue grama (*Bouteloua gracilis*), sideoats grama (*Bouteloua curtipendula*), galleta (*Pleuraphis* spp.), threeawn (*Aristida* spp.), ring muhly (*Muhlenbergia torreyi*), alkali sacaton (*Sporobolus airoides*), and western wheatgrass (*Pascopyrum smithii*). (NRCS 2006)

The central and eastern portions of the Project area are within the Central Great Plains Winter Wheat and Range Region, which primarily overlaps the Central Great Plains ecoregion, but also includes some area within the High Plains and Southwestern Tablelands. This MLRA supports mixed grass prairies such as buffalograss (*Bouteloua dactyloides*), blue grama, sideoats grama, hairy grama (*Bouteloua hirsuta*), sand bluestem, and little bluestem (*Schizachyrium scoparium*). Woody shrubs such as *Yucca* spp., catclaw (*Senegalia* spp.), sand sage (*Artemisia filifolia*), shin oak (*Quercus havardii*), and skunkbush (*Rhus trilobata*) are also present as a smaller proportion of the natural vegetation throughout the region. (NRCS 2006)

The portion of the Plan Area that extends into the Chihuahuan Desert ecoregion falls primarily within the Southwest Plateaus and Plains Range and Cotton Region MLRA. This MLRA supports a shrub and short-grass plant community, with juniper (*Juniperus* spp.), mesquite (*Prosopis* spp.), lotebush (*Ziziphus obtusifolia*), shin oak, sumac (*Rhus* spp.), Texas pricklypear (*Opuntia engelmannii*), tasajillo (*Cylindropuntia leptocaulis*), kidneywood (*Eysenhardtia* spp.), agarito (*Mahonia trifoliolata*), yucca, eggleaf silktassel (*Garrya ovata*), catclaw, Texas persimmon (*Diospyros texana*), sideoats grama, threeawn, Texas grama (*Bouteloua rigidiseta*), hairy grama, curly-mesquite (*Hilaria belangeri*), buffalograss, and hairy woolygrass (*Erioneuron pilosum*). (NRCS 2006)

4.1.2 Wildlife

4.1.2.1 General Wildlife

This section describes those wildlife species that are considered common within the Plan Area, and are not identified by federal or state agencies as at-risk species that require special management. As stated above (see Section 4.2.1), LEPC habitat, shrub-scrub, and cultivated croplands compose over 90% of the Plan Area, with other habitat types not occupying more than 1% of the Plan Area. Therefore, this discussion focuses on wildlife species that utilize these habitats.

The High Plains, Southwestern Tablelands, and Central Great Plains ecoregions support a variety of common wildlife species. Mammals that may occur include mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), pronghorn antelope (*Antilocapra americana*), coyote (*Canis latrans*), jackrabbit (*Lepus townsendii, californicus*), cottontail (*Sylvilagus floridanus*), American badger (*Taxidea taxus*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and black-tailed prairie dog (*Cynomys ludovicianus*). Common bird species include wild turkey (*Meleagris gallopavo*), ring-necked pheasant (*Phasianus colchicus*), Canada goose (*Branta*

canadensis), scaled quail (*Callipepla squamata*), bobwhite quail (*Colinus virginianus*), and mourning dove (*Zenaida macroura*). Common bird groups in the region include songbirds, corvids (jays and crows), waterfowl, waterbirds, and raptors. Additional species that are more common in the Chihuahuan Desert ecoregion are collared peccary (*Pecari tajacu*), gray fox (*Urocyon cinereoargenteus*), bobcat (*Lynx rufus*), opossum (*Didelphis virginiana*), and white-winged dove (*Zenaida asiatica*; NRCS 2006). A wide variety of snakes, lizards, frogs, and toads also commonly occur throughout the Plan Area (NatureServe 2021).

There are several protected lands within the Plan Area, including national wildlife refuges, national forests, state wildlife management areas, conservation easements, and public lands managed by the Bureau of Land Management (BLM). These areas are precluded from the Covered Activities under the HCP (see Section 1.5 of Attachment A).

4.1.2.2 Eagles

Bald eagles occur throughout the Plan Area year-round (eBird 2020). Golden eagles, while less common than bald eagles, also occur throughout the Plan Area year-round, but are more common in the western portion of the Plan Area (i.e., portions of the Plan Area in Colorado, New Mexico, and western Texas; National Eagle Center 2020; Service 2016a).

Both bald and golden eagles are more common in the Plan Area from early fall through late spring (eBird 2020). This period corresponds with the nonbreeding migration season and the increase of bald and golden eagles beginning in the fall is likely attributed to the influx of nonbreeding migratory individuals. Bald and golden eagles often migrate along major river systems, which are largely absent from the Plan Area. Suitable stopover habitat for bald eagles may exist within the Plan Area. For bald eagles, this would be primarily within herbaceous and wetland areas or cultivated croplands that attracts migrating waterfowl (Mersmann 1989, McClelland et al. 1996). For golden eagles, suitable stopover habitat would be primarily within herbaceous and shrubland areas, with avoidance of fragmented areas or cultivated croplands (Marzluff et al. 1997).

Although bald and golden eagles are not expected to use LEPC habitat frequently, both species may forage within LEPC habitat. Additionally, it is possible that both species could potentially nest in scattered trees within LEPC habitat; however, this would be more likely for bald eagles than golden eagles.

4.1.3 Listed, Proposed, and Candidate Species

Covered Activities and the Conservation Program described in Chapters 2 and 5 of the HCP, respectively would not occur in aquatic or forested habitats, and therefore effects to species dependent upon those habitats are not anticipated. A total of 59 federally listed, proposed, or candidate species may occur within the Plan Area (see Attachment B). Of these, 16 species occur within suitable LEPC habitat (defined in the HCP as land cover types classified as herbaceous or hay/pasture by the National Land Cover Database [Yang et al. 2018, Multi-Resolution Land Characteristics 2019), shrub-scrub habitat, or cultivated croplands (see Table 4-2). An additional 38 state-listed endangered and threatened species have the potential to occur in the Plan Area within these habitats (see Attachment B). These include five mammals, 14 birds, three amphibians, seven reptiles, one invertebrate, and eight plants (Attachment B).

Table 4-2. Federally listed Species1 with the Potential to Occur in suitable LEPC habitat within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes
Mammals			
Black-footed ferret *Mustela nigripes*	FE	SE – CO, KS	Limited to open habitat such as semi-arid grasslands, steppe, and shrub steppe. Black-footed ferrets are limited by prairie dog occurrence, as they depend on prairie dogs for food and prairie dog burrows for shelter (Service 2013b).
New Mexico meadow jumping mouse *Zapus hudsonius luteus*	FE	SE – NM	Riparian communities and adjacent uplands in grassland and shrub-scrub habitats with tall, emergent herbaceous forbs and sedges (Service 2014c).
Penasco least chipmunk *Tamias minimus atristriatus*	FC	SE – NM	Subalpine Thurber's fescue meadow with deciduous shrubs or upper montane coniferous forest (Frey and McKibben 2018).
Preble's meadow jumping mouse *Zapus hudsonius preblei*	FT	ST – CO	Dense, herbaceous riparian habitat and adjacent upland grasslands (Service 2018).
Birds			
Northern Aplomado falcon *Falco femoralis septentrionalis*	FE, EXPN	SE – NM, TX	Open terrain with scattered trees or shrubs such as yucca-covered sand ridges in coastal prairies, riparian areas adjacent to grasslands, and in desert grasslands with scattered mesquite and yucca (Service 1990).
Southwestern willow flycatcher *Empidonax traillii extermis*	FE	SE – CO, NM, TX	Dense, forested riparian habitats are required for nesting; however, migration and foraging habitat includes old field, shrubland/chaparral, and mixed hardwood forest (NatureServe 2021).
Whooping Crane *Grus Americana*	FE, EXPN DCH	SE – CO, KS, NM, TX	Coastal marshes and estuaries, inland marshes, lakes, ponds, riparian areas, wet meadows and rivers, and agricultural fields (NatureServe 2021).
Invertebrates			
American Burying Beetle[2] *Nicrophorus americanus*	FT, EXPN	SE – KS	Occurs in a variety of habitats, such as grassland, shrubland, and hardwood forests. May occur in areas with mowed or grazed fields to dense shrub areas. Adults typically live aboveground, but may overwinter in soil and lay eggs in soil next to buried carcasses. (NatureServe 2021)
Monarch Butterfly[2] *Danaus plexippus*	FC	NL	Adult monarch butterflies feed on nectar from a wide variety of flowers, but larvae only feed on milkweed (*Asclepias* spp.). Adults feed in fields, along roads, open areas, wet areas, and gardens on milkweeds and other flowering plants. Breeding only occurs where there are milkweed plants (U.S. Forest Service 2021)
Flowering Plants			
Bunched cory cactus *Coryphantha ramillosa*	FT	ST – TX	Chihuahuan Desert succulent scrub on rocky slopes, ledges, and gravelly limestone flats (NatureServe 2021).
Gypsum wild-buckwheat *Eriogonum gypsophilum*	FT	SE – NM	Semi-arid open grassland dominated by grama species and creosote bush (*Larrea tridentata*) communities (NatureServe 2021).
Kuenzler hedgehog cactus *Echinocereus fendleri* var. *kuenzleri*	FT	SE – NM	Grassland and herbaceous habitat on the fringes of pinyon-juniper savannah (NatureServe 2021).
Lloyd's mariposa cactus *Echinomastus mariposensis*	FT	ST – TX	Arid desert and shrubland/chaparral habitats with gravely, limestone-derived soils on gentle slopes (NatureServe 2021).

Table 4-2. Federally listed Species1 with the Potential to Occur in suitable LEPC habitat within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes
Sneed pincushion cactus *Coryphantha sneedii* var. *sneedii*	FE	SE – NM, TX	Desert and desert grassland habitats with limestone ledges and slopes dominated by creosote bush, yucca species, and grama species (NatureServe 2021).
Texas poppy-mallow *Callirhoe scabriuscula*	FE	SE – TX	Grasslands, shin oak shrublands, and mesquite woodlands with deep, loose sandy soil from alluvial deposits of the Colorado River (NatureServe 2021).
Tobusch fishhook cactus *Sclerocactus brevihamatus* ssp. *Tobuschii*	FT	SE – TX	Riparian areas and adjacent shortgrass grasslands and semi-desert shrublands interspersed with oak-juniper woodlands (NatureServe 2021).

FE = federally endangered, FT = federally threatened, FC = candidate for federal listing, DCH = designated critical habitat, SE = state endangered, ST = state threatened, EXPN = population is experimental, non-essential in survival of the overall species

1 Federally listed species with the potential to occur within the Plan Area, but that are not expected to occur in similar habitat as the LEPC are considered unlikely to be affected by the issuance of an ITP or ESP; therefore, these species are not included in Table 4-2 and have been dismissed from detailed analysis. A list of each of the federally listed species with potential to occur within the Plan Area is included in Attachment B.

2 Identified through our state-level threatened and endangered species analysis as potentially occurring within the Plan Area but not identified through the Information for Planning and Consultation Tool (IPaC; Service 2021b)

Critical habitat has been designated for 15 species (one bird, four fish, eight aquatic invertebrates, and two flowering plants) within the Plan Area (see Attachment B). Of these, only designated critical habitat for the whooping crane includes LEPC habitat, shrub-scrub, or cultivated croplands, and each of the three critical habitat units within the Plan Area is located within lands managed by a state or federal agency (e.g., Waterfowl Management Areas, National Wildlife Refuges), which are precluded from the Covered Activities under the HCP.

As discussed in Section 3 of this EA and Section 1.7 of the HCP, the issuance of an ITP or ESP would only authorize incidental take of LEPC associated with otherwise lawful activities. Projects seeking to enroll in the HCP or CCAA and obtain coverage would be required to provide documentation of ESA compliance for species not covered under the programmatic permit as part of the application package, which would be reviewed by both the Applicant and the Service (see Section 8.4 of the HCP). Similarly, enrolled projects would be required to adhere to state regulations relating to state-listed endangered and threatened species (see Attachment B). Therefore, the remainder of this section focuses on the affected environment as it relates to the LEPC.

The LEPC requires large parcels (1,200 – 25,000 acres) of undisturbed, high quality native grassland and shrubland to maintain self-sustaining populations (Bidwell 2002, Van Pelt et al. 2013, Sullins et al. 2019). Preferred habitats include short and mixed grass prairies with grass species such as sand bluestem, little bluestem, buffalograss, various dropseeds (*Sporobolus* spp.), and various gramas. Sand sagebrush or shin oak make up the dominant shrub types in ideal LEPC habitats to provide summer and winter protection and act as a supplemental food source (Service 2010). Within an individual's home range, sufficient lekking/breeding habitat, nesting habitat, brood habitat, and autumn/winter habitat must be available to support a sustainable LEPC population. Additional details regarding the specific habitat characteristics required to fulfill the LEPC life history needs can be found in Section 3.4 of Attachment A.

LEPC populations have drastically declined within the past 200 years and the species currently only occupies 16% of its historical range. Population declines are attributable to habitat loss, degradation, and fragmentation primarily due to native prairies being converted to cultivated croplands and, to a lesser extent, human population growth and energy development (Service 2014a, Evans and Li 2017). Studies have shown that LEPC will avoid tall structures on the landscape, such as drill rigs, wind turbines, communication towers, and transmission lines, and appear to be displaced by many forms of energy development (see Section 3.6.3 of the HCP [Attachment A]). Additional details regarding population trends and threats to the LEPC can be found in Sections 3.5 and 3.6 of Attachment A.

The LEPC occupies 27,259 square miles of grassland/shrubland communities in portions of Colorado, Kansas, New Mexico, Oklahoma, and Texas (Figure 4-1; Service 2013a, Van Pelt et al. 2013). The LEPC range is divided into four regions based on the dominant vegetation communities utilized by LEPC: Shinnery Oak Prairie, Sand Sagebrush Prairie, Mixed Grass Prairie, and Shortgrass/Conservation Reserve Program (CRP) Mosaic (Figure 4-1). Each of these regions is targeted for LEPC habitat restoration and conservation in the HCP (Attachment A).

A focused, large-scale survey effort for LEPC began in 2012 to estimate and track population size and assess population trends across the species range. Aerial surveys for leks throughout the region and the use of improved models has resulted in an increased estimated detection probability of larger clusters of LEPC. Annual population size was estimated from 2012 through 2018, and again in 2020 (see Table 1 in the HCP; Service 2021c based on Nasman et al. 2020), averaged over the most recent five years of surveys (2015-2020; surveys were not conducted in 2019; Service 2021c), the population was estimated at 27,000 individuals range-wide (see Section 3.5 of the HCP [Attachment A]). Most recently, aerial surveys conducted in 2021 estimated a range-wide population size of 30,461 total birds; population distribution was estimated for each of the four LEPC habitat regions shown on Figure 4-1: Shinnery Oak Prairie (1,571 birds), Sand Sagebrush Prairie (440 birds), Mixed Grass Prairie (3,132 birds), and Shortgrass/CRP Mosaic (25,318; Nasman et al. 2021). The *2021 Species Status Assessment for the Lesser Prairie Chicken (Tympanuchus pallidicinctus)* provides the most relevant and best available science regarding LEPC (Service 2021c).

4.2 Physical Environment

4.2.1 Land Use

The dominant land cover types within the Plan Area are cultivated croplands (33% of the Plan Area), suitable LEPC habitat (herbaceous lands [32%] and hay/pasture [0.6%]), and shrub-scrub (29%); of the remaining 8% of the Plan Area, only developed, open space (e.g., roads) accounts for more than 1% of the Plan Area. Portions of the Plan Area are also designated as either prime farmland (38%) or farmland of statewide importance (13%; NRCS 2020). Prime farmlands are designated as such because of soils having the ideal combination of both physical and chemical characteristics for food, feed, forage, fiber, and oilseed crop production (NRCS 2020). Farmland of statewide importance is generally land that does not meet the requirements for prime farmland but produces an economically similar crop yield (NRCS 2020).

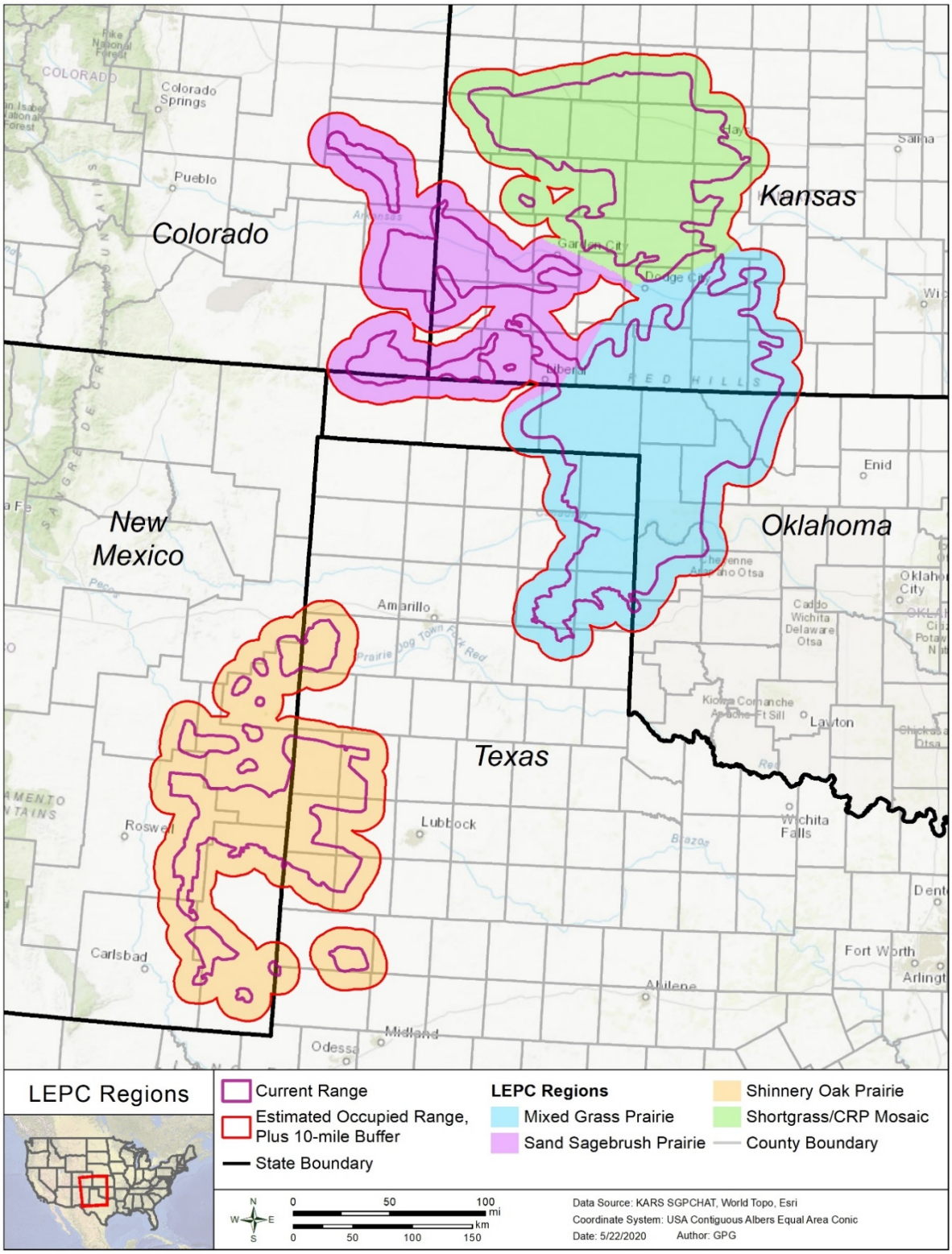

Figure 4-1. Estimated occupied range of lesser prairie-chicken in Colorado, Kansas, New Mexico, Oklahoma, and Texas.

Within the Western Great Plains Range and Irrigated Region, approximately 88% of the land is privately owned and is primarily used for rangeland for cattle grazing and some sheep. Where irrigation is possible, crops such as alfalfa, sugar beets, grain sorghum, melons, seed crops, corn, small grains, onions, and other vegetables are the main crop types. About 99% of the land in the Central Great Plains Winter Wheat and Range Region is privately owned, with farms and ranches making up nearly all of the private land in this area. Winter wheat is the principal crop, but soybeans, corn, alfalfa, grain sorghum, cotton, and peanuts are also commonly grown. The grassland in the area is used mainly as rangeland for beef cattle. Similarly, the Southwest Plateaus and Plains Range and Cotton Region is primarily comprised of ranches for livestock grazing and wildlife habitat. (NRCS 2006)

4.2.2 Noise

The level of ambient noise represents the total amount of background noise in an area and can be used to estimate the impacts of a new noise source relative to existing conditions. Ambient noise levels in high density urban areas are typically much higher than noise levels in lower density residential or rural areas (California Department of Transportation 2013). The Plan Area is made up primarily of rural communities (U.S. Census Bureau 2018), and therefore most of the Plan Area likely has low levels of ambient noise. New noise sources may be more discernable in rural areas with low existing ambient noise levels than in urban areas with high ambient noise levels.

Areas that are considered sensitive to noise impacts are often referred to as “noise sensitive areas” (Federal Aviation Administration 2013, U.S. Department of Agriculture 2016, Federal Energy Regulatory Commission 2017). These include, but are not limited to, private residences, libraries, schools, hospitals, and other care facilities. Given the lower population density (U.S. Census Bureau 2020), rural settings are likely to have fewer noise sensitive areas that would potentially be affected by noise than urban settings.

4.2.3 Visual Resources

Visual resources or “aesthetics” refer to the human perception of natural beauty on the landscape and the scenic qualities of an area. Attempting to measure aesthetics is subjective and differs from person to person. Visual resources can be measured by their uniqueness and the emotion or feeling they can invoke.

While specific visual resources for the enrolled projects are not available at this time, the landscapes within the proposed Plan Area are generally not considered unique within the region and represent the typical landscapes associated with the High Plains, Southwestern Tablelands, Central Great Plains, and Chihuahuan Desert ecoregions. As stated above, there are several protected lands within the Plan Area that could be considered unique or scenic vistas (e.g., national wildlife refuges, national forests); however, these areas are precluded from the Covered Activities under the HCP (see Section 1.5 of Attachment A). The Plan Area represents relatively large, undeveloped, open areas with dispersed rural communities. Based on the large size of the Plan Area, enrolled projects would likely be located in areas considered a background view for most observers. The number of viewers is expected to be relatively low, as enrolled projects will likely be located within rural portions of the Plan Area.

4.3 Cultural Resources

Cultural resources include prehistoric or historic districts, sites, buildings, structures, objects, or properties of traditional religious and cultural importance that meet the requirements for the National Register of Historic Places (NRHP); sacred sites; and lands or sites of contemporary cultural importance.

While site-specific information for enrolled projects is unavailable at this time, it is likely that both identified and unidentified cultural resources are present within the Plan Area. As stated in the HCP, lands registered on the NRHP are precluded from the Covered Activities under the HCP (see Section 1.5 of Attachment A). As described in detail in Appendix B, Worksheet 8 of the HCP (see Attachment A), prospective CI-holders would work with a cultural resources professional who meets the Secretary of Interior's Professional Qualifications Standards (36 CFR Part 61), to assist the Service in fulfilling the requirements of Section 106 of the NHPA and its implementing regulations. Prospective CI-holders, with the assistance of their cultural resource professional, would coordinate with the appropriate Service Ecological Services Field Office, State Historic Preservation Office (SHPO), and Tribal Historic Preservation Office (THPO) to support consultation between the Service and the SHPO under Section 106 of the NHPA (see Appendix B, Worksheet 8 of the HCP).

5 ENVIRONMENTAL CONSEQUENCES

NEPA requires federal agencies to consider whether the effects of the proposed action are significant and the degree of the effects of the action, including connecting actions (40 CFR 1501.3(b) and 40 CFR 1501.9(e)(1)). NEPA requires that in considering effects to the potentially affected environment, agencies should consider the affected area (national, regional, or local) and its resources (40 CFR 1501.3(b)(1)). To determine the degree of the effects of the action, federal agencies "should consider the following, as appropriate to the specific action: (i) Both short- and long-term effects. (ii) Both beneficial and adverse effects. (iii) Effects on public health and safety. (iv) Effects that would violate Federal, State, Tribal, or local law protecting the environment" ((40 CFR 1501.3(b)(2)). A description of the Plan Area setting is provided below, to put the Plan Area in context for analyzing the biological, physical, and cultural resources discussed in this section.

The Plan Area overlaps five U.S. states, all within the southern Great Plains, including portions of Colorado, Kansas, New Mexico, Oklahoma, and Texas (Figure 1-1). In Colorado, the Plan Area overlaps 11 of 64 counties in the southeastern portion of the state (17%). In Kansas, the Plan Area overlaps 44 of 105 counties (42%), encompassing most of the western half of the state. The Plan Area overlaps 13 of 33 counties in eastern New Mexico (39%). Within Oklahoma, 30 of 77 counties overlap the Plan Area (39%), including the panhandle and other western areas. In Texas, the Plan Area overlaps 65 of 254 counties (26%) in the northwest portion of the state. The Plan Area encompasses the estimated occupied LEPC range plus a 10-mile buffer (Figure 1-1), and an additional 51,865,976 acres of land not currently within the occupied LEPC range or 10-mile buffer. In other words, the LEPC estimated occupied range plus a 10-mile buffer makes up 44% of the Plan Area, while 56% of the Plan Area falls outside of the LEPC range and buffer areas. The impacts to LEPC associated with oil and gas development would be localized in

nature and distributed throughout the Plan Area and the 30-year permit term, dispersing the total impacts over time and space.

This section describes the environmental effects of each of the alternatives retained for detailed analysis. Each of the alternatives would include a similar level of oil and gas development over a 30-year period within the Plan Area. The three alternatives differ with respect to whether a programmatic ITP, programmatic ESP, or neither programmatic permitting mechanism is granted, along with the associated level of commitment to minimizing and mitigating effects to the LEPC and its habitat. As described in Section 3.2, above, the Covered Activities and the Conservation Program described in the HCP would apply to both Alternatives 1 and 2. Therefore, the environmental consequences associated with Alternatives 1 and 2 are expected to be similar and are analyzed together, below.

Per the CEQ guidelines, impacts due to reasonably foreseeable actions within the Plan Area should be analyzed. Past and present actions within the Plan Area include conversion of native habitats to cultivated croplands or grazing lands, energy generation, transmission projects and, to a lesser extent, urban and rural development. Reasonably foreseeable oil and gas development was estimated in the Applicant's HCP (see Section 4.3). In general, oil and gas production is expected to happen primarily in the near term, with a plateau early in the ITP term (2022 for oil and 2025 for natural gas) through 2050. This near term development is expected to require production of 1,712 new oil and gas well pads and supporting infrastructure and 3,408 miles of pipelines and associated facilities (Section 4.3 of Appendix A). Taking the expected oil and gas production plateau into account, approximately 3,000 additional oil and gas well pads and 5,000 additional miles of pipelines are expected to be developed throughout the remainder of the ITP term. While some of this development would be covered under the Applicant's proposed HCP or CCAA through enrolled projects, or through enrollment in one of the two currently permitted CCAAs, there would still likely be substantial oil and gas development beyond what is associated with these programmatic permits.

Other reasonably foreseeable future actions within the Plan Area include 6,143 MW of wind development, 3,651 MW of solar development, 1,000 miles of power lines, and 1,134 new communication towers (LPC Conservation LLC 2021). While some of this development may be covered under the LEPC Renewables HCP or CCAA (Service 2021a) if authorized through enrolled projects, there would still likely be substantial wind, solar, power line, and communication tower development beyond what is associated with this earlier programmatic permit for LEPC take due to wind, solar, power line, and communication tower development.

The Plan Area is made up primarily of rural counties and the U.S. Census Bureau (2018) indicates relatively low or negative population growth for most counties within the Plan Area. As such, urban growth and development is not expected to be a substantial source of impacts to the LEPC or other human or natural resources in the Plan Area.

5.1 Biological Environment

5.1.1 Vegetation

Similar to the focus of the Affected Environment (see Section 4, above), the analysis of effects to vegetation focuses on the vegetation communities that support LEPC occupancy (i.e., herbaceous and hay/pasture land cover types), because both the Covered Activities and much of the conservation/mitigation activities would occur within these communities. While cultivated croplands may be converted to LEPC habitat as mitigation, this is not considered a natural vegetation community that would support the life history requirements of the LEPC, so our impact analysis regarding cultivated croplands is focused more on land use implications (see Section 5.2.1). Vegetation can be impacted at the individual, population, or community level. Substantial impacts to vegetation can occur when any of the following result:

- acreages of natural vegetation communities are reduced below the levels required to maintain plant species population viability at a local or regional level;
- loss or degradation of soil stability due to a reduction in native plant communities, which typically provide more robust root systems leading to increased soil regeneration capabilities (e.g., nutrients, fungi);
- increased soil compaction can reduce suitability of the habitat for some plant species;
- loss or degradation of habitat for a rare, threatened, or endangered animal species; or
- introduction of invasive species that results in replacement of native species.

5.1.1.1 Alternatives 1 and 2

Implementation of the HCP under Alternative 1 or CCAA under Alternative 2, including both the Covered Activities and the Conservation Program, would have an impact on vegetation within the Plan Area during pre-construction investigations; construction; post-construction restoration; repairs associated with oil and gas development; and during grassland improvement and management. Three vegetation communities account for more than 90% of the Plan Area, including LEPC habitat (slightly less than 33% of the land cover, including both herbaceous and hay/pasture), cultivated croplands (33%), and shrub/scrub (29%; see Section 4.2.1 of this EA and Table 2 of the HCP). The remaining vegetation communities each account for less than 1% of the Plan Area.

Under Alternatives 1 and 2, the Applicant would receive authorization to impact up to 500,000 acres of suitable LEPC habitat, which would be distributed throughout the 92,224,490-acre Plan Area over the 30-year permit term. Within the Plan Area, this would equate to 1.7% of the 30,178,085 acres of potentially suitable LEPC habitat, and approximately 45% of

the 1,105,417[3] acres of suitable LEPC habitat expected to be impacted by overall oil and gas development and associated grassland improvement and management activities conducted by a source other than a Service-approved entity during the permit term (see Table 4 in the HCP). Implementation of the Conservation Program would also affect approximately 1,000,000 acres of vegetation, either through preservation or restoration of LEPC habitat. Of this, at least 50,000 acres of existing LEPC habitat would be preserved and placed into LEPC strongholds or connectivity corridors, with the remaining acreage being a combination of preserving existing LEPC habitat and restoring suitable LEPC habitat through the conversion of cultivated croplands, removal of invasive woody species, removal of infrastructure, or other land management activities approved by the Service.

Impacts to vegetation communities anticipated from implementation of the HCP or CCAA would be both adverse and beneficial. Adverse impacts to vegetation would include both disturbance and removal, and degradation of vegetation communities could occur if plant growth is reduced as a result of soil compaction or if invasive plant communities establish and outcompete native communities. Beneficial impacts to vegetation would be primarily associated with implementation of the Conservation Program, which would result in the preservation of vegetation communities that are suitable for LEPC, restoration of degraded grasslands, conversion of cultivated croplands to LEPC habitat, and removal of woody invasive species.

Construction activities (Covered Activities under both Alternatives 1 and 2) would temporarily disturb or permanently convert vegetation communities in discrete areas associated with proposed infrastructure, including well pads, access roads, electrical distribution lines, communication towers (under 200 ft), pipelines, booster/compressor/pump stations, regulator facilities, processing and treatment facilities, electrical substations, and construction areas. The acreage of vegetation disturbed would vary for each project enrolled under the HCP or CCAA; however, the amount of vegetation impacted is expected to be substantially less than the 500,000 acres of LEPC habitat impacts authorized under the ITP/ESP because a large percentage of those acres would be associated with LEPC impact buffers (see Table 3 in Section 4.3 of the HCP), where vegetation clearing is not proposed.

Covered Activities would be conducted in accordance with federal, state, and local regulations and appropriate best management practices (BMPs) would be followed to avoid and/or minimize adverse impacts to vegetation communities. For example, enrolled projects regulated under Section 7(c) of the Natural Gas Act (facilities associated with interstate natural gas transmission) by the FERC, construction and restoration activities would be conducted in accordance with the FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan Wetland and Waterbody Construction and Mitigation Procedures* (2013a, 2013b). Appropriate BMPs could include, but are not limited to, minimizing the clearing of vegetation in temporary work areas and restricting construction vehicles to approved access roads and work spaces. Post-construction restoration, a Covered Activity under both Alternative 1 and Alternative 2, would reduce the impacts of

[3] The 1,105,417 acres of potentially impacted LEPC habitat from oil and gas development is derived from Table 4 of the HCP, but also includes the 50,000 acres of impacts to LEPC habitat expected to occur from grassland improvement and management activities associated with mitigation implemented through sources other than a Service-approved conservation bank or in-lieu fee program.

vegetation disturbance and removal through the revegetation of temporarily impacted areas. Through the application process, each enrolled project would describe project actions, estimated acreages of both biological and physical features within the project area, and the specific BMPs that would be implemented to avoid and minimize impacts. This would include quantifying the acres of vegetation that would be cleared or disturbed, and the proposed post-construction restoration plan. Each enrolled project would be monitored for ITP or ESP compliance through annual compliance monitoring reports submitted to the HCP or CCAA Administrator.

Soil compaction has the potential to impact existing vegetation and revegetation efforts. Impacts associated with soil compaction would be minimized in accordance with construction stormwater permit requirements (required under Section 402 of the Clean Water Act [CWA]); other federal, state, and local permit requirements; and with the successful implementation of BMPs, such as limiting construction vehicles to approved access roads and decompacting soils during restoration.

Invasive species may occur within the vegetation communities impacted by Covered Activities; however, the proportion of communities containing invasive species would vary for each enrolled project. Invasive species control measures would be implemented in accordance with state and local regulations. Further, implementation of the Conservation Program would result in the removal of woody invasive species on mitigation lands where LEPC habitat is restored (discussed in Section 3.1.3 of this EA and in Section 5.3.3 of the HCP).

Implementation of the Conservation Program would result in both temporary and permanent impacts to vegetation during efforts to improve or maintain LEPC habitat on mitigation parcels (e.g., controlled burning, erosion control, mechanical brush control, herbicide treatment, grazing management, range planting, forage harvest management, fence installation); however, both preservation and restoration of LEPC habitat are expected to result in beneficial impacts to vegetation communities. Impacts to higher quality vegetation communities considered suitable for LEPC (i.e., SGP CHAT categories 1 and 2) would be avoided through project siting to the extent feasible, and offsite restoration of degraded grasslands or conversion of cropland to restored grasslands would occur to mitigate the impacts to LEPC habitat. Under Alternatives 1 and 2, an estimated 1,000,000 acres of LEPC habitat would be preserved or restored to fully offset the impacts of the take,[4] as habitat would be mitigated at ratios ranging between 1.25:1 and 2.5:1 (see SGP CHAT categories and mitigation ratios in Section 5.3.3.1 of the HCP). Monitoring for effectiveness and compliance, required as part of ITP/ESP reporting under both Alternative 1 and Alternative 2 (see Section 3.1.4.2 of this EA), would ensure the Conservation Program is successful in offsetting adverse impacts.

Oil and gas development in the Plan Area would result in both short- and long-term impacts to vegetation. Impacts to vegetation would be minimized through adherence to permit conditions, implementation of industry-standard BMPs for each enrolled project, and would be expected to result in minor overall changes in the local plant community composition or health. Further, both

[4] The Applicant and Service assume that impacts to LEPC habitat would be equally distributed among SGP CHAT categories 1–4 and the associated mitigation ratios (see Section 5.3.3.1 and Table 6 in the HCP and Section 3.1.3 of this EA) throughout the Plan Area and over the 30-year permit term.

temporary impacts and permanent conversion of vegetation would be more than fully offset through the preservation or restoration of approximately 1,000,000 acres of LEPC habitat, which would include a reduction in woody invasive species, resulting in overall beneficial impacts to herbaceous and hay/pasture vegetation communities in the Plan Area. The degree of both short- and long-term vegetation impacts would be localized for each enrolled Project, and low in overall severity due to being fully offset by the habitat preservation and restoration measures described above. The long-term composition and function of vegetation communities would be expected to remain intact and effective.

Past and present actions have resulted in changes to the vegetation communities within the Plan Area and surrounding region. Most notable is the conversion of native communities to support agricultural crop production and livestock grazing, which collectively make up over 90% of the Plan Area (NRCS 2006). Other activities, including rural development, transportation, oil and gas pipelines, wind energy generation, and electrical transmission lines have, to a lesser degree, also caused changes in the vegetation communities. These past and present actions have resulted in temporary and permanent loss of native plant communities, fragmentation of contiguous communities, and the introduction and spread of invasive plant species.

Reasonably foreseeable actions are likely to cause similar changes to native plant communities within and surrounding the Plan Area. Up to 500,000 acres of vegetation within suitable LEPC habitat would be authorized to be impacted under the LEPC Renewables HCP or CCAA (LPC Conservation LLC 2021, Service 2021a), in addition to the 500,000 acres of vegetation within suitable habitat that would be authorized under this HCP, totaling 3.3% of suitable LEPC habitat within the Plan Area. Additionally, 1,000,000 acres of vegetation would be preserved or restored under the Conservation Program as part of the LEPC Renewables HCP or CCAA (LPC Conservation LLC 2021, Service 2021a). However, both preservation and restoration of LEPC habitat are expected to result in beneficial impacts to vegetation communities, and therefore would not be expected to add to cumulative adverse impacts to vegetation.

Oil and gas, wind, solar, power line, and communication tower development not covered under any HCP or CCAA would likely result in further loss, fragmentation, and degradation of vegetation communities. However, this development would be conducted in compliance with Section 402 of the CWA, which requires that construction activities disturbing at least one acre of land, and that discharge stormwater into surface waters obtain a National Pollutant Discharge Elimination System (NPDES) permit. As part of the NPDES permit, each project would be required to restore vegetation communities as part of its SWPPP and other industry-standard BMPs would likely be implemented, such as the avoidance of higher quality vegetation communities. Because of this, we assume most disturbance to vegetation communities from reasonably foreseeable future actions would likely occur within previously disturbed areas. Therefore, the issuance of an ITP for LEPC is not expected to result in significant cumulative effects to vegetation.

5.1.1.2 Alternative 3 (No-Action)

Under the No-Action Alternative, a similar level of oil and gas development as what is expected under Alternative 1 and Alternative 2 would likely occur over a 30-year period within the Plan

Area. As such, impacts to vegetation due to the Covered Activities would be similar to what is described above in Section 5.1.1.1 (with the exception of grassland improvement and maintenance associated with mitigation, which would not occur under the No-Action Alternative). It is expected that projects would implement BMPs during construction in order to avoid and/or minimize adverse impacts to vegetation communities where required by federal, state, or local regulations. Projects would likely take reasonable steps to minimize impacts to higher quality upland vegetation communities (e.g., forest, native grasslands) to the extent feasible during project planning; however, avoidance of these communities would be voluntary. Further, offsite restoration of degraded grasslands, conversion of cropland to restored grasslands, and removal of woody invasive species to offset impacts; monitoring; adaptive management; and reporting would not be required, which would result in less certainty over long-term effects to vegetation communities under the No-Action Alternative when compared to Alternative 1 and Alternative 2.

If the proposed rule to list the LEPC is adopted and the LEPC is afforded legal protection under the ESA in 2022, it is possible that individual HCPs would be developed for some oil and gas projects under the No-Action Alternative. It is likely that higher quality grassland habitats considered suitable for LEPC would be avoided and offsite mitigation would occur based on individual project requirements and coordination with appropriate agencies if the LEPC is listed. However, because projects would be authorized under individual HCPs rather than this programmatic HCP, it is expected that the mitigation ratio, monitoring requirements, and adaptive management strategy would be determined on a project-specific basis, making it more difficult to track overall impacts to vegetation communities. In addition, because some projects may not develop HCPs, there would be greater uncertainty in the amount and effectiveness of avoidance and mitigation across the Plan Area.

5.1.2 Wildlife

Impacts to wildlife may occur when any of the following result:

- disturbance, injury, or mortality of individuals;
- habitat loss, degradation, or alteration;
- a change or reduction in resources used by wildlife in different life stages (e.g., alterations to habitat composition); or
- the creation of habitat edges and openings that favor a different mix of species, and may increase predation pressure and/or cause displacement or avoidance.

Substantial impacts to wildlife are those that affect a species' population (locally, regionally, or range-wide) or reduce its habitat quality or quantity to the point where population viability would be affected.

5.1.2.1 Alternatives 1 and 2

General Wildlife

Similar to the Affected Environment section above, the analysis of environmental impacts to wildlife focuses on those species that are considered common within the Plan Area, occur in similar habitats as the LEPC, and are not identified by federal or state agencies as at-risk species that require special management. Implementation of the Covered Activities described in the HCP under Alternative 1 or CCAA under Alternative 2 would impact wildlife habitat within the Plan Area during pre-construction investigations; construction; post-construction restoration; and repairs associated with oil and gas development; and grassland improvement and maintenance. As described in Section 4.2.1, LEPC habitat, cultivated croplands, and shrub/scrub habitat make up over 90% of the Plan Area, with other habitat types each accounting for less than 1% of the Plan Area.

As described in Section 5.1.1.1, under Alternatives 1 and 2, the Applicant would receive authorization to conduct Covered Activities that would affect up to 500,000 acres of suitable LEPC habitat. Implementation of the Conservation Program that would preserve or restore approximately 1,000,000 acres of LEPC habitat.

Implementation of the Covered Activities under either Alternative 1 or Alternative 2 has the potential to impact general wildlife species by removing, fragmenting, or degrading habitat; increasing disturbance associated with human activity; increasing risk of entrapment, physical injury, or mortality from vehicles or machinery. These impacts are discussed further below, with the understanding that the Covered Activities would be conducted for enrolled projects and as part of the Conservation Program in accordance with federal, state, and local regulations.

Implementation of the Covered Activities under both Alternative 1 and Alternative 2 would result in removal, degradation, and fragmentation of habitats that support general wildlife species. The acreage of wildlife habitat disturbed would vary for each project enrolled under the HCP or CCAA, which would be quantified and described in the CI application; however, as described in Section 5.1.1.1, the acreage is expected to be substantially less than the 500,000 acres of LEPC habitat impacts authorized under the ITP/ESP because a large percentage of those acres would be associated with LEPC impact buffers (see Table 3 in Section 4.3 of the HCP), where vegetation clearing and ground disturbance is not proposed. Furthermore, the impact buffers for LEPC do not apply to all general wildlife species, as these more common species are not expected to avoid anthropogenic structures on the landscape to the same level as LEPC. Fragmentation associated with the implementation of the Covered Activities would be minor, as the Plan Area is already largely fragmented by existing oil and gas projects (see Figures 2a and 2b). Implementation of the Covered Activities associated with the Conservation Program would affect approximately 1,000,000 acres of habitat within mitigation parcels, either through preservation or restoration and maintenance of suitable LEPC habitat. Activities within mitigation parcels would include the conversion of cultivated croplands, removal of invasive woody species, removal of infrastructure, or other land management activities approved by the Service.

Impacts to general wildlife habitat associated with the Covered Activities could displace individuals and have the potential to impact individual health and survivorship. The habitats that would be affected by the Covered Activities occur throughout the Plan Area and generally are already fragmented by existing features on the landscape (e.g., houses, roads, fences, power lines, drill rigs, natural gas processing and treatment facilities). Additionally, the HCP is designed to encourage CI-holders to avoid and/or greatly minimize impacts to larger intact LEPC habitats (i.e., SGP CHAT categories 1 and 2) because offsetting mitigation requirements would be substantially higher in those areas (see SGP CHAT categories and mitigation ratios in Section 5.3.3.1 of the HCP). Each enrolled project would be monitored for ITP compliance through annual compliance monitoring reports submitted to the HCP administrator. These efforts would help to minimize and offset habitat impacts for general wildlife species, and would ensure long-term success of habitat restoration associated with the Conservation Program.

Implementation of the Covered Activities would involve localized, short-term increases in human activity during construction at enrolled project sites and during grassland improvement and maintenance activities on mitigation parcels. Increased human activity, including human presence, noise, artificial light, and potential for wildfire, can cause disturbance to normal wildlife activities and behaviors. For example, such disturbances, particularly for nesting birds, may cause adult bird species to alter their nest/egg tending activities, which can lead to increased nest predation and reduced nest success (Stein and Ims 2016, Rodrigues et al. 2019). Displacement and disturbance impacts associated with increases in human activity during site preparation, construction, and repairs are characterized as short-term and low in severity.

Through implementation of the Covered Activities, wildlife could be injured or killed from collisions with vehicles and machinery and possibly entrapped during soil disturbing activities. Ground-dwelling wildlife such as reptiles, amphibians, and small mammals are particularly susceptible to mortality from vehicle collision and entrapment in trenches and other holes created during construction and grassland improvement activities. Injury and mortality impacts are characterized as short-term, would be limited to the duration of construction activities and intermittent repairs throughout the permit term, and to the duration of grassland improvement and management activities. Injury and mortality impacts are unlikely to be substantial enough to detrimentally impact general wildlife populations.

Wildlife impacts from implementation of the Covered Activities associated with enrolled projects, and the implementation of both post-construction restoration and offsite habitat mitigation, are expected to be both short- and long-term. Short-term impacts to wildlife populations may include injury or mortality of individuals, disturbance, and displacement resulting from construction activities, but project-specific BMPs would likely minimize the degree of these impacts. As stated above, higher quality grassland habitat considered suitable for LEPC (i.e., SGP CHAT categories 1 and 2) would be avoided through project siting, to the extent feasible, and fully mitigated through preservation, restoration of degraded grasslands, or conversion of cultivated croplands to restored grasslands as part of the Conservation Program proposed in the HCP. Long-term impacts to wildlife may include avoidance of suitable habitat in the vicinity of aboveground facilities; however, common wildlife species are not expected to avoid anthropogenic structures on the landscape to the same level as LEPC, and the landscape is already largely fragmented by existing oil and gas projects. Impacts would be distributed

throughout the Plan Area over the 30-year permit term, spreading out impacts to wildlife over time and space. Though some habitats would be permanently lost or fragmented due to oil and gas development, after completion of the proposed construction activities, normal wildlife activities and behaviors would be expected to resume. Therefore, the degree of both short- and long-term impacts to general wildlife would be characterized as low.

Past and present actions have impacted wildlife and their habitats within the Plan Area. Actions that have resulted in the loss, fragmentation, and alteration of wildlife habitats have likely reduced species richness and abundance, and shifted naturally occurring species community assemblages. Impacts to wildlife from past, present, and reasonably foreseeable future actions likely include injury and mortality to individuals, wildlife displacement and disturbance, and alteration and loss of suitable habitats. Similar to vegetation, up to 500,000 acres of wildlife habitat would be authorized to be impacted under the LEPC Renewables HCP or CCAA (LPC Conservation LLC 2021, Service 2021a), in addition to the 500,000 acres of wildlife habitat that would be authorized under this HCP, totaling 3.3% of suitable LEPC habitat within the Plan Area. Additionally, 1,000,000 acres of wildlife habitat would be preserved or restored under the Conservation Program as part of the LEPC Renewables HCP or CCAA (LPC Conservation LLC 2021, Service 2021a). However, both preservation and restoration of LEPC habitat are expected to result in beneficial impacts to wildlife species utilizing these habitats, and therefore would not be expected to add to cumulative adverse impacts to wildlife.

Mortality

Past, present, and reasonably foreseeable future actions within the Plan Area have the potential to cause mortality to wildlife. Mortality from both the Covered Activities and future oil and gas development would largely be limited to the construction period and intermittent repairs throughout the permit term. Wildlife could be injured or killed from collisions with vehicles and machinery and possibly entrapped during soil disturbing activities associated with construction. Mortality from these activities would be short-term in duration and unlikely to be substantial enough to detrimentally impact general wildlife populations. Therefore, the issuance of an ITP for LEPC is unlikely to significantly contribute to cumulative impacts to wildlife. However, reasonably foreseeable future actions within the Plan Area include the long-term operation of wind and solar projects, power lines, and communication towers, which have the potential to result in mortality of wildlife. The Service conducted a NEPA analysis that evaluated the cumulative impacts from mortality to birds and bats due to the long-term operation of wind, solar, power line, and communication tower projects within the Plan Area, and concluded that this long-term operation of renewable energy projects is not expected to result in significant cumulative effects to birds or bats (Service 2021b).

Displacement and Disturbance

The potential for displacement and disturbance of wildlife species due to reasonably foreseeable future actions would be largely limited to the construction period for oil and gas, wind, solar, power line, and communication tower projects in the Plan Area. As described in Section 5.1.2 above, increased human presence, noise, and artificial light, can cause disturbance to normal wildlife activities and behaviors, particularly during the breeding, roosting, and denning seasons. Industry-standard BMPs would likely be implemented, including implementing disturbance

buffers for certain wildlife species during the more sensitive seasons mentioned above. After the construction period, normal wildlife activities and behaviors would be expected to resume. Therefore, cumulative displacement and disturbance of wildlife species would be short-term in duration, and likely spread out over time and space.

Alteration and Loss of Suitable Habitats

Cumulative effects of land use conversion resulting in the loss, alteration, and fragmentation of wildlife habitat have largely taken place in the past, as agricultural land use has dominated the Plan Area for decades. Therefore, habitat loss and fragmentation from reasonably foreseeable future actions within the Plan Area is expected to be minor because wildlife habitat within the Plan Area has already been largely fragmented from past actions.

Summary of Cumulative Impacts to General Wildlife

Reasonably foreseeable development within the Plan area is largely associated with energy and communication project development and operation, and it is anticipated that industry-standard BMPs would be implemented during both project construction and operation to reduce the potential for mortality and disturbance to wildlife and to reduce the loss and further fragmentation of wildlife habitat. As such, and because wildlife habitat within the Plan Area is already both disturbed and fragmented, cumulative effects to wildlife resulting from the issuance of an ITP for LEPC are expected to be minor and would not reduce naturally occurring populations to below levels needed for maintaining viability at local or regional levels.

Eagles

In addition to the impacts to general wildlife described above, implementation of the proposed Covered Activities has the potential to impact bald and golden eagles. Increased human activity and noise levels associated with construction activities could disturb nearby nesting eagles. However, projects enrolled under the HCP must be in compliance with all federal, state, and local regulations. Specifically, as part of the application process, project proponents must provide a brief description of the planned approach to comply with the Bald and Golden Eagle Protection Act of 1940 (BGEPA; 16 USC 668-668d). As part of the BGEPA compliance approach, CI-holders would likely work in good faith with the Service to pursue a nest disturbance permit or eagle take permit for enrolled projects, if warranted. The permit process would identify what the potential impacts to eagles would be and, depending on species and size of the local area population, would determine if mitigation is necessary to offset the short-term disturbance and/or long-term production effects of removing/disturbing the nest. Therefore, the degree of both short- and long-term effects to eagles from implementation of the HCP or CCAA under Alternative 1 or Alternative 2 would be low.

Past, present, and reasonably foreseeable future actions have resulted and would continue to result in cumulative effects on bald and golden eagles within the Plan Area and surrounding region. These effects include injury or mortality of eagles as a result of collisions with tall anthropogenic structures (e.g., wind turbines, communication towers); power line electrocutions; displacement and disturbance due to development near nests; and potentially reducing the availability of preferred suitable habitats. Eagles may also experience mortality from poisoning

(e.g., lead, DDT, rodenticides), poaching/shooting, aircraft and vehicle collisions, and disease (Service 2016b).

Mortality from both the Covered Activities associated with oil and gas development and future renewable energy development would largely be limited to the construction period and intermittent repairs throughout the permit term. Eagles are unlikely to be killed during soil disturbing activities, with the possible exception of vehicle collisions with eagles that are on the ground or very low flying. However, mortality from these activities would not be expected to be frequent enough to detrimentally impact eagle populations. Reasonably foreseeable future actions within the Plan Area include the long-term operation of wind and solar projects, power lines, and communication towers, all of which have the potential to injure or kill eagles. Both bald and golden eagles have been found as fatalities as wind facilities; however, golden eagles appear to be more susceptible to turbine blade collision than bald eagles (Pagel et al. 2013, Bay et al. 2016, Katzner et al. 2016, MidAmerican Energy Company 2019). Eagle mortality from colliding with solar panels and communication towers is unlikely; however, solar facilities have the potential to locally displace eagles from foraging habitats, particularly for golden eagles (Manville 2016). Power line electrocution is one of the primary causes of mortality for bald and golden eagles throughout their range and accounts for at least 25% of known eagle fatalities (Service 2016b).

Reasonably foreseeable oil and gas, wind, solar, power line, communication tower projects would likely work with the Service to implement BMPs and pursue and obtain eagle take permits or nest disturbance permits to comply with BGEPA, if warranted. Many of these projects would likely be enrolled in the HCP or the LEPC Renewables HCP (LPC Conservation LLC 2021), if authorized, both of which require project proponents to provide documentation of a plan for BGEPA compliance. The Service's 2016 cumulative effects analysis and recent population estimates concluded that bald eagle populations have continued to increase despite cumulative factors, while golden eagle populations may be susceptible to decline due to cumulative mortality (Service 2016b, Service 2020). While the Service acknowledges that cumulative effects to golden eagles remain a concern, federal consultation under BGEPA, although voluntary, would provide the Service with an opportunity to ensure the cumulative amount of both bald and golden eagle take does not jeopardize the continued existence of either species. As such, the issuance of an ITP for LEPC is not expected to result in significant cumulative effects to bald or golden eagle populations.

5.1.2.2 Alternative 3 (No-Action)

General Wildlife

Under the No-Action Alternative, a similar level of oil and gas development as what is expected under Alternative 1 and Alternative 2 would likely occur over a 30-year period within the Plan Area. As such, impacts to wildlife due to the Covered Activities would be similar as what is described above in Section 5.1.2.1 (with the exception of grassland improvement and maintenance, which would not occur under the No-Action Alternative). It is expected that projects would implement BMPs during construction in order to avoid and/or minimize adverse impacts to wildlife where required by federal, state, or local regulations. Projects would likely take reasonable steps to minimize impacts to higher quality habitat (e.g., forest, native

grasslands) to the extent feasible during project planning. As described in additional detail in Section 5.1.1.2, projects would not be required to offset impacts, and the absence of monitoring, adaptive management, and reporting under the No-Action Alternative would result in less certainty over long-term effects to wildlife compared to Alternative 1 and Alternative 2.

If the proposed rule to list the LEPC is adopted and the LEPC is effectively protected under the ESA in 2022, it is possible that individual HCPs would be developed for some oil and gas projects under the No-Action Alternative. However, similar to the discussion in Section 5.1.1.2, mitigation, monitoring and adaptive management would be determined on a project-specific basis, making it more difficult to track overall impacts. In addition, because some projects may not develop HCPs, there would be greater uncertainty in the amount and effectiveness of avoidance and mitigation across the Plan Area.

Eagles

Short- and long-term effects to eagles under the No-Action Alternative are expected to be similar to what is described above for Alternative 1 and Alternative 2. Project proponents may work in good faith with the Service to pursue and obtain a nest disturbance permit if construction activities associated with an individual project would be likely to disturb or displace eagles or an eagle take permit, regardless of whether an ITP or ESP for LEPC is granted. However, unlike Alternatives 1 and 2, there would be no requirement to develop a plan for BGEPA compliance, which would likely result in fewer projects voluntarily pursuing eagle permits. Therefore, both short- and long-term effects to eagles are expected to be minor, albeit more uncertain under the No-Action Alternative.

5.1.3 Listed, Proposed, and Candidate Species

In accordance with Section 7 of the ESA of 1973 (16 USC 1531–1599), actions that have a federal nexus such as involvement of federal land, federal funding, or a federal action (e.g., the decision on whether to issue an ITP) necessitate conference with the Service if the federal action is likely to jeopardize the proposed species or adversely modify proposed critical habitat, and is designed to help federal agencies identify and resolve potential conflicts between an action and species conservation early in the planning process. Because the Service is the lead agency in the review of the permit application for the Project, an Intra-Service Section 7 conference was completed. The Service's Intra-Service Section 7 conference opinion documents how issuance of the permit (and associated implementation of the HCP or CCAA and permit conditions) and/or denial of the permit would affect the LEPC and/or federally listed species.

As described above, projects seeking to enroll in the HCP or CCAA would be required to provide documentation of ESA compliance for species not covered under the programmatic permit. Similarly, enrolled projects would be required to adhere to state regulations relating to state-listed endangered and threatened species (see Attachment B). Therefore, only impacts to the LEPC are discussed further in this section.

Impacts to LEPC may occur when any of the following result:

- disturbance, injury, or mortality of LEPC individuals;

- loss, degradation, or alteration of LEPC habitats or resources used to fulfill different life history needs (i.e., leks, nesting habitat, brood habitat, autumn/winter habitat) resulting in reduced survivorship or reproductive success; or
- the creation of features on the landscape that may cause LEPC displacement or avoidance.

Similar to general wildlife, substantial impacts to LEPC are those that substantially affect the population (locally, regionally, or range-wide) or reduce LEPC habitat quality or quantity.

5.1.3.1 Alternatives 1 and 2

Implementation of the Covered Activities under Alternative 1 or Alternative 2 has the potential to impact the LEPC throughout the species' annual cycle (i.e., wintering, lekking/breeding season, nesting, and early and late brood rearing). While impacts such as disturbance, injury, or mortality of LEPC are possible due to implementation of the Covered Activities, the primary reason for LEPC population declines is the loss of suitable habitat and the subsequent displacement of individuals (Service 2014a). Consequently, habitat loss and displacement are the primary impacts that would result from oil and gas development under both Alternative 1 and Alternative 2 and the implementation of the HCP or CCAA. As such, acres of suitable LEPC habitat are used as a surrogate for measuring impacts and take of LEPC individuals.

Impact Assessment and Take Prediction

As described in Section 4.1.1, potentially suitable LEPC habitat within the Plan Area was quantified using land cover classes, including herbaceous and hay/pasture, which account for approximately 32% and less than 1%, respectively, of the land cover types within the Plan Area (a total of 30,178,084 acres). For this analysis, and as described in additional detail in Section 4.1 of the HCP, LEPC take that could result from oil and gas projects and from grassland improvement and maintenance activities covered under the HCP were estimated using acres of potentially suitable LEPC habitat as a surrogate for take of LEPC individuals.

Estimated LEPC take includes both acres where ground disturbance and construction activities associated with project development would occur; adjacent spaces where LEPC occurrence is altered in response to oil and gas project components is expected; and where grassland improvement and maintenance activities would occur (see Section 4.3 and Table 4 in the HCP). This estimate identified a total of 1,105,417 acres of potentially impacted land within the Plan Area that may be suitable for LEPC (see Table 4 in the HCP); of this, the Applicant is requesting authorization for take of up to 500,000 acres of suitable LEPC habitat.[5]

Projects enrolled in the HCP would quantify actual impacts to LEPC habitat using a six-step process, which is described in detail in Section 4.4 of the HCP. This process includes both

[5] Note that the Applicant is requesting authorization to take up to 500,000 acres of suitable LEPC habitat, which is approximately 45% of the 1,105,417 acres expected to be impacted by overall oil and gas development, as well as grassland improvement and maintenance activities during the permit term. Cumulative effects associated with development not included in the Applicant's request are discussed in Section 5.4.3, below.

desktop and field-based review, and would culminate in an LEPC take calculation for each project. CI applicants would prepare and submit the assessment to the HCP Administrator, and ultimately the Service, for review as part of the CI application process.

Conservation Program

Under the Conservation Program (summarized in Section 3.1 of this EA and described in detail in Section 5 of the HCP), enrolled projects would implement measures to avoid and minimize impacts to LEPC habitat. For select projects, it is possible that impacts could be fully avoided by strategic siting so that both the project facilities and the associated buffers occur within areas that are not considered suitable LEPC habitat.[6] It is expected that most enrolled projects would not be able to fully avoid LEPC habitat; in these instances, impacts to LEPC would be minimized by siting projects and associated impact boundaries in lower-quality habitat (determined during the six-step habitat impact assessment described above), areas with existing impacts or features (e.g., buildings, roads, drill rigs, or other structures) on the landscape, and burying linear facilities. The proposed mitigation ratios (discussed further in Section 5.1.1.1 and in Section 5.3.3 of the HCP) are designed to incentivize the minimization of impacts to suitable habitat. Projects impacting smaller amounts of LEPC habitat and/or lower habitat quality would require fewer mitigation credits to offset those impacts, and thus pose less of a financial burden to the developer.

Enrolled projects would also implement measures to reduce impacts to LEPC during the breeding season (March 1 – July 15). During the breeding season, noise and blasting, traffic volume and speed, and access points would be minimized to reduce LEPC disturbance. In addition, enrolled projects would avoid off-road travel, where feasible,[7] within three miles of leks that have been recorded as active within the previous five years, as described in Section 3.1.2 of this EA and Section 5.3 of the HCP.

Impacts to suitable LEPC habitat that remain after avoidance and minimization measures have been implemented would be offset for each enrolled project through habitat mitigation. As described in Section 5.3.3 of the HCP, mitigation fees would cover the conservation and management of mitigation lands in perpetuity, fully offsetting the impacts of enrolled projects on LEPC habitat.

Grassland improvement and management activities that occur in potential LEPC habitat on mitigation parcels could also result in take of LEPC. As described in Section 3.1.3, mitigation would be secured through a Service-approved mitigation bank, in-lieu fee program, or permittee-

[6] Typically, a project that entirely avoids impacts to LEPC habitat would not be expected to enroll in the HCP because the project would not require take coverage. However, in certain instances, a project may choose to enroll in the HCP in order to provide regulatory certainty that coverage for take would not be required at a later date if adjacent lands (that are within the buffers LEPC are expected to avoid) are modified such that they become suitable LEPC habitat at a later date.

[7] Although enrolled projects would commit to minimizing noise and blasting, traffic volume and speed, and access points during the breeding season, where feasible (Section 5.3.2.2 of the HCP), whether each project is able to completely avoid these potential sources of disturbance during the breeding season would not necessarily be provided in the application package.

responsible mitigation project. Take of LEPC associated with grassland improvement and management activities on mitigation secured through a Service-approved bank or in-lieu fee program would be authorized under the existing banking or in-lieu fee program agreement between the mitigation provider and the Service. The Applicant anticipates approximately 50,000 acres of take would be associated with permittee-responsible mitigation projects (i.e., from a source other than a Service-approved mitigation bank or in-lieu fee program; see Table 4 of the HCP), which would be subject to Service approval. Take associated with permittee-approved mitigation projects would be covered under the HCP, and subject to approval by the Service (see Section 9.2 of the HCP).

Once initial improvement activities have occurred, maintenance activities within mitigation parcels would have minimal impacts to LEPC. Take of LEPC resulting from the temporary loss of habitat or impacts to individual LEPC occupying mitigation parcels during maintenance activities are relatively minor on a landscape level and would be more than offset by the net benefit to the species provided by these activities. As such, additional mitigation to offset take of LEPC that could occur on mitigation parcels during management activities would not be required.

Through the payment of mitigation fees, effectiveness and compliance monitoring, and the adaptive management approach described in Sections 3.1.3–3.1.5, above, implementation of the HCP or CCAA under Alternative 1 and Alternative 2, respectively, would ensure that the take of LEPC habitat is fully mitigated throughout the permit term.

Reasonably Foreseeable Future Actions

The LEPC is the only species for which take would be permitted under the ITP or ESP. Cumulative effects to any other species that may occur within the impact areas of enrolled projects would be documented and evaluated for each individual project to ensure ESA compliance, and the LEPC is the only species for which cumulative effects are analyzed further in this EA. Past and present actions have impacted LEPC individuals and habitat within and surrounding the Plan Area. Between 2015 and 2017, it was estimated that at least 258,000 acres of the LEPC range was lost or disturbed due to agricultural conversion and energy development (Evans and Li 2017). Reasonably foreseeable actions are estimated to effect an additional 1,707,916 acres of suitable LEPC habitat within the Plan Area due to renewable energy development, 500,000 acres of which would be fully offset by the implementation of the Conservation Program outlined in the LEPC Renewables HCP or CCAA (LPC Conservation LLC 2021, Service 2021a) and 605,417 acres due to oil and gas development not covered under the HCP or CCAA. In addition to habitat loss and disturbance from agriculture and energy generation, additional threats such as climate change, disease, hunting, nest parasitism by and competition with ring-necked pheasants, hybridization with greater prairie-chicken, and reduced genetic diversity and loss of fecundity due to small population sizes, all have the potential to further contribute to cumulative effects to the LEPC.

When combined with past, present, and reasonably foreseeable actions, although implementation of the Covered Activities would contribute to adverse effects on the LEPC within the Plan Area, they would be fully offset by the proposed Conservation Program. If the proposed rule to list the LEPC is adopted and the LEPC is effectively protected under the ESA in 2022, potential impacts

from future federal projects have the potential to be avoided, minimized, and mitigated under ESA Section 7, and private projects under ESA Section 10. As a result of the ESA consultation process, the Service ensures the cumulative amount of take of the LEPC allocated to permittees does not jeopardize the continued existence of the species. Conversely, the Service may determine that listing the LEPC is not warranted, or the species could be listed as threatened with a 4(d) rule, allowing for incidental take resulting from otherwise lawful activities. In this case, the Service's determination would be based on evidence supporting range-wide population stability for the LEPC. Therefore, cumulative impacts from past, present, and reasonably foreseeable future actions would not be significant.

Summary of Impacts to LEPC

Implementation of the Covered Activities would result in both short-term and long-term impacts to LEPC within the proposed Plan Area. The Covered Activities associated with each of the enrolled projects would result in relatively localized impacts that would be minimized by post-construction restoration. The overall loss of 500,000 acres of LEPC habitat would be moderate in degree, but would be fully offset by implementation of the Conservation Program. Short-term impacts to LEPC may include injury or mortality of individuals, disturbance, and displacement resulting from construction activities and grassland improvement and maintenance activities, but the avoidance and minimization measures described above and in Section 3.1.2 would minimize the degree of these short-term impacts. Though some suitable LEPC habitat would be permanently lost or fragmented due to oil and gas development, the habitat mitigation that would occur under the proposed HCP or CCAA would fully offset these impacts. Therefore, the degree of both short- and long-term effects to LEPC is characterized as low.

5.1.3.2 Alternative 3 (No-Action)

Under the No-Action Alternative, the Service assumes a similar level of oil and gas development as what is expected under Alternative 1 and Alternative 2 would likely occur over a 30-year period within the Plan Area. While the LEPC remains proposed for listing, individual projects would incorporate varying voluntary amounts of LEPC risk assessment, avoidance, and minimization measures in the design, construction, and operation of their project. Mitigation for impacts to LEPC habitat would not be required under the No-Action Alternative, nor would there be requirements for effectiveness and compliance monitoring to ensure minimization of impacts to LEPC that exist under Alternatives 1 and 2. Further, there would be no impact cap of 500,000 acres of LEPC habitat. Given the absence of mitigation requirements or an impact cap, it is anticipated that impacts to LEPC habitat due to oil and gas development under the No-Action Alternative would likely meet or potentially exceed the predicted levels of 1,055,417 acres[8] of suitable LEPC habitat over 30 years. This would equate to slightly over 3% of the 30,178,085 acres of land cover that is potentially suitable for LEPC within the Plan Area.

[8] The 1,055,417 acres of potentially impacted LEPC habitat from oil and gas development is taken from Table 4 of the HCP, and does not include the 50,000 acres of permittee-responsible mitigation that would not occur under the No-Action Alternative.

If the proposed rule to list the LEPC is adopted and the LEPC is afforded legal protection under the ESA in 2022, it is possible that projects regulated by the FERC would obtain coverage for incidental take of LEPC under Section 7 of the ESA, and that individual HCPs would be developed for some oil and gas projects under the No-Action Alternative. However, similar to the discussion in Section 5.1.1.2, mitigation, monitoring and adaptive management would be determined on a project-specific basis, making it more difficult to track overall impacts. In addition, because some projects may not see coverage for incidental take, both short- and long-term adverse effects to LEPC are expected to be higher under the No-Action Alternative than under Alternative 1 or Alternative 2.

5.2 Physical Environment

5.2.1 Land Use

Land use drives the regional economy and utilization of resources, and as such determines the regional environmental quality, ecosystem services provided (e.g., regeneration of soil nutrients, provision of pollinator habitat), and socioeconomic systems. Land use can be impacted at the local or regional level and substantial impacts to land use can occur when any of the following result:

- rapid, unsustainable development or urbanization;
- substantial increase or decrease in the regeneration of soil nutrients;
- substantial increase in available pollinator habitat to support the pollination of both crops and natural vegetation; or
- substantial change in socioeconomic stability (e.g., jobs, food production, housing).

5.2.1.1 Alternatives 1 and 2

The Plan Area includes portions of Colorado, Kansas, New Mexico, Oklahoma, and Texas. These five states collectively produce approximately 70% of crude oil and 45% of natural gas in the nation (USEIA 2020d). As existing oil and gas projects are already very prevalent in the Plan Area and have been since the early 1900s, the anticipated buildout for new oil and gas projects would not be expected to drastically change existing land use. However, the implementation of the Covered Activities and associated oil and gas development, as well as grassland improvement and maintenance activities would still likely have a minor impact on land use within the Plan Area. As discussed in Section 4.2.1, above, the dominant land cover types in the Plan Area are cultivated croplands (33%), herbaceous (32%), and shrub/scrub (29%), with over 90% of the land being privately owned and used for rangeland or agriculture (NRCS 2006). Anticipated land use impacts resulting from the Covered Activities would likely occur primarily within these dominant land use types. With the exception of developed, open space (e.g., roads), which occupies 2.4% of the Plan Area, other land use types each occupy less than 1% of the Plan Area.

Oil and gas projects can cover large expanses of land; however, significant portions of oil and gas projects (e.g., pipelines) can be buried underground, resulting in a minimization of land use

impacts. With the exception of areas permanently converted (e.g., aboveground facilities and access roads), normal land use activities (e.g., cultivated croplands and pasture) typically resume after project construction. The Conservation Program proposed by the Applicant would provide incentives for minimizing impacts to LEPC habitat (see Section 5.3 of the HCP); therefore, we anticipate that land use effects would be primarily within cultivated croplands and shrub/scrub cover types. As described in Table 4 of the HCP, the collective footprint of oil and gas development within the Plan Area during the 30-year permit term is approximately 4,051,201 acres, of which 2,995,784 acres[9] would likely occur in cultivated croplands and shrub/scrub cover types. This would equate to a change in land use just over 3% of the Plan Area. However, the acreage of land use actually impacted is expected to be substantially less than 2,995,784 because a large percentage of those acres are associated with LEPC impact buffers (see Table 3 in Section 4.3 of the HCP), where land use likely will not change.

While the development of oil and gas projects would alter the existing land use in some areas, these land use impacts would represent a small portion of the footprint associated with enrolled projects, and would be located throughout the Plan Area. Further, private landowners would be compensated for participating in oil and gas development; therefore, no adverse socioeconomic impacts would be anticipated. Oil and gas development under Alternatives 1 and 2 would be conducted in accordance with all federal, state, and local regulations and is not anticipated to result in substantial unsustainable development or substantial changes to soil nutrient regeneration, available pollinator habitat, or socioeconomic stability. Overall, both short- and long-term effects to land use resulting from the Covered Activities are expected to be minor.

Habitat mitigation that would occur as part of the Conservation Program under the HCP or CCAA would result in the conversion of cultivated croplands, herbaceous, and shrub/scrub lands to restored LEPC habitat, with the goal of creating LEPC strongholds and to ensuring connectivity between strongholds. As summarized in Section 3.1.3 of this EA and described in detail in Section 5.3.3 of the HCP, a total of 1,000,000 acres of habitat mitigation would occur through implementation of the HCP. The initial 50,000 acres would preserve currently suitable LEPC stronghold habitat. After the initial 50,000 acres has been secured, mitigation is assumed to be balanced equally between preservation and restoration activities. This would result in the preservation of 525,000 acres of existing LEPC habitat and the restoration of 475,000 acres of LEPC habitat that is currently cultivated croplands, herbaceous lands, or shrub/scrub lands.

We assume that mitigation parcels would be within areas representative of existing land use in the Plan Area, thus 33% of the 475,000 acres (156,750 acres) would be composed of cultivated croplands. This would represent conversion of 0.5% of the existing cultivated croplands in the Plan Area over the 30-year permit term, which would have a negligible impact on food supply. The remaining parcels of land where restoration of LEPC habitat would occur would include 152,000 acres of herbaceous land and 137,750 acres of shrub/scrub land. Herbaceous lands selected for restoration would not change land use type, and shrub/scrub habitat would either maintain its current land use classification or be converted to herbaceous land, depending on the restoration activities that would be implemented. Within these land use types, the suitability of

[9] The 2,995,784 is the remaining collective footprint estimated in Table 4 of the HCP after subtracting the 1,055,417 acres that would be anticipated to be impacted within potentially suitable LEPC habitats.

the habitat for LEPC would be improved upon through the removal of woody invasive species, removal of old infrastructure (e.g., barns and unused roads), or additional restoration activities approved by the Service.

From an ecological perspective, converting the vegetation from cultivated croplands and shrub/scrub lands to herbaceous lands that provide strongholds or connectivity corridors for LEPC would result in restoration of native plant communities with increased species diversity. This form of land use change could increase the regeneration of soil nutrients and would provide habitat for many species that pollinate both cultivated croplands and natural vegetation. Overall, effects to land use resulting from implementation of the Conservation Program would be minor.

Implementation of the Covered Activities and the Conservation Program would result in both short- and long-term impacts to land use within the proposed Plan Area. These impacts would be characterized as minor and would not result in substantial unsustainable development or substantial changes to soil nutrient regeneration, available pollinator habitat, or socioeconomic stability. Though some cultivated croplands and shrub/scrub habitat would be permanently converted to herbaceous lands from the habitat mitigation that would occur under the proposed HCP or CCAA, the amount of converted land would be a negligible portion of the overall coverage of these land cover types in the Plan Area. Additionally, land use change would be distributed throughout the Plan Area over the 30-year permit term, spreading out impacts to land use over time and space. Therefore, the degree of both short- and long-term effects to land use is characterized as low.

Past and present actions have resulted in changes to land use within the Plan Area and surrounding region. Most notably is the conversion of natural communities (e.g., herbaceous, forested, and wetland land cover types) to support agricultural crop production and livestock grazing. Other activities, including rural development, transportation, oil and gas pipelines, wind energy generation, and electrical transmission lines have, to a lesser degree, also caused changes to land use. These past and present actions have resulted in temporary and permanent loss of natural land cover types. Reasonably foreseeable actions are likely to cause similar changes to land use in and surrounding the Plan Area.

Approximately 1,055,417 acres of land is expected to be impacted by oil and gas development, and 1,707,916 acres of land is expected to be impacted by wind, solar, power line, and communication tower development (LPC Conservation LLC 2021, Service 2021a) within the Plan Area. However, impacts to land use would generally be short-term in duration (i.e., limited to the construction period) as most pre-existing land uses would likely resume following construction activities. Oil and gas development, along with wind, solar, power line, and communication tower projects not covered under any HCP or CCAA would result in further changes to land use, primarily due to solar projects as the other four forms of development allow for dual land use after construction while solar projects are limited in the potential land uses that could occur beneath the panels. Within the Plan Area, solar development would result in a temporary, but long-term change of less than 0.1% of any of the land cover types within the Plan

Area.[10] Additionally, this development would be conducted in compliance with federal, state, and local regulations and industry-standard BMPs would likely be implemented. As such, and because most land use changes within the Plan Area took place in the past, significant cumulative effects to land use as a result of issuing an ITP for LEPC are not expected.

5.2.1.2 Alternative 3 (No-Action)

Under the No-Action Alternative, a similar level of oil and gas development would likely occur over a 30-year period within the Plan Area. As such, impacts to land use would be minor and would be similar to those described for Alternatives 1 and 2 as projects would be developed in accordance with federal, state, and local regulations. A small amount of permanent land use conversion would occur due to oil and gas development (e.g., aboveground facilities and access roads); however, after completion of the proposed construction activities, previous land use activities would be expected to resume. However, because there would be no incentives to avoid or minimize impacts within herbaceous or hay/pasture (LEPC habitat), long-term impacts to these land cover types would be expected to be somewhat higher than they would be under Alternative 1 or Alternative 2. In addition, the No-Action Alternative would not require habitat mitigation; therefore, no permanent conversion of either cultivated croplands or shrub/scrub land types would occur.

5.2.2 Noise

Implementation of the Covered Activities and associated oil and gas development would have an impact on noise levels within the Plan Area. Potential impacts to wildlife and listed species associated with increased noise levels are discussed above (see Sections 5.1.2 and 5.1.3, respectively). Human response to noise is highly subjective and varies from person to person. However, increases in ambient noise levels can cause adverse impacts when any of the following result:

- interference with human speech and sleep;
- adverse health effects (e.g., hearing loss, psychological effects); or
- disproportionate impacts to noise sensitive areas (e.g., schools, residences, hospitals).

5.2.2.1 Alternatives 1 and 2

Increased noise levels associated with the Covered Activities and Conservation Program would occur during construction, maintenance, and decommissioning of enrolled projects, and during restoration activities. These increased noise levels would be short-term and would have a varying level of impact on the landscape based on topography, land use, and human population. Increases in ambient noise levels would primarily be limited to the immediate area surrounding activities

[10] Calculation is based on the assumption that 3,651 MW of solar development could occur within the Plan Area during the permit term (LPC Conservation LLC 2021), which would convert up to 36,510 acres of land (SEIA 2020) within the Plan Area. This represents less than 0.1% of all land cover types within the Plan Area, regardless of whether or not the solar development is covered under the Renewables HCP or CCAA (Service 2021a).

associated with enrolled projects or restoration activities, which would occur primarily within LEPC habitat, cultivated croplands, and shrub/scrub. While increased noise levels from the Covered Activities would be above the ambient noise levels associated with a rural setting, because population density is lower in residential or rural areas (see Section 4.2.2), it is expected there would be few noise sensitive areas within the impacted areas.

Under Alternatives 1 and 2, the Applicant would receive authorization to impact up to 500,000 acres of suitable LEPC habitat and to preserve or restore 1,000,000 acres as habitat mitigation, which would be distributed throughout the 92,224,490 acre Plan Area over the 30-year permit term. The noise-impacted area would vary for each project enrolled under the HCP or CCAA; however, the area impacted by increased noise levels associated with the Covered Activities is expected to be substantially less than the 500,000 acres of LEPC habitat impacts authorized under the ITP/ESP because a large percentage of those acres would be associated with LEPC impact buffers (see Table 3 in Section 4.3 of the HCP), where ground disturbance and other construction activities are not proposed. Nevertheless, at most, 1.6% of the Plan Area would be subjected to temporary increased noise levels at some point during the 30-year permit term (see Table 4 in Section 4.3 of the HCP).

Federal, state, and local regulations would be expected to take noise impacts into account for each enrolled project. In 1974, the USEPA published its *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. This document provides information for state and local governments to use in developing their own ambient noise standards. The USEPA determined that a day-night sound level of 55 decibels on the A-weighted scale (similar to the sound level produced by a household refrigerator protects the public from indoor and outdoor activity noise interference. As a result of this guidance, many agencies require that noise levels be at or below this threshold at noise sensitive areas (e.g., residences, schools, hospitals, places of worship) that are in the vicinity of project activities. Specific regulations for enrolled projects are not known at this time; however, federal, state, and local regulations often require noise impact analysis. Covered Activities would be conducted in accordance with federal, state, and local regulations and appropriate BMPs would be developed and followed to avoid and/or minimize adverse impacts from increased noise levels.

Long-term impacts to noise could occur in association with general operation of enrolled projects; however, with the exception of maintenance and decommissioning, which would be expected to result in temporary increases in noise levels that would be similar to construction activities because similar equipment would be required, the operation of enrolled projects is not a Covered Activity. As such, long-term impacts due to noise are discussed in the context of cumulative effects in Section 5.4.5, below.

Impacts from increased noise due to Covered Activities would be temporary, localized, and spread throughout the Plan Area over time and space. As such, the implementation of the Covered Activities and Conservation Program under Alternatives 1 and 2 would not be expected to result in adverse impacts to the human environment in relation to noise. The degree of noise impacts would be localized for each enrolled Project, and low in overall severity due to the short-

term duration, adherence to federal, state, and local noise requirements, and low number of noise sensitive areas in the primarily rural areas where enrolled projects would be located.

Past, present, and reasonably foreseeable future actions have resulted, and will result, in short-term and long-term noise impacts in the Plan Area. Implementation of the Covered Activities and the related construction activities, associated traffic, and operational activities would contribute to cumulative noise impacts. Of the reasonably foreseeable future actions, wind development and compressor stations associated with oil and gas facilities would be the greatest contributor to long-term cumulative noise impacts within the Plan Area. At most, 3.2% of the Plan Area would be subject to temporary increased noise levels at some point during the 30-year permit term from reasonably foreseeable oil and gas, wind, solar, power line, and communication tower development authorized under an ITP for LEPC (LPC Conservation LLC 2021, Service 2021a). Additionally, energy development would be subject to applicable federal, state, and local permit siting requirements. As discussed above (see Section 5.2.2.), many agencies require that noise levels be at or below this threshold at noise sensitive areas (e.g., residences, schools, hospitals, places of worship) that are in the vicinity of project activities. Developers would be expected to analyze noise impacts associated with construction and operation, and implement appropriate BMPs to minimize noise impacts. Furthermore, noise impacts would be localized and spread throughout the Plan Area over time and space. As such, cumulative noise impacts from past, present, and reasonably foreseeable future actions would not be significant.

5.2.2.2 Alternative 3 (No-Action)

Under the No-Action Alternative, a similar level of oil and gas development would likely occur over a 30-year period within the Plan Area. As such, impacts to noise levels would be similar to those described for Alternatives 1 and 2 as projects would be developed in accordance with federal, state, and local regulations. However, the No-Action Alternative would not require habitat mitigation; therefore, noise associated with restoration activities on mitigation lands would not occur. Under the No-Action Alternative, the degree of noise impacts would be localized for each enrolled Project, and low in overall severity for the same reasons described above for Alternatives 1 and 2.

5.2.3 Visual Resources

Implementation of the Covered Activities and associated oil and gas development would have an impact on visual resources within the Plan Area. Potential impacts to wildlife and listed species associated with visual impacts are discussed above (see Sections 5.1.2 and 5.1.3, respectively).

As they relate to the human environment, impacts to visual resources are highly subjective and can vary from person to person. However, impacts to visual resources can occur when any of the following result:

- obstruction of or substantial damage to a unique or scenic vista or resource;
- degradation of the existing visual character or quality of an area; or

- creation of a new source of light creating glare that could affect day or nighttime views in an area.

5.2.3.1 Alternatives 1 and 2

Impacts to visual resources associated with the Covered Activities and Conservation Program would occur during construction, maintenance, and decommissioning of enrolled projects, and during restoration activities. Visual impacts would be associated with construction activities associated with pipeline installation as well as aboveground structures (e.g., drill rigs, compressor stations, meter stations).

Under Alternatives 1 and 2, the Applicant would receive authorization to impact up to 500,000 acres of suitable LEPC habitat and to preserve or restore 1,000,000 acres as habitat mitigation, which would be distributed throughout the 92,224,490 acre Plan Area over the 30-year permit term. The impacted viewshed would vary for each project enrolled under the HCP or CCAA based on the type of aboveground structures being constructed, local topography, vegetation present, and surrounding facilities. Because over 90% of the Plan Area is composed of cultivated croplands, herbaceous, and shrub/scrub lands (each of which is associated with a relatively open viewshed) in a rural setting, the taller features (e.g., drill rigs, communication towers [under 200 ft in height], and other above ground facilities) would be a distinctive change to the viewshed in some areas, resulting in moderate adverse impacts to visual resources. Although the construction, maintenance, and decommissioning of project facilities are Covered Activities, which would result in long-term impacts to visual resources, general operation of enrolled projects is not a Covered Activity. As such, long-term impacts to visual resources associated with operation (e.g., maintained vegetation along pipeline centerlines, mainline valves, and other aboveground facilities) are discussed in the context of cumulative effects in Section 5.4.6, below.

Potential impacts to visual resources associated with the enrolled projects would vary based on the proximity of the project facilities to visually sensitive areas (e.g., scenic rivers, parks, trails) and residential areas, as well as local topography and vegetative screening. Visually sensitive areas, may be designated at the federal, state, or local level, and these regulations would be expected to take impacts to visual resources into account for each enrolled project. As with noise, oil and gas development is regulated by several federal and state agencies and includes review of potential environmental impacts associated with construction and operation, and is sometimes further regulated at the county level. Covered Activities would be conducted in accordance with federal, state, and local regulations and appropriate BMPs would be developed and followed to avoid and/or minimize adverse impacts to visual resources.

Impacts to visual resources due to the Covered Activities would be localized and spread throughout the Plan Area over time and space. The degree of impacts to visual resources would be localized for each enrolled Project, and moderate in overall severity; impacts may be partially offset in some areas by beneficial impacts from an increase in preserved natural landscapes associated with the Conservation Program.

Past, present, and reasonably foreseeable future actions have resulted, and will result, in impacts to the visual resources in the Plan Area. Implementation of the Covered Activities and project operations would contribute to long-term cumulative impacts on visual resources in the Plan Area by adding maintained vegetation along pipeline centerlines, mainline valves, communication towers under 200 feet, and other aboveground facilities. New wind turbines, solar power towers, power lines, and communication towers are all reasonably foreseeable additions to the landscape within the Plan Area. As discussed in Section 5.2.3, structures taller than 200 feet would also be marked with FAA-approved lighting.

Because over 90% of the Plan Area is composed of cultivated croplands, herbaceous, and shrub/scrub lands (each of which is associated with a relatively open viewshed) in a rural setting, the taller features (e.g., wind turbines, solar power towers) would be a distinctive change to the viewshed in some areas, resulting in moderate adverse cumulative impacts to visual resources if facilities were constructed within the same viewshed. Up to 500,000 acres would be authorized for wind, solar, power line, and communication tower development under the LEPC Renewables HCP or CCAA (LPC Conservation LLC 2021, Service 2021a), in addition to the 500,000 acres that would be authorized under this HCP, totaling 1.1% total land cover within the Plan Area having potential impacts to visual resources. Viewshed changes from oil and gas development are expected to be adjacent to existing oil and gas infrastructure and utility rights-of-way, which would not significantly alter the landscape compared to the existing setting. Therefore, no significant cumulative impacts to visual resources are expected from the issuance of an ITP for LEPC.

Cumulative impacts to visual resources would primarily be associated with wind and solar projects that are reasonably foreseeable within the Plan Area. Operation of wind turbines would create shadow flicker, which is the effect of the sun shining through the rotating blades of an operating wind turbine, casting moving shadows that appear to flicker (U.S. Department of Energy 2020). Shadow flicker can be perceived as a nuisance to nearby home owners. Operation of solar PV panels and power towers would create glare, which could result in adverse impacts to nearby residences, drivers along area roadways, and nearby airports. As part of the state and local permit process, as well as general due diligence, most wind and solar projects would be expected to conduct project-specific analyses to model impacts to affected residences. As visual impacts from shadow flicker and glare from solar panels would be localized and would be conducted in accordance with state and local siting requirements and/or general industry best practices, cumulative impacts due to wind and solar projects are not expected to be significant.

5.2.3.2 Alternative 3 (No-Action)

Under the No-Action Alternative, a similar level oil and gas development would likely occur over a 30-year period within the Plan Area. As such, impacts to visual resources would be similar to those described for Alternatives 1 and 2 as projects would be developed in accordance with federal, state, and local regulations. However, the No-Action Alternative would not require habitat mitigation; therefore, no beneficial impacts to visual resources would occur through the increase in preserved natural landscapes. Under the No-Action Alternative, the degree of impacts to visual resources would be localized for each enrolled Project, and moderate in overall severity for the same reasons described above for Alternatives 1 and 2.

5.3 Cultural Resources

5.3.1 Alternatives 1 and 2

Compliance with Section 106 of the NHPA, as amended, is required by law for all Federal undertakings. This includes issuance of Section 10(a)(1)(B) ITPs for activities covered in an HCP. Under Alternatives 1 and 2, prospective CI-holders, with the assistance of their cultural resource professional, would coordinate with the Service, SHPO(s), and THPO(s) to fulfill the requirements of Section 106 of the NHPA (16 USC 470f [1966], and its implementing regulations at 36 CFR part 800 [2000]). As described in detail in Appendix B, Worksheet 8 of the HCP (see Attachment A), for the portion of each project for which an ITP is being requested, prospective CI-holders would coordinate with the Service, SHPO(s), and THPO(s) to identify the area of potential effects (APE), which is the geographic area within which a project may cause changes in the character or use of historic properties. In addition, prospective CI-holders would identify the efforts taken to identify historic properties within the APE, and the results of those efforts (e.g., information from the pre-project review; information from any cultural/historical resources field studies; and the procedure that would be followed to address inadvertent discoveries of human remains, burials, funerary items, sacred objects, or objects of cultural patrimony found during project implementation). Enrolled projects would be required to implement site-specific BMPs and impact buffers during ground disturbance activities to avoid and minimize impacts to cultural resources identified during site-specific cultural resource surveys.

Covered Activities would not be conducted on lands registered on the NRHP (see Section 1.5 of the HCP). In addition, Alternative 1 and Alternative 2 would accommodate access to and ceremonial use of Tribal sacred sites by Native American religious practitioners and avoid adversely affecting the physical integrity of such sacred sites (see Section 1.7 of the HCP).

Habitat mitigation that would occur as part of the Conservation Program under the HCP or CCAA would result in the preservation of existing grasslands and conversion of cultivated croplands to restored grasslands, potentially protecting existing cultural resources from future development. Therefore, the degree of both short- and long-term effects to cultural resources is characterized as low.

Past, present, and reasonably foreseeable future actions have resulted, and will result, in impacts to cultural resources. Impacts have likely occurred during soil disturbing activities and artifact collection. Implementation of the Covered Activities would not be expected to contribute to the cumulative impacts of known cultural resources based on compliance with state and federal laws that protect and mitigate impacts to cultural resources; therefore, cumulative effects to cultural resources are not anticipated.

5.3.2 Alternative 3 (No-Action)

Under the No-Action Alternative, a similar level of oil and gas development would likely occur over a 30-year period within the Plan Area. As such, impacts to cultural resources would be similar as what is described for Alternatives 1 and 2 as projects would be developed in

accordance with federal, state, and local regulations. Therefore, both short- and long-term effects to cultural resources are expected to be low.

6 CONSULTATION AND COORDINATION

6.1 Agency Coordination

The Service sent notifications requesting input from potentially affected tribal governments within and surrounding the Plan Area during the public comment period on the proposed HCP and this EA. The Service did not receive any comments or letters from tribal entities on the draft EA, and no substantive changes have been made to the final EA based on tribal coordination. In support of the application to provide incidental take coverage for LEPC resulting from habitat loss, fragmentation, and degradation from oil and gas development, the Applicant coordinated with the Service and would continue to coordinate with other applicable entities through the development of the HCP Advisory Board (see Section 9.1.2 of the HCP). Additionally, each individual project enrolled under the HCP or CCAA would be required to coordinate with all applicable federal, state, and local agencies to ensure compliance with the appropriate statutes and regulations and to inform project-specific LEPC impact analysis.

6.2 Distribution of the Draft Environmental Assessment

In accordance with NEPA, this EA, as well as the HCP and other application materials, was made public for 30 days to solicit public comments. A Notice of Availability was published in the FR on February 11, 2022 (87 FR 8031). Comments received on the draft EA were incorporated into this final EA, and are included as Attachment E.

Attachment A. Oil and Gas Habitat Conservation Plan for the Lesser Prairie-Chicken

Available online at:

https://www.fws.gov/office/arlington-ecological-services/news

Attachment B. Federal- and State-Listed, Proposed, Candidate Species, and Critical Habitats with the Potential to Occur within the Plan Area and be Impacted by the Issuance of the Incidental Take Permit for Lesser Prairie-Chickens.

Table B-1. Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Mammals			
Black-footed Ferret *Mustela nigripes*	FE	SE – CO, KS	Limited to open habitat such as semi-arid grasslands, steppe, and shrub steppe. Black-footed ferrets are limited by prairie dog (*Cynomys* spp.) occurrence, as they depend on prairie dogs for food and prairie dog burrows for shelter (U.S. Fish and Wildlife Service [Service] 2013).
Canada Lynx[1] *Lynx canadensis*	FT	SE – CO	Prefers moist, boreal forest with cold, snowy winters and a high density of snowshoe hares (*Lepus americanus*) as the main prey base (NatureServe 2020). This species does not occur in similar habitat as the lesser prairie-chicken (LEPC), shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an Incidental Take Permit (ITP) for LEPC.
New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus*	FE	SE – NM	Riparian communities and adjacent uplands in grassland and shrub-scrub habitats with tall, emergent herbaceous forbs and sedges (Service 2014b).
Northern Long-eared Bat[1] *Myotis septentrionalis*	FT	NL	Found in forest interior and riparian areas (Lausen 2009). Typically avoids open habitats (Owen et al. 2003). Hibernates in caves, mines, and sometimes buildings. In summer, roosts singly or in colonies underneath tree bark or in tree cavities (Service 2014a). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Penasco Least Chipmunk *Tamias minimus atristriatus*	FC	SE – NM	Subalpine Thurber's fescue (*Festuca thurberi*) meadow with deciduous shrubs or upper montane coniferous forest (Frey and McKibben 2018).
Preble's Meadow Jumping Mouse *Zapus hudsonius preblei*	FT	ST – CO	Dense, herbaceous riparian habitat and adjacent upland grasslands (Service 2018).
Birds			
Eastern Black Rail*[1] *Laterallus jamaicensis* spp. *jamaicensis*	FT	ST – TX	Wetland-dependent species inhabiting palustrine and estuarine wetlands, such as wet grasslands and emergent marshes. Wetlands can be of varying salinity, but the species has a preference for emergent wetlands with dense, persistent, overhead herbaceous cover (Service 2020a). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-1. Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Golden-cheeked Warbler[1] *Dendroica chrysoparia*	FE	SE – TX	Mature, closed canopy Ashe juniper (*Juniperus achei*) woodlands (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Mexican Spotted Owl[1] *Strix occidentalis lucida*	FT	ST – CO, TX	Spotted owls are residents of old-growth or mature forests that possess complex structural components (uneven aged stands, high canopy closure, multi-storied levels, high tree density; NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Northern Aplomado Falcon *Falco femoralis septentrionalis*	FE, EXPN	SE – NM, TX	Open terrain with scattered trees or shrubs such as yucca (*Yucca* spp.)-covered sand ridges in coastal prairies, riparian areas adjacent to grasslands, and in desert grasslands with scattered mesquite (*Prosopis* spp.) and yucca (Service 1990).
Piping Plover**[1] *Charadrius melodus*	FT	ST – CO, KS, NM, TX	Shorelines around small alkaline lakes, river islands and adjacent sand pits, reservoir beaches, beaches surrounding large lakes, and pond shorelines (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Red Knot[1] *Calidris canutus rufa*	FT	ST – TX	Breeding habitats are elevated and sparsely vegetated ridges or slopes. They are often adjacent to wetlands and lake edges for feeding. Wintering and migration habitats are often muddy or sandy coastal areas, such as the mouths of bays and estuaries, and tidal flats (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Southwestern Willow Flycatcher *Empidonax traillii extimus*	FE	SE – CO, NM, TX	Dense, forested riparian habitats are required for nesting; however, migration and foraging habitat includes old field, shrubland/chaparral, and mixed hardwood forest (NatureServe 2020).
Western Yellow-billed Cuckoo[1,2] *Coccyzus americanus occidentalis*	FT	NL	Generally breeds in deciduous riparian woodland, especially including dense stands of cottonwood (*Populus* spp.) and willow (*Salix* spp.), but also including mesquite and salt-cedar (*Tamarisk* spp.) in some areas. Along the Lower Colorado River, yellow-billed cuckoos occupied riparian areas that had higher canopies, denser cover in the upper layers of the canopy, and sparser shrub layers when compared to unoccupied sites; at the landscape level, the amount of cottonwood-willow-dominated vegetation cover in the landscape and the width of riparian habitat appeared to influence positively cuckoo distribution and abundance. Nests are placed in dense cover of trees, shrubs, or vines, often in mature willows, cottonwoods, and sometimes tamarisk (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-1. Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Whooping Crane *Grus americana*	FE, EXPN	SE – CO, KS, NM, TX	Coastal marshes and estuaries, inland marshes, lakes, ponds, riparian areas, wet meadows and rivers, and agricultural fields (NatureServe 2020).
			Fish
Arkansas River Shiner[1] *Notropis girardi*	FT	SE – KS, NM ST – TX	Wide, shallow, unshaded creeks and small to large rivers, especially those with silt and sand substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Comanche Springs Pupfish[1] *Cyprinodon elegans*	FE	SE – TX	Freshwater springs, marshes, and canals with mud substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Devils River Minnow[1] *Dionda diaboli*	FT	ST – TX	Endemic to Texas. Fast-flowing, clear, spring-fed water with gravel substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Greenback Cutthroat Trout[1] *Oncorhynchus clarkii stomias*	FT	ST – CO	Mountain streams with fast-flowing water and lakes with overhanging banks or vegetation cover (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Leon Springs Pupfish[1] *Cyprinodon bovinus*	FE	SE – TX	Endemic to Texas. Shallow saline springs, pools, and outflow springs. Common in outflows from Diamond Y Spring (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Mexican Blindcat (catfish)[1] *Prietella phreatophila*	FE	SE – TX	Subterranean waters in wells, mine shafts, and caves with silt substrate (IUCN 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pallid Sturgeon[1] *Scaphirhynchus albus*	FE	SE – KS	Turbid riverine waters, strong currents with gravel or sand substrate. Sometimes occurs in reservoirs. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pecos Bluntnose Shiner[1] *Notropis simus pecosensis*	FT	SE – NM	Main river channels with large flows and sand, gravel, or silt substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-1. Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Pecos Gambusia[1] *Gambusia nobilis*	FE	SE – NM, TX	Clear spring waters high in calcium carbonate, waters with fairly constant temperature and vegetation (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Peppered Chub *Macrhybopsis tetranema*	PE	SE – KS ST – NM, TX	Large, permanently flowing streams with clean, find sand substrates (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Rio Grande Silvery Minnow[1] *Hybognathus amarus*	EXPN	SE – NM, TX	Pools and backwaters of creeks and small to large rivers with slow to moderate flowing waters associated with the Rio Grande River. Typically occurs in shallow water with silt substrate. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Sharpnose Shiner[1] *Notropis oxyrhynchus*	FE	SE – TX	Endemic to Texas. Medium to large rivers or pools with sand, gravel, or mud substrate and shallow water (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Smalleye Shiner[1] *Notropis buccula*	FE	SE – TX	Endemic to Texas. Small to medium river channels with shallow water and sand substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Topeka Shiner[1] *Notropis topeka*	FE	ST – KS	Open, permanent pools of small, clear headwaters and creeks (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
			Invertebrates
American Burying Beetle[2] *Nicrophorus americanus*	FT, EXPN	SE – KS	Occurs in a variety of habitats, such as grassland, shrubland, and hardwood forests. May occur in areas with mowed or grazed fields to dense shrub areas. Adults typically live aboveground, but may overwinter in soil and lay eggs in soil next to buried carcasses. (NatureServe 2020)
Diamond Tryonia[1] *Pseudotryonia adamantina*	FE	SE – TX	Endemic to Texas. Lives near small springs, seeps, and marshes, and flowing water. Especially near cattail and sedge-dominated wetlands. Typically lives on muddy substrates. (NatureServe 2020) This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-1. Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Diminutive Amphipod[1] *Gammarus hyalleloides*	FE	SE – TX	Endemic to Texas. Lives on rocky or gravel substrate in warm, mineralized, flowing spring water originating from caves (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Gonzales Tryonia[1] *Tryonia circumstriata*	FE	SE – TX	Endemic to Texas. Lives in springs, seeps, and marshes near sedges and cattails, especially on mud substrates (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Koster's Springsnail[1] *Juturnia kosteri*	FE	SE – NM	Endemic to New Mexico. Lives in springs with slow to moderate flowing water, typically on silt, sand, or gravel compacted substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Monarch Butterfly[2] *Danaus plexippus*	FC	NL	Adult monarch butterflies feed on nectar from a wide variety of flowers, but larvae only feed on milkweed (*Asclepias* spp.). Adults feed in fields, along roads, open areas, wet areas, and gardens on milkweeds and other flowering plants. Breeding only occurs where there are milkweed plants (US Forest Service 2021)
Noel's Amphipod[1] *Gammarus desperatus*	FE	SE – NM	Endemic to New Mexico. Lives in warm, mineralized water (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pecos Amphipod[1] *Gammarus pecos*	FE	SE – TX	Springs or brooks near the Pecos River (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pecos Assiminea Snail[1] *Assiminea pecos*	FE	SE – NM, TX	Aquifer-fed spring systems in desert grasslands of the Pecos River basin. Typically found in moist areas near flowing water, under vegetation such as grasses or sedges. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Phantom Springsnail[1] *Pyrgulopsis texana*	FE	SE – TX	Endemic to Texas. Lives in mineralized spring water near caves, especially in shallow water. Lives near the sources of three springs and is found on hard substrates. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Phantom Tryonia[1] *Tryonia cheatumi*	FE	SE – TX	Endemic to Texas. Lives in springs, namely the Phantom Lake Spring and associated waters, especially on mud or gravel substrates (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-1. Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Roswell Springsnail[1] *Pyrgulopsis roswellensis*	FE	SE – NM	Endemic to New Mexico. Lives on pebbles and silt, and sometimes on mud or vegetation underwater. Typically in spring heads and runs with slow to moderate flowing water. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Texas Fatmucket[1] *Lampsilis bracteata*	FC	ST – TX	Endemic to Texas. Lives in the Texas Hill Country in streams and smaller rivers. Typically in shallow water with sand, mud, and gravel substrates, and occurs near bedrock along banks. (NatureServe 2020) This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Texas Fawnsfoot[1] *Truncilla macrodon*	FC	ST – TX	Endemic to Texas. Lives in rivers and large streams with moderate flowing water in sand, gravel, and mud substrates (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Texas Hornshell[1] *Popenaias popeii*	FE	SE – NM, TX	In water at riverbanks, crevices and shelves near boulders, especially in sand and cobble substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Texas Pimpleback[1,2] *Quadrula petrina*	FC	ST – TX	Endemic to Texas. Lives in shallow slow to moderate flowing water, in mud, sand, gravel, and cobble substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Flowering Plants			
Bunched Cory Cactus *Coryphantha ramillosa*	FT	ST – TX	Chihuahuan Desert succulent scrub on rocky slopes, ledges, and gravelly limestone flats (NatureServe 2020).
Gypsum Wild-buckwheat *Eriogonum gypsophilum*	FT	SE – NM	Semi-arid open grassland dominated by grama species and creosote bush (*Larrea tridentata*) communities (NatureServe 2020).
Holy Ghost Ipomopsis[1] *Ipomopsis sancti-spiritus*	FE	SE – NM	Forest edge habitat and along roadsides within Santa Fe National Forest (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Kuenzler Hedgehog Cactus *Echinocereus fendleri* var. *kuenzleri*	FT	SE – NM	Grassland and herbaceous habitat on the fringes of pinyon-juniper (*Pinus-Juniperus* spp.) savannah (NatureServe 2020).

Table B-1. Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Lee Pincushion Cactus[1] *Coryphantha sneedii* var. *leei*	FT	SE – NM	Restricted to Tansil Limestone Formation on north-facing ledges, slopes, and ridgetops; known populations within Carlsbad Caverns National Park (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Lloyd's Mariposa Cactus *Echinomastus mariposensis*	FT	ST – TX	Arid desert and shrubland/chaparral habitats with gravely, limestone-derived soils on gentle slopes (NatureServe 2020).
Pecos Sunflower[1] *Helianthus paradoxus*	FT	SE – NM ST – TX	Desert wetlands associated with springs; requires permanent wetlands for survival. Most known populations are located within protected areas in New Mexico and Texas (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Sneed Pincushion Cactus *Coryphantha sneedii* var. *sneedii*	FE	SE – TX	Desert and desert grassland habitats with limestone ledges and slopes dominated by creosote bush, yucca species, and grama species (NatureServe 2020).
Texas Poppy-mallow *Callirhoe scabriuscula*	FE	SE – TX	Grasslands, shin oak shrublands, and mesquite woodlands with deep, loose sandy soil from alluvial deposits of the Colorado River (NatureServe 2020).
Texas Snowbells[1] *Styrax texanus*	FE	SE – TX	Limestone cliffs, bluffs, and ledges within riparian habitat and surrounded by sycamore-little walnut (*Platanus* spp.-*Juglans microcarpa*), oak (*Quercus* spp.), or oak-juniper woodlands (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Tobusch Fishhook Cactus *Sclerocactus brevihamatus* ssp. *tobuschii*	FT	SE – TX	Riparian areas and adjacent shortgrass grasslands and semi-desert shrublands interspersed with oak-juniper woodlands (NatureServe 2020).
Ute Ladies'-tresses[1] *Spiranthes diluvialis*	FT	NL	Wet meadows, riparian corridors, perennial streams, and floodplains with regular spring flooding or frequent large-scale floods (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Western Prairie Fringed Orchid[1,2] *Platanthera praeclara*	FT	ST – CO	Moist to wet calcareous tallgrass prairies and sedge meadows with perennial flooding (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-1. Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Wright's Marsh Thistle[1] *Cirsium wrightii*	PT	SE – NM	Marshy wetlands near springs and requires saturated soils and surface/subsurface water flows (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

EXPN = population is experimental non-essential in survival of the overall species, FC = candidate for federal listing, FE = federally endangered, FT = federally threatened, NL = not listed, PE = proposed endangered for federal listing, PT = proposed threatened for federal listing, SE = state endangered, ST = state threatened

[1] Federally listed species with the potential to occur within the Plan Area but not expected to occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands are unlikely to be impacted by the issuance of an ITP for LEPC and have been dismissed from detailed analysis.

[2] Identified through our state-level threatened and endangered species analysis as potentially occurring within the Plan Area but not identified through the Information for Planning and Consultation (IPaC; Service 2021). These additional sources may include:

CPWD (Colorado Parks and Wildlife Department). 2021a. Species Profiles. CPWD, Denver, Colorado. Accessed July 2021. Available online: https://cpw.state.co.us/learn/Pages/SpeciesProfiles.aspx

___. 2021b. Threatened and Endangered List. CPWD, Denver, Colorado. Accessed July 2021. Available online: https://cpw.state.co.us/learn/Pages/SOC-ThreatenedEndangeredList.aspx

Colorado Natural Heritage Program. No date. CPWD: Wildlife Species Profiles. Accessed July 2021. Available online: https://cpw.state.co.us/learn/Pages/SpeciesProfiles.aspx

NMDGF (New Mexico Department of Game and Fish). 2021. Biota Information System of New Mexico. NMDGF, Santa Fe, New Mexico. Accessed July 2021. Available online: https://www.bison-m.org/SuperSearch.aspx#

KDWP (Kansas Department of Wildlife and Parks). 2021. Threatened and Endangered Wildlife: List of All Kansas Counties. Accessed July 2021. Available online: https://ksoutdoors.com/Services/Threatened-and-Endangered-Wildlife/List-of-all-Kansas-Counties/

ONHI (Oklahoma Natural Heritage Inventory). 2021. Federal and State Endangered, Threatened, and Candidate Species in Oklahoma by County. ONHI, Norman, Oklahoma. Accessed July 2021. Available online: http://www.oknaturalheritage.ou.edu/content/biodiversity-info/endangered-species/index.php

TPWD (Texas Parks and Wildlife Department). 2020. Updated List of State T & E Species in Texas - Effective March 30, 2020. TWPD, Austin, Texas. Accessed July 21, 2021. Available online: https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/media/fedState-ListedSpeciesComplete-3302020.pdf

__ . 2021. Rare, Threatened, and Endangered Species of Texas. TWPD, Austin, Texas. Accessed July 2021. Available online: https://tpwd.texas.gov/gis/rtest/

* The eastern black rail is listed as “black rail (*Laterallus jamaicensis*)” by the TPWD. The eastern black rail subspecies is the only subspecies found in the Plan Area (see NatureServe 2020), so eastern black rail is synonymous with black rail in the context of this document.

** CPWD lists the subspecies of the piping plover (*Charadrius melodus circumcinctus*) as a state-listed threatened species. For the purposes of this analysis, the parent species and subspecies will be considered to be the same.

Table B-1. Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]

Sources:

Frey, J. K., and F. McKibben. 2018. 2018 Year End Report. Distribution, Abundance, and Habitat Selection by the Penasco Least Chipmunk (*Neotamis minimus atristriatus*). Submitted to NMDGF, share with Wildlife Program, Ecological and Environmental Planning Division. December 19, 2018. Available online: http://www.wildlife.state.nm.us/download/conservation/share-with-wildlife/reports/2018/Distribution-abundance-and-habitat-selection-by-the-Penasco-least-chipmunk-Tamias-minimus-atristriatus-revealed-by-N-mixture-models-_-Jennifer-Frey.pdf

IUCN (International Union for the Conservation of Nature). 2020. Mexican Blindcat (*Prietella phreatophila*). The IUCN Red List of Threatened Species. Version 2020-1. Information online: https://www.iucnredlist.org; https://www.iucnredlist.org/species/18136/1725896#habitat-ecology

Lausen, C. 2009. Status of the Northern Myotis (*Myotis septentrionalis*) in Alberta: Update 2009. Alberta Wildlife Status Report No. 3 (Update 2009). Government of Alberta - Fish and Wildlife Division; Alberta Conservation Association and Alberta Sustainable Resource Development, Available online: https://open.alberta.ca/dataset/cc051d7c-b9b1-46b1-a71a-2af714a365ce/resource/bba3872d-bf02-48f4-ab37-9ffb7cdebc30/download/2009-sar-statusnorthernmyotisalberta-2009update-may2009.pdf

NatureServe. 2020. NatureServe Explorer: An Online Guide to Species and Ecosystems. Accessed March 2020. Available online: https://explorer.natureserve.org/

Owen, S. F., M. A. Menzel, W. M. Ford, B. R. Chapman, K. V. Miller, J. W. Edwards, and P. B. Wood. 2003. Home-Range Size and Habitat Used by the Northern Myotis (*Myotis septentrionalis*). American Midland Naturalist 150(2): 352-359.

Service (U.S. Fish and Wildlife Service). 1990. Northern Aplomado Falcon Recovery Plan. Service, Albuquerque, New Mexico. 56 pp. Available online: https://ecos.fws.gov/docs/recovery_plan/northern%20aplomado%20falcon%20recovery%20plan%201990.pdf

___. 2013. Recovery Plan for the Black-Footed Ferret (*Mustela nigripes*). Service, Denver, Colorado. 157 pp. Available online: https://ecos.fws.gov/docs/recovery_plan/20131108%20BFF%202nd%20Rev.%20Final%20Recovery%20Plan.pdf

___. 2014a. Northern Long-Eared Bat Interim Conference and Planning Guidance. Service Regions 2, 3, 4, 5, and 6. January 6, 2014. Available online: http://www.fws.gov/northeast/virginiafield/pdf/NLEBinterimGuidance6Jan2014.pdf

___. 2014b. Species Status Assessment Report. New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*). Prepared by the Listing Review Team, Service, Albuquerque, New Mexico. May 27, 2014. Available online: https://ecos.fws.gov/ServCat/DownloadFile/161605

___. 2018. Preble's Meadow Jumping Mouse Recovery Plan, Colorado. Service Region 6, Lakewood, Colorado. 148 pp Available online: https://ecos.fws.gov/docs/recovery_plan/Final_Draftpreblesrecoveryplan_10032018_signed.pdf

___. 2020a. Endangered and Threatened Wildlife and Plants; Threatened Species Status for Eastern Black Rail With a Section 4(d) Rule. 85 Federal Register (FR) 196: 63764-63803. October 8, 2020.

___. 2021. IPaC. Service Environmental Conservation Online System (ECOS). Accessed July 2021. Available online: http://ecos.fws.gov/ipac/

USFS (U.S. Forest Service), 2021. Monarch Butterfly Habitat Needs. USFS, Washington, Accessed July 2021. Available online: https://www.fs.fed.us/wildflowers/pollinators/Monarch_Butterfly/habitat/

Table B-2. Federally Designated Critical Habitat that Occurs within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Critical Habitat Notes
			Birds
Whooping Crane *Grus americana*	FE, EXPN	SE – CO, KS, NM, TX	Three critical habitat units for the whooping crane occur within the Plan Area (Service 1978). • Unit 4: Cheyenne Bottoms State Waterfowl Management Area (Kansas) • Unit 5: Quivira National Wildlife Refuge (Kansas) • Unit 8: Salt Plains National Wildlife Refuge (Oklahoma) All three critical habitat units are managed by either a state or federal agency, and are thereby precluded from the Covered Activities under the HCP, and would not be impacted by the issuance of an Incidental Take Permit (ITP) for lesser prairie-chicken (LEPC).
			Fish
Arkansas River Shiner *Notropis girardi*	FT	SE – KS, NM ST – TX	Two river reaches designated as critical habitat for the Arkansas River Shiner partially occur within the Plan Area (Service 2005). • Unit 1b: Canadian River from south of Fay, Oklahoma, to the edge of the Plan Area east of Hinton, Oklahoma. • Unit 3: Cimarron River from southwest of Kismet, Kansas, to the edge of the Plan Area east of Dover, Oklahoma.
Leon Springs Pupfish *Cyprinodon bovinus*	FE	SE – TX	Diamond Y Springs and its outflow, Leon Creek (Diamond Draw), from the origin to one mi (1.6 km) past Texas State Highway 18 crossing (Service 1980). Diamond Y Springs is located entirely on private lands managed by The Nature Conservancy, and is thereby precluded by the Covered Activities under the HCP, and would not be impacted by the issuance of an ITP for LEPC.
Pecos Bluntnose Shiner *Notropis simus pecosensis*	FT	SE – NM	Two river reaches designated as critical habitat for the Pecos bluntnose shiner partially occur within the western edge of the Plan Area in New Mexico (Service 1987). • Complex 1: Pecos River from north boundary of 1N; 26E; NE1/4 Sec 2 downstream to south boundary of 5S; 25E; SW1/4 Sec 35. • Complex 2: Pecos River from west boundary of 14S; 27E; NW1/4 Sec 7 downstream to 17S; 27E; NW1/4 Sec 18 (US Highway 82 bridge).
Peppered Chub *Macrhybopsis tetranema*	PE	SE – KS ST – NM, TX	Four units are designated as critical habitat in the Plan Area. Only one unit, Unit 1 - Upper South Canadian River, is reported as occupied by the species. The remaining three units are considered unoccupied, but essential habitat for the conservation of the peppered chub (Service 2020a). Each unit includes river habitat up to bank full height. • Unit 1 - Upper South Canadian River: Unit 1 consists of approximately 197.16 river mi (317.29 river km) of the South Canadian River originating from Ute Dam west of Logan, New Mexico, and extending downstream to Lake Meredith in Texas, including part of Revuelto Creek from the Interstate Highway 40 crossing to the downstream confluence with the South Canadian River, New Mexico. Land ownership in Unit 1 is largely private or “other” (non-federal ownership, likely to be tribal or private).

Table B-2. Federally Designated Critical Habitat that Occurs within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Critical Habitat Notes
			• Unit 2 - Lower South Canadian River.: Unit 2 is approximately 400.01 river mi (643.86 river km) from the South Canadian River US Highway 83 bridge north of Canadian, Texas, and extending downstream to the US Highway 75 bridge northwest of Calvin, Oklahoma. • Unit 3 - Arkansas/Ninnescah River: This unit is about 178.96 river mi (288.02 river km) of the South Fork Ninnescah River originating at the Highway 54/400 bridge east of Pratt, Kansas, and extending downstream to the River Road Bridge east of Newkirk, Oklahoma. • Unit 4- Cimarron River: Unit 4 is about 291.82 river mi (469.63 river km) of the Cimarron River from the U.S. Highway 183 bridge east of Englewood, Kansas, and extending downstream to the Oklahoma 51 bridge northeast of Oilton, Oklahoma.
			Invertebrates
Diamond Tryonia *Pseudotryonia adamantina*	FE	SE – TX	The only critical habitat unit, Diamond Y Springs, falls within the southernmost portion of the Plan Area, north of Fort Stockton, Texas (Service 2013). Diamond Y Springs is located entirely on private lands managed by The Nature Conservancy, and is thereby precluded by the Covered Activities under the HCP, and would not be impacted by the issuance of an ITP for LEPC.
Gonzales Tryonia *Tryonia circumstriata*	FE	SE – TX	The only critical habitat unit for this species in the Plan Area is the same for unit for diamond tryonia, Diamond Y Springs, and the unit is precluded by the covered activities as described above for diamond tryonia.
Koster's Springsnail *Juturnia kosteri*	FE	SE – NM	Several waterbodies designated as critical habitat for Koster's springsnail occur within the western portion of the Plan Area, east of Chaves, New Mexico (Service 2011), totaling 61 ac (25 ha). • Unit 1: Sago/Bitter Creek Complex • Unit 2a: Springsnail/Amphipod Impoundment Complex • Unit 2a/b: Springsnail/Amphipod/Assiminea Impoundment Complex
Noel's Amphipod *Gammarus desperatus*	FE	SE – NM	Several waterbodies designated as critical habitat for Noel's amphipod occur within the western portion of the Plan Area, east of Chaves, New Mexico (Service 2011), totaling 64 ac (26 ha). • Unit 1: Sago/Bitter Creek Complex. This unit is located entirely on lands owned and managed by the Service, within the Middle Tract of Bitter Lake National Wildlife Refuge, and is thereby precluded by the Covered Activities under the HCP, and would not be impacted by the issuance of an ITP for LEPC. • Unit 2a: Springsnail/Amphipod Impoundment Complex • Unit 2a/b: Springsnail/Amphipod/Assiminea Impoundment Complex • Unit 3: Rio Hondo Complex
Pecos Amphipod *Gammarus pecos*	FE	SE – TX	The only critical habitat unit for this species in the Plan Area is the same for unit for diamond tryonia, Diamond Y Springs, and the unit is precluded by the covered activities as described above for diamond tryonia.

Table B-2. Federally Designated Critical Habitat that Occurs within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Critical Habitat Notes
Pecos Assiminea Snail *Assiminea pecos*	FE	SE – NM, TX	Several waterbodies designated as critical habitat for Pecos assiminea snail occur within the western portion of the Plan Area, east of Chaves, New Mexico, and north of Fort Stockton, Texas (Service 2011). • Unit 1: Sago/Bitter Creek Complex. This unit is located entirely on lands owned and managed by the Service, within the Middle Tract of Bitter Lake National Wildlife Refuge, and is thereby precluded by the Covered Activities under the HCP, and would not be impacted by the issuance of an ITP for LEPC. • Unit 2a/b: Springsnail/Amphipod/Assiminea Impoundment Complex • Unit 2b: Assiminea Impoundment Complex • Unit 4: Diamond Y Springs. This unit is precluded by the covered activities as described above for diamond tryonia.
Roswell Springsnail *Pyrgulopsis roswellensis*	FE	SE – NM	Several waterbodies designated as critical habitat for the Roswell springsnail occur within the western portion of the Plan Area, east of Chaves, New Mexico (Service 2011), totaling 61 ac. • Unit 1: Sago/Bitter Creek Complex. This unit is located entirely on lands owned and managed by the Service, within the Middle Tract of Bitter Lake National Wildlife Refuge, and is thereby precluded by the Covered Activities under the HCP, and would not be impacted by the issuance of an ITP for LEPC. • Unit 2a: Springsnail/Amphipod Impoundment Complex • Unit 2a/b: Springsnail/Amphipod/Assiminea Impoundment Complex
Texas Hornshell[1] *Popenaias popeii*	FE	SE – NM, TX	Critical habitat for this species is found in the Plan Area, in Eddy County, New Mexico, and Terrell County, and Val Verde County, Texas (Service 2021a). The critical units and subunits include: • Unit 2 - Pecos River Unit. This unit consists of 137.9 km (85.7 mi) occupied habitat in private, non-governmental organization (NGO), and federal ownership of the Pecos River in Val Verde and Terrell Counties, Texas. Live Texas hornshell were collected from this unit in 2016, and other living Texas hornshell were likely in the unit at that time. Special management may be necessary to improve water quality.
Flowering Plants			
Pecos Sunflower *Helianthus paradoxus*	FT	SE – NM ST – TX	Several areas designated as critical habitat for the Pecos sunflower occur within the Plan Area (Service 2008b). • Bitter Lake National Wildlife Refuge (New Mexico). This area is owned and managed by the Service and is thereby precluded by the Covered Activities under the HCP, and would not be impacted by the issuance of an ITP for LEPC. • Bitter Lake National Wildlife Refuge Farm (New Mexico). This area is owned and managed by the Service and is thereby precluded by the Covered Activities under the HCP, and would not be impacted by the issuance of an ITP for LEPC.

Table B-2. Federally Designated Critical Habitat that Occurs within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Critical Habitat Notes
			• Lea Lake as Bottomless Lakes State Park (New Mexico). This area is owned by the State of New Mexico and managed by the New Mexico Parks and Recreation Division. This area is thereby precluded by the Covered Activities under the HCP, and would not be impacted by the issuance of an ITP for LEPC. • City of Roswell Land – wetland complex (New Mexico) • Oasis Dairy – wetland complex (New Mexico) • Dexter Cienaga – wetland complex (New Mexico) • Diamond Y Spring – wetland complex (Texas). This unit is located entirely on private lands managed by The Nature Conservancy, and is thereby precluded by the Covered Activities under the HCP, and would not be impacted by the issuance of an ITP for LEPC.
Wright's Marsh Thistle[1] *Cirsium wrightii*	PT	NL	One of eight units of critical habitat for this species occur in counties within the Plan Area (Service 2020b): • Unit 3: Bitter Lake, Chaves County, New Mexico. Unit 3 consists of 19.0 ha (47.0 ac) in Chaves County, New Mexico, and is composed of lands under federal management, specifically the Service's Bitter Lake National Wildlife Refuge (NWR). This unit is managed entirely by the Service, This unit consists of two subunits, and special management considerations or protection may be required and could include watershed/wetland restoration efforts. ○ Subunit 3a: NWR Unit 5 Subunit 3a consists of 3.16 ha (7.8 ac) in Chaves County, New Mexico, within Wetland Management Unit 5 on Bitter Lake NWR. ○ Subunit 3b: NWR Unit 6 Subunit 3b consists of 15.9 ha (39.2 ac) in Chaves County, New Mexico, within Wetland Management Unit 6 on Bitter Lake NWR.

EXPN = population is experimental non-essential in survival of the overall species, FC = candidate for federal listing, FE = federally endangered, FT = federally threatened, NL = not listed, PE = proposed endangered for federal listing, PT = proposed threatened for federal listing, SE = state endangered, ST = state threatened

HCP = Habitat Conservation Plan, LEPC = Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*)

Most critical habitat designations from Service 2021b.

Sources:

Service (U.S. Fish and Wildlife Service). 1978. Determination of Critical Habitat for the Whooping Crane; Final Rule. Department of the Interior, Service. 43 Federal Register (FR) 94: 20938-20942. May 15, 1978. Available online: https://ecos.fws.gov/docs/federal_register/fr214.pdf

__ . 1980. Endangered and Threatened Wildlife and Plants; Listing of Leon Springs Pupfish as Endangered with Critical Habitat; Final Rule. Department of the Interior, Service. 45 FR 160: 54678-54681. August 15, 1980. Available online: https://ecos.fws.gov/docs/federal_register/fr457.pdf

__ . 1981. Endangered and Threatened Plants; Determination of Two New Mexico Plants to be Endangered Species and Threatened Species, with Critical Habitat; Final Rule. Department of the Interior, Service. 46 FR 12: 5703-5733. January 19, 1981. Available online: https://ecos.fws.gov/docs/federal_register/fr515.pdf

__ . 1987. Determination of Threatened Status for *Notropis simus pecosensis* (Pecos Bluntnose Shiner); Final Rule. Department of the Interior, Service. 52 FR 34: 5295-5303. February 20, 1987. Available online: https://ecos.fws.gov/docs/federal_register/fr1228.pdf

Table B-2. Federally Designated Critical Habitat that Occurs within the Plan Area for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Critical Habitat Notes

__ . 2004. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Mexican Spotted Owl; Final Rule. Department of the Interior, Service. 69 FR 168: 53182-53289. August 31, 2004. Available online: https://www.govinfo.gov/content/pkg/FR-2004-08-31/pdf/04-19501.pdf

__ . 2005. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for the Arkansas River Basin Population of the Arkansas River Shiner (*Notropis girardi*); Final Rule. Department of the Interior, Service. 70 FR 197: 59808-59846. October 31, 2005. Available online: https://www.govinfo.gov/content/pkg/FR-2005-10-13/pdf/05-20048.pdf#page=2

__ . 2008a. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Devils River Minnow; Final Rule. Department of the Interior, Service. 73 FR 156: 46988-47026. August 12, 2008. Available online: https://www.govinfo.gov/content/pkg/FR-2008-08-12/pdf/E8-17985.pdf

__ . 2008b. Endangered and Threatened Wildlife and Plants; D Designation of Critical Habitat for *Helianthus paradoxus* (Pecos Sunflower); Final Rule. Department of the Interior, Service. 73 FR 63: 17762-17807. April 1, 2008. Available online: https://www.govinfo.gov/content/pkg/FR-2008-04-01/pdf/E8-5811.pdf#page=2

__ . 2010. Endangered and Threatened Wildlife and Plants; Revised Critical Habitat for the Preble's Meadow Jumping Mouse in Colorado; Final Rule. Department of the Interior, Service. 75 FR 240: 78430-78483. December 15, 2010. Available online: https://www.govinfo.gov/content/pkg/FR-2010-12-15/pdf/2010-30571.pdf

__ . 2011. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Roswell Springsnail, Koster's Springsnail, Noel's Amphipod, and Pecos Assiminea; Final Rule. Department of the Interior, Service. 76 FR 109: 3306-33064. June 7, 2011. Available online: https://www.govinfo.gov/content/pkg/FR-2011-06-07/pdf/2011-13227.pdf

__ . 2013. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Six West Texas Aquatic Invertebrates; Final Rule. Department of the Interior, Service. 78 FR 131: 40970-40966. June 9, 2013Available online: https://www.govinfo.gov/content/pkg/FR-2013-07-09/pdf/2013-16230.pdf

__ . 2014. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Sharpnose Shiner and Smalleye Shiner; Final Rule. Department of the Interior, Service. 79 FR 149: 45242-45271. August 4, 2014. Available online: https://www.govinfo.gov/content/pkg/FR-2014-08-04/pdf/2014-17694.pdf

__ . 2016. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the New Mexico Meadow Jumping Mouse; Final Rule. Department of the Interior, Service. 81 FR 51: 14264-14325. March 16, 2016. Available online: https://www.govinfo.gov/content/pkg/FR-2016-03-16/pdf/2016-05912.pdf

__ . 2020a. Endangered and Threatened Wildlife and Plants; Endangered Species Status for the Peppered Chub and Designation of Critical Habitat; Proposed Rule. Department of the Interior, Service. 85 FR 231: 77108-77138. December 1, 2020. Available online: https://www.govinfo.gov/content/pkg/FR-2020-12-01/pdf/2020-25257.pdf

__ . 2020b. Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Wright's Marsh Thistle (*Cirsium wrightii*) With a 4(d) Rule and Designation of Critical Habitat; Proposed Rule. Department of the Interior, Service. 85 FR 189: 61460-61498. September 29, 2020. Available online: https://www.govinfo.gov/content/pkg/FR-2020-09-29/pdf/2020-19337.pdf

__ . 2021a. Endangered and Threatened Wildlife and Plants; Designating Texas Hornshell Critical Habitat; Proposed Rule. Department of the Interior, Service. 86 FR 110: 30888-30909. June 10, 2021. Available online: https://www.govinfo.gov/content/pkg/FR-2021-06-10/pdf/2021-11966.pdf

__ . 2021b. IPaC. Service Environmental Conservation Online System (ECOS). Accessed July 2021. Available online: http://ecos.fws.gov/ipac/

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
		Mammals	
Black Bear[1] *Ursus americanus*	NL	ST – TX	Forests and forested wetlands, especially mixed deciduous-coniferous forest with a dense understory. When inactive, lives in dens underground, or on ground level under fallen trees or other cover. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Black-footed Ferret[2] *Mustela nigripes*	FE	SE – CO, KS	Limited to open habitat such as semi-arid grasslands, steppe, and shrub steppe. Black-footed ferrets are limited by prairie dog (*Cynomys* spp.) occurrence, as the species depends on prairie dogs for food and prairie dog burrows for shelter (Service 2013).
Canada Lynx[1] *Lynx canadensis*	FT	SE – CO	Prefers moist, boreal forest with cold, snowy winters and a high density of snowshoe hares (*Lepus americanus*) as the main prey base (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Eastern Spotted Skunk *Spilogale putorius*	NL	ST – KS	Has a large range across central and eastern North America. Lives in riparian, woodland, grassland/herbaceous, and forested areas, especially in covered areas, but also in brushy/open areas. May live in a burrow, under brush, in a rock crevice, hollow tree, or in an otherwise protected area (NatureServe 2020).
Gray Wolf[2,3] *Canis lupus*	NL	SE – CO, TX	Mixed or conifer forests, hardwood and conifer woodlands, desert, grassland/herbaceous areas, and alpine areas with no specific habitat preferences (NatureServe 2020).
Least Shrew *Cryptotis parva*	NL	ST – NM	Mixed, hardwood woodlands, shrubland/chaparral areas, and grassland/herbaceous areas. Lives in dense herbaceous vegetation, brushy areas, forest edges, and salt and freshwater marshes. Nests underground, under logs, stumps, or rocks. (NatureServe 2020).
New Mexico Meadow Jumping Mouse*[2] *Zapus hudsonius luteus*	FE	SE – NM	Riparian communities and adjacent uplands in grassland and shrub-scrub habitats with tall, emergent herbaceous forbs and sedges (Service 2014).
Pacific Marten[1] *Martes caurina*	NL	ST – NM	Old growth deciduous, mixed, or coniferous upland and lowland forest (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Palo Duro Mouse[1] *Peromyscus truei comanche*	NL	ST – TX	Endemic to Texas. Lives in conifer woodlands including pinyon-juniper (*Pinus* spp.- *Juniperus* spp.) woodlands, chaparral and desert scrub areas, redwood forests, riparian woodlands, and along rocky areas such as limestone cliffs. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Penasco Least Chipmunk**[2] *Tamias minimus atristriatus*	FC	SE – NM	Subalpine Thurber's fescue (*Festuca thurberi*) meadow with deciduous shrubs or upper montane coniferous forest (Frey and McKibben 2018).

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Preble's Meadow Jumping Mouse[2] *Zapus hudsonius preblei*	FT	ST – CO	Dense, herbaceous riparian habitat and adjacent upland grasslands (Service 2018).
Spotted Bat *Euderma maculatum*	NL	ST – NM, TX	Conifer woodland, desert, shrubland/chaparral, grassland/herbaceous, cliff, bare rock/talus/scree areas. Specifically, they live in desert to montane coniferous stands, and forage in open habitat such as meadows and wetlands. Roosts occur in cracks and crevices in cliffs. Not much is known about winter habitats. (NatureServe 2020).
Texas Kangaroo Rat *Dipodomys elator*	NL	ST – TX	Endemic to Oklahoma and Texas. Lives in sparsely vegetated areas, including areas that have been disturbed through grazing, and along fencerows near cultivated areas and roads. In Texas, they live in areas with short, sparse grasses that have overhead woody cover. Burrows are in bare ground areas, and areas with short vegetation. Some individuals may use more than one burrow, and young are born in underground nest chambers. (NatureServe 2020).
White-nosed Coati *Nasua narica*	NL	ST – TX	Cropland/hedgerow, hardwood, mixed, and conifer woodlands, mixed, hardwood, and conifer forests, and shrubland/chaparral areas. The white-nosed coati lives in oak-sycamore-walnut (*Quercus* spp.-*Platanus* spp.-*Jugulans* spp.), oak-pine, and shrub-grass canyons, near water. Dens are in crevices under tree roots, in caves, mines, or hollow trees. (NatureServe 2020).
			Birds
Baird's Sparrow*** *Ammodramus bairdii*	NL	ST – NM	Nests in mixed-grass prairie, tallgrass prairie, wet meadows, and some disturbed habitat. In prairies, the Baird's sparrow is commonly associated with blue grama (*Bouteloua gracilis*), western wheatgrass (*Pascopyrum smithii*), little bluestem (*Schizachyrium scoparium*), prairie junegrass (*Koeleria macrantha*), needle and thread (*Hesperostipa comata*), and needleleaf sedge (*Carex duriuscula*). Tends to prefer dense, medium-tall vegetation. (NatureServe 2020).
Bald Eagle *Haliaeetus leucocephalus*	NL	ST – NM	Nest in forested areas near water, and avoid heavily developed areas. May feed in areas near humans, such as fish processing plants, dumps, and dams where fish are plenty. Perches in tall, mature, coniferous or deciduous trees. In winter, bald eagles may be seen in dry, open uplands near water for fishing. (All About Birds 2020).
Bell's Vireo *Vireo bellii*	NL	ST – NM	Arid regions along streams or in dry arroyos and gulches, especially in shorter vegetation including dense shrub or scrub areas including brushy fields, riverine scrub, coastal chaparral, scrub oak, mottes of shrubs and trees in prairies, saltcedar (*Tamarisk* spp.) stands, and mesquite (*Prosopis* spp.) bosques. Tend to live in low vegetation. (All About Birds 2020).
Boreal Owl[1] *Aegolius funereus*	NL	ST – NM	Dense coniferous or mixed forest near open grasslands (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Broad-billed Hummingbird *Cynanthus latirostris*	NL	ST – NM	Arid scrub, semi-desert, or other open arid habitats with scattered small trees and shrubs (NatureServe 2020).

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Brown Pelican[1] *Pelecanus occidentalis*	NL	SE – NM	Coastal waters, shallow estuarine waters, sand pits, coastal islands, and offshore sandbars (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Burrowing Owl *Athene cunicularia*	NL	SE – CO	Open grasslands (prairie, plains, savanna), sometimes vacant lots or airports. This owl spends much time on the ground or on low perches. Nests are in abandoned burrows. This species is associated with prairie dog colonies.
Common Black Hawk†[1] *Buteogallus anthracinus*	NL	ST – NM, TX	Woodlands near water for hunting, especially found in cottonwood stands (eBird 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Common Ground Dove *Columbina passerina*	NL	SE – NM	Open or shrubby areas that have tall grasses or tree stands, especially in riparian areas, open savannas, and towns (eBird 2020).
Eastern Black Rail††[2,3] *Laterallus jamaicensis* spp. *jamaicensis*	FT	Proposed – TX	Wetland-dependent species inhabiting palustrine and estuarine wetlands, such as wet grasslands and emergent marshes. Wetlands can be of varying salinity, but the species has a preference for emergent wetlands with dense, persistent, overhead herbaceous cover (Service 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Golden-cheeked Warbler[1,2] *Dendroica chrysoparia*	FE	SE – TX	Mature, closed canopy Ashe juniper (*Juniperus achei*) woodlands (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Gray Hawk[1] *Buteo plagiatus*	NL	ST – TX	Shrubby riparian woodland, gallery forest, tropical deciduous forest, and tropical lowland evergreen forest edge; usually occurs alone (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Gray Vireo *Vireo vicinior*	NL	ST – NM	Desert, hardwood, conifer, and mixed woodland, and shrubland/chaparral areas, specifically in semi-arid, shrubby areas. Habitat when breeding is similar to during migration and winter. (Nature Serve 2020).
Interior Least Tern†††[1] *Sterna antillarum athalassos*	NL	SE – CO, KS, NM, TX	Barren to sparsely vegetated riverine sandbars, sand and gravel pits, lake and reservoir shorelines (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Lucifer Hummingbird *Calothorax lucifer*	NL	ST – NM	Open, arid landscapes including shrub/scrub and woodland edges (NatureServe 2020).

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Mexican Spotted Owl[1,2] *Strix occidentalis lucida*	FT	ST – CO, TX	Spotted owls are residents of old-growth or mature forests that possess complex structural components (uneven aged stands, high canopy closure, multi-storied levels, high tree density; NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Neotropic Cormorant[1] *Phalacrocorax brasilianus*	NL	ST – NM	Rivers, lakes, marshes, and coastal areas (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Northern Aplomado Falcon‡[2] *Falco femoralis septentrionalis*	FE, EXPN	SE – NM	Grassy plains and valleys including savannas, desert grasslands and old fields (NatureServe 2020).
Northern Beardless-tyrannulet *Camptostoma imberbe*	NL	SE – NM	Arid scrub, thickets, mesquite, forest edge, and open riparian woodland, and often near streams in sycamore, mesquite, and cottonwood (*Populus* spp.) groves This species nests in trees, often near water in globular clumps among mistletoe (*Phoradendron* spp.), and may nest at base of palmetto (*Sabal* spp.) fans (NatureServe 2020).
Peregrine Falcon‡‡ *Falco peregrinus anatum*	NL	ST – NM, TX	Tundra, moorlands, steppe, and seacoasts, where there are cliffs, mountains, open forested areas, and areas where humans congregate. Occurs near farmlands, marshes, lakeshores, river mouths, tidal flats, dunes, beaches, broad river valleys, cities, and airports. Nests are typically on rocky cliffs with overhanging shelters. (NatureServe 2020).
Piping Plover‡‡‡[1,2] *Charadrius melodus*	FT	ST – CO, KS, NM, TX	Shorelines around small alkaline lakes, river islands and adjacent sand pits, reservoir beaches, beaches surrounding large lakes, and pond shorelines (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Reddish Egret[1] *Egretta rufescens*	NL	ST – TX	Found near coastlines on shallow saltmarshes and mudflats (eBird 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Red Knot[1] *Calidris canutus rufa*	FT	ST – TX	Breeding habitats are elevated and sparsely vegetated ridges or slopes. They are often adjacent to wetlands and lake edges for feeding. Wintering and migration habitats are often muddy or sandy coastal areas, such as the mouths of bays and estuaries, and tidal flats (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Snowy Plover[1] *Charadrius alexandrinus*	NL	ST – KS	Along the coast, on sandy beaches, dry mudflats, and at salt ponds. Sometimes inland, but often near water. (eBird 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Southwestern Willow Flycatcher[2] *Empidonax traillii extimus*	FE	SE – CO, NM, TX	Dense, forested riparian habitats are required for nesting; however, migration and foraging habitat includes old field, shrubland/chaparral, and mixed hardwood forest (NatureServe 2020).
Thick-billed Kingbird *Tyrannus crassirostris*	NL	SE – NM	Arid scrub/shrub, savannah, riparian woodland, and open habitats with scattered trees (NatureServe 2020).
Tropical Parula[1] *Parula pitiayumi*	NL	ST – TX	In Texas, lives in deciduous riparian forests dominated by cedar elm (*Ulmus crassifolia*), sugar hackberry (*Celtis laevigata*), Texas ebony (*Ebenopsis ebano*), and Mexican ash (*Fraxinus berlandieriana*), usually near lagoons or dry river beds. The tropical parula is especially found at the tops of trees. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Varied Bunting *Passerina versicolor*	NL	ST – NM	Open and arid thorn brush, thickets, and scrub habitats (NatureServe 2020).
White-eared Hummingbird *Basilinna leucotis*	NL	ST – NM	Open scrub/shrub habitat, pine woods, pine-oak forests, forest edge, and fir forest (NatureServe 2020).
White-faced Ibis[1] *Plegadis chihi*	NL	ST – TX	Freshwater including marshes, swamps, ponds, and rivers; nests are in marshes, low trees, or on the ground in vegetation (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
White-tailed Ptarmigan[1] *Lagopus leucura*	NL	SE – NM	Alpine tundra with rocky areas and sparse vegetation (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Whooping Crane[2] *Grus americana*	FE, EXPN	SE – CO, KS, NM, TX	Coastal marshes and estuaries, inland marshes, lakes, ponds, riparian areas, wet meadows and rivers, and agricultural fields (NatureServe 2020).
Zone-tailed Hawk *Buteo albonotatus*	NL	ST – TX	Hunts in desert scrub and grasslands and uses riparian areas with cottonwood and willow trees for nesting and hunting. May live in arid foothills and rocky canyons and cliffs, and forage up to 7,600 feet in pine forests. (All About Birds 2020)
Amphibians			
Green Toad *Anaxyrus debilis*	NL	ST – KS	May live in a variety of aquatic and terrestrial habitats. Terrestrial habitat may include arid and semiarid plains, valleys, and foothills in grassland and desert shrublands, and may burrow in soil and stay under rocks when inactive. Eggs and larvae are in shallow water of temporary ponds, rain pools, and pools along intermittent streams. (NatureServe 2020)

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Sacramento Mountain Salamander[1] *Aneides hardii*	NL	ST – NM	Douglas-fir, Engelmann spruce, and white fir forests on north- and east-facing slopes (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Strecker's Chorus Frog *Pseudacris streckeri*	NL	ST – KS	Mainly lives in terrestrial habitats including moist woods, sand prairies, ravines, along streams and swamps, near ponds, and cultivated areas. When inactive, burrows underground. Eggs and larvae grow in flooded fields, ditches, sloughs, small ponds, and other temporary waterbodies. (NatureServe 2020)
Western Narrow-mouthed Toad *Gastrophryne olivacea*	NL	SE – NM	Arid and semi-arid lowlands including mesquite and shrublands, including grasslands, rocky wooded hills, marsh edges, near springs, rain pools, river floodplains, and cultivated fields. When inactive, hides in rotten logs, stumps, or borrows. Eggs and larvae develop in temporary pools. (NatureServe 2020).
Reptiles			
Arid Land Ribbonsnake[1] *Thamnophis proximus*	NL	ST – NM	Riparian habitats, lakes, rivers, wetlands, and streams (New Mexico Natural Heritage Program 2017). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Checkered Garter Snake *Thamnophis marcianus*	NL	ST – KS	Lives in a variety of aquatic or terrestrial lowland habitats. In northern Texas, occurs near ponds, springs, streams, rivers, marshes, swamps, flooded areas, and irrigation ditches. In southern Texas, occurs in grasslands, deserts, thornbrush savanna, backyards, and gardens. In the southern range, habitat included tropical wet, moist, and dry forest and pine-palmetto savanna. (NatureServe 2020).
Dunes Sagebrush Lizard[1] *Sceloporus arenicolus*	NL	SE – NM	Occurs in New Mexico and Texas, near active and semi-stabilized sand dunes, lives in burrows or under leaf debris (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Gray-banded Kingsnake *Lampropeltis alterna*	NL	SE – NM	Lives in New Mexico and Texas, in riparian, bare rock/talus/scree, desert, and shrubland/chaparral habitats. Habitat is usually dry and rocky, with typical Chihuahuan Desert plants including acacia, desert willow, creosotebush, mesquite, ocotillo, and opuntia. During the day, the snake is in crevices or under cover. (NatureServe 2020).
Mottled Rock Rattlesnake *Crotalus lepidus lepidus*	NL	ST – NM	In New Mexico, lives in arid and semi-arid rocky mountainous areas, especially those including pine-oak, oak-juniper, pinyon pine, ponderosa pine, and agave. Also lives in mesquite grasslands and rocky desert flats and canyons. (IUCN 2020a).

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
New Mexico Threadsnake *Rena dissecta*	NL	ST – KS	Terrestrial habitats including forest/woodland, mixed, hardwood, and conifer woodland, desert, and grassland/herbaceous areas. Specifically, habitat includes prairies, prairie canyons, rocky and sandy deserts, and pinyon-juniper and juniper-oak woodland. The New Mexico threadsnake lives in damp, loose soil, and may be found under rocks, logs, and debris. They lay eggs in underground chambers, in hollows of decaying trees, or in rocky fissures. (NatureServe 2020).
Plain-bellied Water Snake[1] *Nerodia erythrogaster*	NL	SE – NM	Aquatic and wetland habitats with permanent or semi-permanent water (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Texas Horned Lizard *Phrynosoma cornutum*	NL	ST – TX	Lives in a variety of open areas in arid and semiarid regions with sparse vegetation, such as deserts, prairies, playa edges, bajadas, dunes and foothills, in areas that contain vegetation such as grass, cactus, scattered brush, and shrubby trees. Soil can be sandy to rocky. When inactive, may burrow underground, in rodent burrows, or stay under rocks. The Texas horned lizard lays eggs in soil or under rocks. (NatureServe 2020).
Texas Tortoise *Gopherus berlandieri*	NL	ST – TX	Lives in Texas in savanna, grassland/herbaceous, shrubland/chaparral, and hardwood habitats, specifically in open scrub woods, arid brush, grass-cactus areas, and areas with sandy well-drained soil. When inactive, lives in shallow depressions at the base of bushes or cactuses, but may also create an underground burrow or hide under objects. The Texas tortoise lays eggs in nests dugs in soil near or under bushes, and may use the same location for multiple years. (NatureServe 2020).
Trans-Pecos Black-headed Snake *Tantilla cucullata*	NL	ST – TX	Endemic to Texas. Lives in grassland/herbaceous, bare rock/talus/scree, desert, and mixed woodland habitat, specifically steep-sides rocky canyons with pinyon pine, oak, and juniper, hilly grasslands with juniper and cholla, streamside woodland areas vegetated by creosote-bush, acacia, yucca, and grasses, and low hills of arid grasslands vegetated by creosote-bush, yucca, ocotillo, and agave. The trans-Pecos black-headed snake usually lives under cover, underground, or in crevices, and may move on the ground surface during summer in moist weather. (NatureServe 2020).
Western River Cooter[1] *Pseudemys gorzugi*	NL	ST – NM	Lives in New Mexico and Texas in rivers, permanent tributary streams, large and deep stream pools with clear water and sandy or rocky bottoms. The water may or may not contain aquatic vegetation. The western river cooter basks on logs, in overhanging vegetation, or muddy banks, near the water. Eggs are buried in soil near the water. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
		Fish	
Arkansas Darter[1] *Etheostoma cragini*	NL	ST – CO	Spring-fed headwaters and cool, shallow, slow-moving creeks, especially those with herbaceous aquatic vegetation. The Arkansas darter lays eggs in gravel bottoms. (NatureServe 2020) This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Arkansas River Shiner[1,2] *Notropis girardi*	FT	SE – KS, NM ST – TX	Wide, shallow, unshaded creeks and small to large rivers, especially those with silt and sand substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Bigscale Logperch[1] *Percina macrolepida*	NL	ST – NM	Small to medium rivers with moderate to fast-flowing waters (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Blue Sucker[1] *Cycleptus elongatus*	NL	SE – NM ST - TX	Large rivers and parts of major tributaries, channels and flowing pools with moderate water flow. Especially occurs in water with cobble and bedrock substrate. (NatureServe 2020) This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Brassy Minnow[1] *Hybognathus hankinsoni*	NL	ST – CO	Small, clear creeks and small rivers with sand, gravel, or mud substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Chub Shiner[1] *Notropis potteri*	NL	ST – TX	Small to large runs and rivers with sand, gravel, or silt substrate. The chub shiner is a bottom dweller. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Comanche Springs Pupfish[1,2] *Cyprinodon elegans*	FE	SE – TX	Freshwater springs, marshes, and canals with mud substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Common Shiner[1] *Luxilus cornutus*	NL	ST – CO	Creeks, small to medium rivers, pools, lakes, and reservoirs with moderate to fast-flowing water and gravel to rubble substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Conchos Pupfish[1] *Cyprinodon eximius*	NL	ST – TX	Sloughs, backwaters, marshes, margins of large streams, and creek mouths tributary to large rivers (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Devils River Minnow[1,2] *Dionda diaboli*	FT	ST – TX	Endemic to Texas. Fast-flowing, clear, spring-fed water with gravel substrate. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Flathead Chub[1] *Platygobio gracilis*	NL	ST – KS	Main channels of small to large rivers, shallow to deep water with a moderate to fast current and mud, rock, or sand substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Gray Redhorse[1] *Moxostoma congestum*	NL	SE – NM	Warm and clear small to medium rivers with slow-moving water or lakes and rock, gravel, sand, or silt substrate. Typically avoids areas with dense vegetation. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Greenback Cutthroat Trout[1] *Oncorhynchus clarkii stomias*	FT	ST – CO	Mountain streams with fast-flowing water and lakes with overhanging banks or vegetation cover (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Greenthroat Darter[1] *Etheostoma lepidum*	NL	ST – NM	Gravel and rubble riffles of headwaters, creeks, and small rivers, and swift-flowing springs. Especially in waters with vegetation. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Headwater Catfish[1] *Ictalurus lupus*	NL	ST – TX	Riffles, runs, and pools of creeks, small rivers, and streams, with clear, temperate waters (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Lake Chub *Couesius plumbeus*	NL	SE – CO	Occurs in varied habitats in both standing and flowing water, and large and small bodies of water. Most common in gravel-bottomed pools and runs of streams and along rocky lake margins. Spawning occurs in river shallows, along rocky shores, in shoals of lakes (NatureServe 2020). .
Leon Springs Pupfish[1,2] *Cyprinodon bovinus*	FE	SE – TX	Endemic to Texas. Shallow saline springs, pools, and outflow springs. Common in outflows from Diamond Y Spring. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Mexican Blindcat (catfish)[1,2] *Prietella phreatophila*	FE	SE – TX	Subterranean waters in wells, mine shafts, and caves with silt substrate (IUCN 2020b). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Mexican Tetra[1] *Astyanax mexicanus*	NL	ST – NM	Streams and rivers, especially in shallow water with overhanging bank vegetation as cover and rock or sand substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Northern Redbelly Dace[1] *Phoxinus eos*	NL	SE – CO	Boggy lakes, ponds, and pools of headwaters and creeks, especially with aquatic vegetation (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pallid Sturgeon[1,2] *Scaphirhynchus albus*	FE	SE – KS	Turbid riverine waters, strong currents with gravel or sand substrate. Sometimes occurs in reservoirs. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pecos Bluntnose Shiner[1,2] *Notropis simus pecosensis*	FT	SE – NM	Main river channels with large flows and sand, gravel, or silt substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pecos Gambusia[1,2] *Gambusia nobilis*	FE	SE – NM, TX	Clear spring waters high in calcium carbonate, waters with fairly constant temperature and vegetation (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pecos Pupfish[1] *Cyprinodon pecosensis*	NL	ST – NM, TX	Springs, gypsum sinkholes, and desert streams with gravel substrate and highly saline habitats (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Peppered Chub[1] *Macrhybopsis tetranema*	PE	SE – KS ST – NM, TX	Large, permanently flowing streams with clean, find sand substrates (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Plains Minnow[1] *Hybognathus placitus*	NL	SE – CO ST - KS	Shallow runs, pools of creeks, and small to medium sized rivers with slow water and sand or silt substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Prairie Chub[1] *Macrhybopsis australis*	NL	ST – TX	Creeks and small to large rivers with sand and gravel substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Proserpine Shiner[1] *Cyprinella proserpina*	NL	ST – TX	Creek pools, streams, and small rivers with rock, sand, or gravel substrate and aquatic vegetation (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Red River Pupfish[1] *Cyprinodon rubrofluviatilis*	NL	ST – TX	Pools and runs of headwaters, creeks, and small to medium rivers with shallow water and sand substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Rio Grande Darter[1] *Etheostoma grahami*	NL	ST – TX	Pools of creeks, small rivers, and rocky riffles, common in the Rio Grande downstream for the Amistad Reservoir with cobble substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Rio Grande Shiner[1] *Notropis jemezanus*	NL	ST – TX	Runs and flowing pools of rivers and creeks with rubble, gravel, sand, or silt substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Rio Grande Silvery Minnow[1,2] *Hybognathus amarus*	EXPN	SE – NM, TX	Pools and backwaters of creeks and small to large rivers with slow to moderate flowing waters associated with the Rio Grande River. Typically occurs in shallow water with silt substrate. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Roundnose Minnow[1] *Dionda episcopa*	NL	ST – TX	Rocky pools of headwaters, creeks, and small rivers, commonly associated with filamentous algae (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Sharpnose Shiner[1,2] *Notropis oxyrhynchus*	FE	SE – TX	Endemic to Texas. Medium to large rivers or pools with sand, gravel, or mud substrate and shallow water. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Shovelnose Sturgeon[1] *Scaphirhynchus platorynchus*	NL	ST – TX	Large river channels with strong current and sand, gravel, or mud substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Silver Chub[1] *Macrhybopsis storeriana*	NL	SE – KS	Pools and backwaters of small to large rivers and lakes and sand, silt, or gravel substrate. Especially in shallow waters. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Smalleye Shiner[1,2] *Notropis buccula*	FE	SE – TX	Endemic to Texas. Small to medium river channels with shallow water and sand substrate. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Southern Redbelly Dace[§1] *Phoxinus erythrogaster*	NL	SE – CO, NM	Headwaters and creeks with clear water and gravel, rubble, or sand substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Speckled Chub[1] *Macrhybopsis aestivalis*	NL	ST – TX	Small to large river runs with sand to gravel substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Spotfin Gambusia[1] *Gambusia krumholzi*	NL	ST – TX	Densely vegetated margins of quiet creek pools associated with areas of swift flowing water (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Suckermouth Minnow[1] *Phenacobius mirabilis*	NL	SE – CO ST – NM	Runs and riffles of creeks and small to large rivers with sand, gravel, or boulder substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Tamaulipas Shiner[1] *Notropis braytoni*	NL	ST – TX	River or creek channels with rubble, gravel, sand, and silt substrate and little to no vegetation (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Topeka Shiner[1,2] *Notropis topeka*	FE	ST – KS	Open, permanent pools of small, clear headwaters and creeks (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
White Sands Pupfish[1] *Cyprinodon tularosa*	NL	ST – NM	Endemic to New Mexico. Streams, marshes, and springheads with clear and shallow waters with various substrate such as gravel, sand, silt, or mud. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Invertebrates			
American Burying Beetle[2,3] *Nicrophorus americanus*	FT, EXPN	SE – KS	Occurs in a variety of habitats, such as grassland, shrubland, and hardwood forests. May occur in areas with mowed or grazed fields to dense shrub areas. Adults typically live aboveground, but may overwinter in soil and lay eggs in soil next to buried carcasses. (NatureServe 2020).

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Carolinae Tryonia[1] *Tryonia oasiensis*	NL	ST – TX	Endemic to silt-substrate ponds in the Pecos River Basin area and parts of the Chihuahuan Desert (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Caroline's Springs Pyrg[1] *Pyrgulopsis ignota*	NL	ST – TX	Endemic to Texas. Lives in lakes, ponds, and streams, and especially found on cobbles in ponds. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Crowned Cave Snail[1] *Phreatodrobia coronae*	NL	ST – TX	Intermittent streams and ponds, sometimes in subterranean waters (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Cylindrical Papershell Mussel[1] *Anodontoides ferussacianus*	NL	SE – KS	Lives in shallow water, near shores. May live in streams, creeks, or lakes, on sandy gravel. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Diamond Tryonia[1,2] *Pseudotryonia adamantina*	FE	SE – TX	Endemic to Texas. Lives near small springs, seeps, and marshes, and flowing water. Especially near cattail and sedge-dominated wetlands. Typically lives on muddy substrates. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Diminutive Amphipod[1,2] *Gammarus hyalleloides*	FE	SE – TX	Endemic to Texas. Lives on rocky or gravel substrate in warm, mineralized, flowing spring water originating from caves. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Gonzales Tryonia[1,2] *Tryonia circumstriata*	FE	SE – TX	Endemic to Texas. Lives in springs, seeps, and marshes near sedges and cattails, especially on mud substrates. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Koster's Springsnail[1,2] *Juturnia kosteri*	FE	SE – NM	Endemic to New Mexico. Lives in springs with slow to moderate flowing water, typically on silt, sand, or gravel compacted substrate. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Lake Fingernailclam[1] *Musculium lacustre*	NL	ST – NM	Lives in a variety of waters: lakes, ponds, ditches, swamps, marshes, puddles, rivers, and creeks, especially those with muddy substrate, but sometimes on sand or gravel substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Long Fingernailclam[1] *Musculium transversum*	NL	ST – NM	Lakes and rivers, no substrate preference – may occur on sand, mud, or rocky substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Mexican Fawnsfoot[1] *Truncilla cognata*	NL	ST – TX	Lives in Texas. Habitat preferences are mostly unknown. The Mexican fawnsfoot may prefer streams and rivers with sand or gravel substrate. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Noel's Amphipod[1,2] *Gammmarus desperatus*	FE	SE – NM	Endemic to New Mexico. Lives in warm, mineralized water. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Ovate Vertigo Snail *Vertigo ovata*	NL	ST – NM	Grass litter and on cattails near swamps, sedge meadows, wet and mesic prairie, meadows, riverbanks, lakeshores, roadside ditches, wooded wetlands, upland forest, grassland, and bedrock outcrops (NatureServe 2020).
Paper Pondshell[1] *Utterbackia imbecillis*	NL	SE – NM	Mud or sandy substrates of reservoirs, especially found in artificial waters (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pecos Amphipod[1,2] *Gammarus pecos*	FE	SE – TX	Springs or brooks near the Pecos River (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pecos Assiminea Snail[1,2] *Assiminea pecos*	FE	SE – NM, TX	Aquifer-fed spring systems in desert grasslands of the Pecos River basin. Typically found in moist areas near flowing water, under vegetation such as grasses or sedges. (NatureServe 2020) This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Pecos Springsnail[1] *Pyrgulopsis pecosensis*	NL	ST – NM	Endemic to New Mexico. Lives on pebbles, silt, and sometimes on vegetation underwater. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Phantom Springsnail[1,2] *Pyrgulopsis texana*	FE	SE – TX	Endemic to Texas. Lives in mineralized spring water near caves, especially in shallow water. Lives near the sources of three springs and is found on hard substrates. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Phantom Tryonia[1,2] *Tryonia cheatumi*	FE	SE – TX	Endemic to Texas. Lives in springs, namely the Phantom Lake Spring and associated waters, especially on mud or gravel substrates. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Roswell Springsnail[1,2] *Pyrgulopsis roswellensis*	FE	SE – NM	Endemic to New Mexico. Lives on pebbles and silt, and sometimes on mud or vegetation underwater. Typically in spring heads and runs with slow to moderate flowing water. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Salina Mucket[1] *Potamilus metnecktayi*	NL	ST – TX	Presumed extinct in New Mexico, but still assumed to live in Texas although no living specimens have been found in more than 20 years. Habitat includes small to moderate sized streams and rivers. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Scott Optioservus Riffle Beetle[1] *Optioservus phaeus*	NL	SE – KS	Rock substrates near roots, and in riffle areas with flowing water in the form of clear, cool streams with rocky substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Star Gyro[1] *Gyraulus crista*	NL	ST – NM	Intermittent or permanent streams and ponds, with standing or flowing water (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Swamp Fingernailclam[1] *Musculium partumeium*	NL	ST – NM	Ponds, swamps, small lakes, and river eddies in mud substrates and organic detritus; sometimes found near rooted vegetation. Typically in shallow water. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Texas Hornshell[1,2,3] *Popenaias popeii*	FE	SE – NM, TX	In water at riverbanks, crevices and shelves near boulders, especially in sand and cobble substrate (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Texas Pimpleback[1,2,3] *Quadrula petrina*	FC	ST – TX	Endemic to Texas. Lives in shallow slow to moderate flowing water, in mud, sand, gravel, and cobble substrate. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Wrinkled Marshsnail[1] *Stagnicola caperata*	NL	SE – NM	Ditches, shallow or vernal pools, spring-flooded margins of permanent water areas, and sometimes in lakes, rivers, and swamps (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
			Flowering Plants
Allred's Flax *Linum allredii*	NL	SE – NM	Exposed hillsides and scarps of gypsum in the Chihuahuan Desert, 1,280 meters (m; 3,900 feet [ft]) in elevation (Natural Heritage New Mexico [NHNM] 1999, New Mexico State Forestry Division [NMSFD] 2021)
Bunched Cory Cactus[§§2] *Coryphantha ramillosa*	FT	ST – TX	Chihuahuan Desert succulent scrub on rocky slopes, ledges, and gravelly limestone flats (NatureServe 2020).
Dune Umbrella-sedge[1] *Cyperus onerosus*	NL	ST – TX	Endemic to Texas. Moist to wet sand near sand dunes. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Goodding's Onion[1] *Allium gooddingi*	NL	SE – NM	Moist, shaded canyon bottoms in conifer forests, with aspen, and open meadows (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Great Plains Lady's Tresses Orchid *Spiranthes magnicamporum*	NL	SE – NM	Habitat may vary. Occurs in dry or wet prairies, riverbanks, and floodplains. (NatureServe 2020).
Gypsum Wild-buckwheat[2] *Eriogonum gypsophilum*	FT	SE – NM	Semi-arid open grassland dominated by grama species and creosote bush (*Larrea tridentata*) communities (NatureServe 2020).
Hess' Fleabane *Erigeron hessii*	NL	SE – NM	Narrow endemic found only in the Mogollon Mountains in Catron County New Mexico. Found in high-elevation (2,900-3,100 m [9,500-10,200 ft]) subalpine conifer forest to subalpine grassland (NHNM 1999, NatureServe 2020, NMSFD 2021).
Holy Ghost Ipomopsis[1,2] *Ipomopsis sancti-spiritus*	FE	SE – NM	Forest edge habitat and along roadsides within Santa Fe National Forest (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Kuenzler's Hedgehog Cactus[2] *Echinocereus fendleri* var. *kuenzleri*	FT	SE – NM	Grassland and herbaceous habitat on the fringes of pinyon-juniper savannah (NatureServe 2020).

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Lee's Pincushion Cactus[1,2] *Escobaria sneedii* var. *leei*	FT	SE – NM	Restricted to Tansil Limestone Formation on north-facing ledges, slopes, and ridgetops; known populations within Carlsbad Caverns National Park (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Leoncita False Foxglove[1] *Agalinis calycina*	NL	ST – TX	Marshy ground around springs and other sources of water (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Lloyd's Mariposa Cactus *Echinomastus mariposensis*	FT	ST – TX	Arid desert and shrubland/chaparral habitats with gravely, limestone-derived soils on gentle slopes (NatureServe 2020).
Parish's Alkali Grass *Puccinellia parishii*	NL	SE – NM	Range-wide, this species is found at alkaline springs, seeps, and seasonally wet areas occurring at the heads of drainages or on gentle slopes at 800-2,200 m (2,600-7,200 ft; NHNM 1999, NMSFD 2021)
Pecos Sunflower[1,2] *Helianthus paradoxus*	FT	SE – NM ST – TX	Requires permanent wetlands and typically lives in wet soils, especially common in the Pecos River basin. Grows in areas dominated by saltgrass and other herbaceous species. (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Scheer's Pincushion Cactus *Coryphantha scheeri* spp. *scheeri*	NL	SE – NM	Desert grassland and Chihuahuan desert scrub, in gravelly or silty soils (NatureServe 2020).
Shining Crested Coralroot[1] *Hexalectris nitida*	NL	SE – NM	Shaded canyons, especially among rocks (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Sneed Pincushion Cactus[2] *Escobaria sneedii* var. *sneedii*	FE	SE – TX	Desert and desert grassland habitats with limestone ledges and slopes dominated by creosote bush, yucca species, and grama species (NatureServe 2020).
Texas Poppy-mallow[2] *Callirhoe scabriuscula*	FE	SE – TX	Grasslands, shin oak shrublands, and mesquite woodlands with deep, loose sandy soil from alluvial deposits of the Colorado River (NatureServe 2020).
Texas Snowbells[1,2] *Styrax platanifolius* spp. *texanus*	FE	SE – TX	Limestone cliffs, bluffs, and ledges within riparian habitat and surrounded by sycamore-little walnut, oak, or oak-juniper woodlands (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Tharp's Bluestar *Amsonia tharpii*	NL	SE – NM	Shortgrass grasslands or shrublands, in soils that are shallow, well-drained, and limestone-based (NatureServe 2020).

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]
Tobusch Fishhook Cactus[2] *Sclerocactus brevihamatus* ssp. *tobuschii*	FT	SE – TX	Riparian areas and adjacent shortgrass grasslands and semi-desert shrublands interspersed with oak-juniper woodlands (NatureServe 2020).
Western Prairie Fringed Orchid[1] *Platanthera praeclara*	FT	ST – CO	Moist to wet calcareous tallgrass prairies and sedge meadows with perennial flooding (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Wood Lily *Lilium philadelphicum* var. *andinum*	NL	SE – NM	Prairies and woodlands with open areas (Prairie Moon Nursery 2020).
Wright's Marsh Thistle[1,2] *Cirsium wrightii*	PT	SE – NM	Marshy wetlands near springs and requires saturated soils and surface/subsurface water flows (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Yellow Lady's Slipper[1] *Cypripedium parviflorum* var. *pubescens*	NL	SE – NM	Boggy or swampy areas, damp woods, near rivers, canal banks, wet meadows, and rocky wooded hillsides, in sandy loamy or loamy soils (NatureServe 2020). This species does not occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands, and therefore is unlikely to be impacted by the issuance of an ITP for LEPC.
Zuni Fleabane *Erigeron rhizomatus*	NL	SE – NM	Clay hillsides with Chinle or Baca formation shale soils and that are nearly barren; most often found north or east-facing slopes in high-elevation (2,200-2,400 m [7,300-8,000 ft])open pinyon-juniper (*Pinus* spp.-*Juniperus* spp.) woodlands (NHNM 1999, NMSFD 2021).

EXPN = population is experimental non-essential in survival of the overall species, FC = candidate for federal listing, FE = federally endangered, FT = federally threatened, NL = not listed, PE = proposed endangered for federal listing, PT = proposed threatened for federal listing, SE = state endangered, ST = state threatened

ITP = Incidental Take Permit, LEPC = Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*)

1 State-listed species with the potential to occur within the Plan Area but not expected to occur in similar habitat as the LEPC, shrub-scrub habitat, or cultivated croplands are unlikely to be impacted by the issuance of an ITP for LEPC and have been dismissed from detailed analysis.

2 State-listed species that are also federally listed are included here if identified through our state-level threatened and endangered species analysis as potentially occurring within the Plan Area.

3 Identified through our state-level threatened and endangered species analysis as potentially occurring within the Plan Area but not identified through the Information for Planning and Consultation Tool (IPaC; Service 2021).

* The New Mexico meadow jumping mouse (*Zapus hudsonius luteus*) is synonymous with the New Mexico Department of Game and Fish (NMDGF) meadow jumping mouse (*Zapus lutue luteus*; see Service 2020).

** The NMDGF lists the Penasco least chipmunk as *Neotamius minimus atrisstriatus*, which is synonymous with *Tamias minimus atristriatus* (NatureServe 2020).

*** The NMDGF lists the Baird's sparrow as *Centronyx bairdii*, which is synonymous with *Ammodramus bairdii* (NatureServe 2020).

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]

† The NMDGF lists the subspecies of the common black hawk (*Buteogallus anthracinus anthracinus*). For the purposes of analysis, as other subspecies are not found in the Plan Area (NatureServe 2020), the parent species listed by the Texas Parks and Wildlife Department (TPWD) and the subspecies listed by NMDFG are considered to be the same in the context of this document.

†† The eastern black rail is listed as "black rail (*Laterallus jamaicensis*)" by the TPWD. The eastern black rail subspecies is the only subspecies found in the Plan Area (see NatureServe 2020), so eastern black rail is synonymous with the Texas black rail in the context of this document.

††† The interior least tern is listed as "least tern (*Sterna antillarum*)" by the NMDGF and the Kansas Department of Wildlife and Parks. The interior subspecies is the only subspecies found in the Plan Area for these states (see Service 1985), so interior least tern is synonymous with least tern in the context of this document.

‡ The northern Aplomado falcon is listed as "Aplodomo falcon (*Falco femoralis*)" by the NMDGF. The northern subspecies is the only subspecies found in the Plan Area (see Keddy-Hector et al. 2020 for discussion of the subspecies), so northern Aplomado falcon is synonymous with Aplodomo falcon in the context of this document.

‡‡ The American peregrine falcon is listed as "peregrine falcon (*Falco peregrinus*)" by the NMDGF. The American subspecies is the only subspecies found in the Plan Area (see White et al. 2020 for discussion of the subspecies), so American peregrine falcon is synonymous with peregrine falcon in the context of this document.

‡‡‡ The Colorado Parks and Wildlife Department (CPWD) lists the subspecies of the piping plover (*Charadrius melodus circumcinctus*) as a state-listed threatened species. For the purposes of this analysis, the parent species and subspecies will be considered to be the same.

§ The NMGFD lists the southern redbelly dace as *Chrosomus erythrogaster*, which is synonymous with *Phoxinux erythogaster* (NatureServe 2020).

§§The TPWD lists both the parent species of bunched cory cactus (*Coryphantha ramillosa*) and the subspecies (*Coryphantha ramillosa* spp. *ramillosa*) as threatened species in Texas. As the parent and subspecies have the same status and habitat, they are grouped here for the purposes of analysis in this document.

Status and range sources:

CPWD (Colorado Parks and Wildlife Department). 2020. Assessing Quality Habitat for Priority Wildlife Species in Colorado Wetlands. Available online: https://cnhp.colostate.edu/download/documents/cwic_docs/CPWSpeciesProfiles/CPWProfiles_All.pdf

__ . 2021a. Species Profiles. CPWD, Denver, Colorado. Accessed July 2021. Available online: https://cpw.state.co.us/learn/Pages/SpeciesProfiles.aspx

__ . 2021b. Threatened and Endangered List. CPWD, Denver, Colorado. Accessed July 2021. Available online: https://cpw.state.co.us/learn/Pages/SOC-ThreatenedEndangeredList.aspx

Colorado Natural Heritage Program. No date. CPWD: Wildlife Species Profiles. Accessed July 2021. Available online: https://cpw.state.co.us/learn/Pages/SpeciesProfiles.aspx

KDWP (Kansas Department of Wildlife and Parks). 2021. Threatened and Endangered Wildlife: List of All Kansas Counties. Accessed July 2021. Available online: https://ksoutdoors.com/Services/Threatened-and-Endangered-Wildlife/List-of-all-Kansas-Counties/

Keddy-Hector, D. P., P. Pyle, and M. A. Patten. 2020. Aplomado Falcon (*Falco femoralis*), Version 1.0. P. G. Rodewald, ed. *In*: Birds of the World. Cornell Lab of Ornithology, Ithaca, New York. doi: 10.2173/bow.aplfal.01.

New Mexico State Forestry Division. 2021. The New Mexico Endangered Plant Program. New Mexico Energy, Minerals and Natural Resources Department, Santa Fe, New Mexico. Accessed July 21, 2021. Available online: http://www.emnrd.state.nm.us/SFD/ForestMgt/EndangeredPlantsByCounty.html

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]

NHNM (Natural Heritage New Mexico). 1999. New Mexico Rare Plant List. NHNM, University of New Mexico, Albuquerque, New Mexico. Accessed July 21, 2021. Available online: https://nmrareplants.unm.edu/rarelist.php

NMDFG (New Mexico Department of Game and Fish). 2021. Biota Information System of New Mexico. NMDGF, Santa Fe, New Mexico. Accessed July 2021. Available online: https://www.bison-m.org/SuperSearch.aspx#

ONHI (Oklahoma Natural Heritage Inventory). 2021. Federal and State Endangered, Threatened, and Candidate Species in Oklahoma by County. ONHI, Norman, Oklahoma. Accessed July 2021. Available online: http://www.oknaturalheritage.ou.edu/content/biodiversity-info/endangered-species/index.php

Service (U.S. Fish and Wildlife Service). 1985. Endangered and Threatened Wildlife and Plants; Interior Population of the Least Tern Determined to be Endangered; Final Rule. 50 Federal Register 102: 21784-21792. May 28, 1985. Available online: https://ecos.fws.gov/docs/federal_register/fr957.pdf

__ . 2020. Species Status Assessment Report for the New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*). Service, Albuquerque, New Mexico. January 20, 2020. Available online: https://www.fws.gov/southwest/es/NewMexico/documents/20200130_NMMJM_Revised_SSA_Report_final.pdf

__ . 2021. Information, Planning and Consultation System (IPaC). Service Environmental Conservation Online System (ECOS). Accessed July 2021. Available online: http://ecos.fws.gov/ipac/

Schmidly, D. J. and R. D. Bradley. 2016. The Mammals of Texas [online]. Seventh Edition. University of Texas Press. Accessed July 21, 2021. Available online: https://www.depts.ttu.edu/nsrl/mammals-of-texas-online-edition/

TPWD (Texas Parks and Wildlife Department). 2020. Updated List of State T & E Species in Texas - Effective March 30, 2020. TWPD, Austin, Texas. Accessed July 21, 2021. Available online: https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/listed-species/media/fedState-ListedSpeciesComplete-3302020.pdf

__ . 2021. Rare, Threatened, and Endangered Species of Texas. TWPD, Austin, Texas. Accessed July 2021. Available online: https://tpwd.texas.gov/gis/rtest/

White, C. M., N. J. Clum, T. J. Cade, and W. G. Hunt. 2020. Peregrine Falcon (*Falco peregrinus*), Version 1.0. S. M. Billerman, ed. *In:* Birds of the World. Cornell Lab of Ornithology, Ithaca, New York. doi: 10.2173/bow.perfal.01.

Additional habitat data:

All About Birds. 2020. Bird Guide. Cornell Lab of Ornithology, Ithaca, New York. Accessed March 2020. Available online: https://www.allaboutbirds.org/guide/

eBird. 2020. eBird: An Online Database of Bird Distribution and Abundance. eBird, Cornell Lab of Ornithology, Ithaca, New York. Accessed April 2021. Available online: http://ebird.org/content/ebird/

Frey, J. K., and F. McKibben. 2018. 2018 Year End Report. Distribution, Abundance, and Habitat Selection by the Penasco Least Chipmunk (*Neotamis minimus atristriatus*) 2018. Submitted to New Mexico Department of Game and Fish, share with Wildlife Program, Ecological and Environmental Planning Division. December 19, 2018. Available online: http://www.wildlife.state.nm.us/download/conservation/share-with-wildlife/reports/2018/Distribution-abundance-and-habitat-selection-by-the-Penasco-least-chipmunk-Tamias-minimus-atristriatus-revealed-by-N-mixture-models-_-Jennifer-Frey.pdf

IUCN (International Union for the Conservation of Nature). 2020a. *Crotalus lepidus*. The IUCN Red List of Threatened Species. Version 2020-1. Information online: https://www.iucnredlist.org; https://www.iucnredlist.org/species/64321/12767398#habitat-ecology

__ . 2020b. Mexican Blindcat (*Prietella phreatophila*). The IUCN Red List of Threatened Species. Version 2020-1. Information online: https://www.iucnredlist.org; https://www.iucnredlist.org/species/18136/1725896#habitat-ecology

Table B-3. State-listed Wildlife Species with the Potential to Occur within the Plan Area for the Oil and Gas, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-chicken.

Species Name	Federal Status	State Status	Habitat/Notes[1]

NatureServe. 2020. NatureServe Explorer: An Online Guide to Species and Ecosystems. Accessed March 2020. Available online: https://explorer.natureserve.org/

New Mexico Natural Heritage Program. 2017. Arid Land Ribbonsnake. *Thamnophis proximus.* Available online: https://bison-m.org/booklet.aspx?SpeciesID=030385

Service (U.S. Fish and Wildlife Service). 2013. Recovery Plan for the Black-Footed Ferret (*Mustela nigripes*). Service, Denver, Colorado. 157 pp. Available online: https://ecos.fws.gov/docs/recovery_plan/20131108%20BFF%202nd%20Rev.%20Final%20Recovery%20Plan.pdf

__ . 2014. Species Status Assessment Report. New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*). Prepared by the Listing Review Team, Service, Albuquerque, New Mexico. May 27, 2014. Available online: https://ecos.fws.gov/ServCat/DownloadFile/161605

__ . 2020. Endangered and Threatened Wildlife and Plants; Threatened Species Status for Eastern Black Rail With a Section 4(d) Rule. 85 FR 196: 63764-63803. October 8, 2020.

Attachment C. List of Preparers

LIST OF PREPARERS

U.S. Fish and Wildlife Service

Michelle Durflinger Southwest Regional Office	EA Project Manager, EA Preparation and Review
Marty Tuegel Southwest Regional Office	Supervisory Biologist/Technical and Policy Review
Clay Nichols Arlington Ecological Services Field Office	EA Preparation and Review
Joan D. Marsan Solicitor	EA Review

Western EcoSystems Technology, Inc.

Janelle Rieland	EA Project Manager, EA Preparation and Review
Joyce Pickle	EA Review
Alaini Schneider Cossette	EA Preparation

Attachment D. References Cited

REFERENCES CITED

Avian Power Line Interaction Committee (APLIC). Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and the California Energy Commission. Washington, D.C., and Sacramento, CA.

_____. 2012. Reducing Avian Collisions with Power Lines: The State of the Art in 2012. Edison Electric Institute and APLIC, Washington DC.

Bay, K., K. Nasman, W. Erickson, K. Taylor, and K. Kosciuch. 2016. Predicting Eagle Fatalities at Wind Facilities. The Journal of Wildlife Management 80(6); 1000-1010. doi: 10.1002/jwmg.21086.

Bidwell, T (Ed). 2002. Ecology and Management of the Lesser Prairie-Chicken. Oklahoma Cooperative Extension Service, Division of Agricultural Sciences and Natural Resources, Oklahoma State University. E-970.

California Department of Transportation. 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September 2013. Available online: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf.

CEQ (Council on Environmental Quality). 1997. Considering Cumulative Effects under the National Environmental Policy Act. CEQ, Executive Office of the President, Washington, DC. January 1997.

Colorado Parks and Wildlife. 2015. State Wildlife Action Plan, A Strategy for Conserving Wildlife in Colorado. Prepared for: The Citizens of Colorado and Its Visitors. Prepared by: Colorado Parks and Wildlife.

ESRI (Environmental Systems Research Institute). 2019. World Imagery and Aerial Photos. World Topo. ArcGIS Resource Center. ESRI, producers of ArcGIS software. Redlands, California. Available online: http://www.arcgis.com/home/webmap/viewer.html?useExisting=1

Evans, M. and Y. W. Li. 2017. Monitoring Habitat Loss for Endangered Species Using Satellite Data: A Case Study of the Lesser Prairie-Chicken. Defenders of Wildlife, Washington, DC. August 3, 2017. Available online: https://defenders-cci.org/analysis/LPC_delisting/index.html

Federal Aviation Administration. 2013. Environmental Prescreening Training Module 3 – Noise Review. Available online: https://slideplayer.com/slide/2312367/

FERC (Federal Energy Regulatory Commission). 2013a. Upland Erosion Control, Revegetation, and Maintenance Plan. FERC, Office of Energy Projects. May 2013. Available online: https://www.ferc.gov/sites/default/files/2020-04/upland-erosion-control-revegetation-maintenance-plan.pdf

_____ . 2013b. Wetland and Waterbody Construction and Mitigation Procedures. FERC, Office of Energy Projects. May 2013. Available online: https://www.ferc.gov/sites/default/files/2020-04/wetland-waterbody-construction-mitigation-procedures.pdf

_____ . 2017. Guidance Manual for Environmental Report Preparation, for Applications Filed under the Natural Gas Act. Available online: https://www.ferc.gov/sites/default/files/2020-04/guidance-manual-volume-1.pdf

Frey, J. K., and F. McKibben. 2018. 2018 Year End Report. Distribution, abundance, and habitat selection by the Penasco least chipmunk (*Neotamis minimus atristriatus*) 2018. Submitted to New Mexico Department of Game and Fish, share with Wildlife Program, Ecological and Environmental Planning Division. Submitted by Jennifer K. Frey and Fiona McKibben. December 19, 2018. Available online: http://www.wildlife.state.nm.us/download/conservation/share-with-wildlife/reports/2018/Distribution-abundance-and-habitat-selection-by-the-Penasco-least-chipmunk-Tamias-minimus-atristriatus-revealed-by-N-mixture-models-_-Jennifer-Frey.pdf

Katzner, T. E., D. M. Nelson, M. A. Braham, J. M. Doyle, N. B. Fernandez, A. E. Duerr, P. H. Bloom, M. C. Fitzpatrick, T. A. Miller, R. C. E. Culver, L. Braswell, and J. A. DeWoody. 2016. Golden Eagle Fatalities and the Continental-Scale Consequences of Local Wind-Energy Generation. Conservation Biology 31(2): 406-415. doi: 10.1111/cobi.12836.

LPC Conservation LLC. 2021. Wind, Solar, Power Line, and Communication Tower Habitat Conservation Plan for the Lesser Prairie-Chicken Colorado, Kansas, New Mexico, Oklahoma, Texas. Final October 2021.

Manville, A. M. II . 2016. Impacts to birds and bats due to collisions and electrocutions from some tall structures in the United States: wires, towers, turbines, and solar arrays – state of the art in addressing the problems. In Problematic Wildlife, DOI 10.1007/978-3-319-22246-2_20. Springer International Publishing Switzerland 2016.

MidAmerican Energy Company. 2019. Final Habitat Conservation Plan: MidAmerican Energy Company Iowa Wind Energy Project Portfolio. MidAmerican Energy Company, Des Moines, Iowa. April 2019. 182 pp. + appendices and addendas. Available online: https://www.fws.gov/midwest/rockisland/te/MidAmericanHCP.html

MRLC (Multi-Resolution Land Characteristics). 2019. National Land Cover Database (NLCD) 2016. MRLC Consortium. U.S. Geological Survey (GS) Earth Resources Observation and Science Center, MRLC Project, Sioux Falls, South Dakota. May 10, 2019. Available online: https://www.mrlc.gov/data

Nasman, K., T. Rintz, D. Pham, and L. McDonald. 2020. Range-Wide Population Size of the Lesser Prairie-Chicken: 2012 to 2020. Prepared for Western Association of Fish and Wildlife Agencies. Prepared by Western EcoSystems Technology, Inc., Fort Collins, Colorado. October 12, 2020. Available online: https://wafwa.org/wpdm-package/range-wide-population-size-of-the-lesser-prairie-chicken-2012-to-2020/

Nasman, K. T. Rintz, and D Pham. 2021. Range-Wide Population Size of the Lesser Prairie-Chicken: 2012 to 2021. Prepared for Western Association of Fish and Wildlife Agencies. Prepared by Western EcoSystems Technology, Inc., Fort Collins, Colorado. August 25, 2021. Available online: https://wafwa.org/wpdm-package/range-wide-population-size-of-the-lesser-prairie-chicken-2012-to-2021/

National Eagle Center. 2020. Golden Eagles. Available online: https://www.nationaleaglecenter.org/golden-eagle-project/information-on-golden-eagles/

NatureServe Explorer. 2021. An Online Guide to Species and Ecosystems. Available online: https://explorer.natureserve.org/

North American Datum. 1983. NAD83 Geodetic Datum.

NREL (National Renewable Energy Laboratory). 2012. NREL Thinks Big at Wind Technology Center. March 22, 2012. Available online: https://www.nrel.gov/news/features/2012/1814.html

Pagel, J. E., K. J. Kritz, B. A. Millsap, R. K. Murphy, E. L. Kershner, and S. Covington. 2013. Bald Eagle and Golden Eagle Mortalities at Wind Energy Facilities in the Contiguous United States. Journal of Raptor Research 47(3): 311-315.

Rodrigues, V. B., F. M. Jesus, and R. I. Campos. Local Habitat Disturbance Increases Bird Nest Predation in the Brazilian Atlantic Rainforest. Animal Biodiversity and Conservation 2018: 117-120.

Service (U.S. Fish and Wildlife Service). 1967. Office of the Secretary, Native Fish and Wildlife, Endangered Species. 32 Federal Register: 4001. March 11, 1967.

_____ . 1990. Northern aplomado falcon recovery plan. U.S. Fish and Wildlife Service. Albuquerque, New Mexico. 56pp. Available online: https://ecos.fws.gov/docs/recovery_plan/northern%20aplomado%20falcon%20recovery%20plan%201990.pdf

_____ . 2009. Eagle Permits; Take Necessary to Protect Interests in Particular Localities. Federal Register 74: 46836-46879. September 11, 2009. Available online: https://www.federalregister.gov/documents/2009/09/11/E9-21589/eagle-permits-take-necessary-to-protect-interests-in-particular-localities. Accessed November 20, 2019.

_____ . 2010. Species Assessment and Listing Priority Assignment Form: Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*). April 2010. Available online: https://ecos.fws.gov/ecp/species/1924

_____ . 2012. Final Land-Based Wind Energy Guidelines. March 23, 2012. 82 pp. Available online: https://www.fws.gov/media/land-based-wind-energy-guidelines

_____ . 2013a. Final Environmental Assessment for Issuance of an Endangered Species Act Section 10(a)(1)(A) Enhancement of Survival Permit Associated with a Candidate Conservation Agreement with Assurances for the Oklahoma Department of Wildlife Conservation to Conserve the Lesser Prairie-Chicken in the State of Oklahoma. Service, Oklahoma Ecological Services Field Office, Tulsa, Oklahoma. January 10, 2013.

_____ . 2013b. Recovery plan for the black-footed ferret (*Mustela nigripes*). U.S. Fish and Wildlife Service, Denver, Colorado. 157 pp. Available online: https://ecos.fws.gov/docs/recovery_plan/20131108%20BFF%202nd%20Rev.%20Final%20Recovery%20Plan.pdf

_____ . 2014a. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Lesser Prairie-Chicken. 79 Federal Register (FR) 69: 19973-20071. Final Rule. 50 CFR Part 17. Department of the Interior Fish and Wildlife Service. 79 FR 19973. April 10, 2014.

_____ . 2014b. Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands. December 2014. 12 pp. + appendices.

_____ . 2014c. Species Status Assessment Report. New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus*). Prepared by the Listing Review Team, U.S. Fish and Wildlife Service, Albuquerque, New Mexico. May 27, 2014. Available online: https://ecos.fws.gov/ServCat/DownloadFile/161605

_____ . 2016a. Bald and Golden Eagles: Population demographics and estimation of sustainable take in the United States, 2016 update. Division of Migratory Bird Management, Washington, DC. Available online: https://www.fws.gov/migratorybirds/pdf/management/EagleRuleRevisions-StatusReport.pdf

_____ . 2016b. Final Programmatic Environmental Impact Statement for the Eagle Rule Revision. United States Department of the Interior, Fish and Wildlife Service. December 2016.

_____ . 2018. Preble's Meadow Jumping Mouse Recovery Plan, Colorado. Region 6, Lakewood, Colorado. 148 pages. Available online: https://ecos.fws.gov/docs/recovery_plan/Final_Draft preblesrecoveryplan_10032018_signed.pdf

_____ . 2020. Final Report: Bald Eagle Population Size: 2020 Update. December 2020. U.S. Fish and Wildlife Service, Division of Migratory Bird Management, Washington, D.C. Available online: https://www.indianz.com/News/wp-content/uploads/2021/03/24/bald-eagle-population-size-2020.pdf

_____ . 2021a. FINAL Environmental Assessment for the Wind, Solar, Power Line, and Communication Tower Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-Chicken. LPC Conservation LLC. Colorado, Kansas, New Mexico, Oklahoma, and Texas. U.S. Fish and Wildlife Service, Arlington Ecological Services Field Office, 2005 Northeast Green Oaks Boulevard, Suite 140 Arlington, Texas 76006. Available online: https://www.fws.gov/media/lesser-prairie-chicken-renewable-energy-habitat-conservation-plan-documents

_____ . 2021b. Information, Planning and Consultation System (IPaC). Service Environmental Conservation Online System (ECOS). Accessed April 2021. Available online: http://ecos.fws.gov/ipac/

_____. 2021c. Species Status Assessment Report for the Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*). Version 2.2. 110 pp. + Appendices.

Sullins, D. S., D. A. Haukos, J. M. Lautenbach, J. D. Lautenbach, S. G. Robinson, M. B. Rice, B. K. Sandercock, J. D. Kraft, R. T. Plumb, and J. H. Reitz. 2019. Strategic Conservation for Lesser Prairie-Chickens among Landscapes of Varying Anthropogenic Influence. Biological Conservation 238: 108213.

U.S. Census Bureau. 2018. American Community Survey Data. 2010-2018. Explore Census Data. Available online: https://data.census.gov/cedsci/

_____ . 2020. Urban and Rural. Available online: https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html

USDA (U.S. Department of Agriculture). 2016. USDA Rural Development. Available online: https://www.rd.usda.gov/files/1970o.doc

USDA Natural Resources Conservation Service (NRCS). 2006. Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin. United States Department of Agriculture Handbook 296. Issued 2006. Available online: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_050898.pdf

USEIA (U.S. Energy Information Administration). 2020a. Annual Energy Outlook 2020 with Projections to 2050. January 29, 2020. U.S. Department of Energy (DOE), Washington, D.C. Available online: https://www.eia.gov/outlooks/aeo/pdf/AEO2020%20Full%20Report.pdf

_____ . 2020b. Crude Oil Production. U.S. Department of Energy (DOE), Washington, D.C. March 31, 2020. Available online: https://www.eia.gov/dnav/pet/pet_crd_crpdn_adc_mbblpd_m.htm

_____ . 2020c. State Profiles and Energy Estimates (DOE). U.S. Department of Energy, Washington, D.C. Available online: https://www.eia.gov/state/

_____ . 2020d. US Energy Mapping System. US Department of Energy (DOE), Washington, D.C. Accessed March 2020. Available online: https://www.eia.gov/ state/maps.php

USEPA (U.S. Environmental Protection Agency). 2013. Primary Distinguishing Characteristics of Level III Ecoregions of the Continental United States. Last updated September 2013.

_____ . 2017. Level III and Level IV Ecoregions of the Continental United States. Ecosystems Research, USEPA. Last updated February 8, 2017. Available online: https://www.epa.gov/eco-research/level-iii-and-iv-ecoregions-continental-united-states

USFS (U.S. Forest Service). 2021. Monarch Butterfly Habitat Needs. USFS, Washington. Available online: https://www.fs.fed.us/wildflowers/pollinators/Monarch_Butterfly/habitat/index.shtml#:~:text=Whether%20it's%20a%20field%2C%20roadside,Corps%20of%20Engineers%2C%20butterfly%20garden.

Van Pelt, W. E., S. Kyle, J. Pitman, D. Klute, G. Beauprez, D. Schoeling, A. Janus, and J. Haufler. 2013. The Lesser Prairie-Chicken Range-Wide Conservation Plan. Western Association of Fish and Wildlife Agencies. Cheyenne, Wyoming. October 2013. 165 pp. + appendices. Available online: https://wafwa.org/wpdm-package/the-lesser-prairie-chicken-range-wide-conservation-plan/

Western Association of Fish and Wildlife Agencies. 2020. SGP CHAT (Southern Great Plains Crucial Habitat Assessment Tool, version 3.0). Available online: http://wafwaprojects.maps.arcgis.com/apps/webappviewer/index.html?id=d16dac45cfba4abeab91c1df97370121

Yang, L., S. Jin, P. Danielson, C. Homer, L. Gass, S. M. Bender, A. Case, C. Costello, J. Dewitz, J. Fry, M. Funk, B. Granneman, G. C. Liknes, M. Rigge, and G. Xian. 2018. A New Generation of the United States National Land Cover Database: Requirements, Research Priorities, Design, and Implementation Strategies. ISPRS Journal of Photogrammetry and Remote Sensing 146: 108-123. doi: 10.1016/j.isprsjprs.2018.09.006.

Attachment E. Response to Comments Received on the Draft Environmental Assessment for the Oil and Gas Habitat Conservation Plan and Incidental Take Permit for the Lesser Prairie-Chicken

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
National Audubon Society (Audubon)	1	General
	CommNet: Given their disappearance from most of their former range and the species' imperiled status, Audubon is generally supportive of innovative and collaborative approaches that work towards conserving and recovering LEPC across their range. **Response:** Comment noted, no response needed.	
Audubon Society	2	General
	Comment: We note that there is another multi-state [Incidental Take Permit] ITP/HCP application attempt under the Endangered Species Act (ESA) by Wind Energy Whooping Crane Action Group initiated in 2008 for energy facilities in North Dakota, South Dakota, Montana, Colorado, Nebraska, Kansas, New Mexico, Oklahoma, and Texas. This ambitious effort, which included LEPC as a covered species, may provide lessons from multi-state efforts that could be applied to strengthen this current HCP. **Response:** Comment noted, no response needed.	
Audubon Society	3	General
	Comment: While we recognize that the purpose of this comment period is not on the federal status of LEPC, it is worth noting that Audubon is supportive of listing of LEPC under the ESA. We have submitted comments on the recent listing proposal and incorporate those comments here. We draw attention to this because of the potential that this species could become federally listed during the life of the ITP and HCP. **Response:** Comment noted, no response needed.	
Audubon Society	4	EA/HCP
	Comment: In regards to population trends, the Western Association of Fish and Wildlife Agencies (WAFWA) report noted that "The latest [LEPC] aerial survey shows that bird population estimates remain stable from the previous survey and—more importantly—the estimated number of birds has increased since surveys began in 2012. The surveys document an estimated range-wide breeding population of 34,408 birds this year which biologists say is not significantly different from the 33,094 birds estimated in 2018." Recommendation: The HCP and EA should use numbers of related to each distinct population rather than an overall number because of the inherent variability across the ecoregions. We submit that the numbers showing the population is stable may be from growth of one population while the other populations have declined and should be peer-reviewed before considered as a baseline. **Response:** Section 3.5 of the HCP has been updated to reflect the most recent population estimates, including estimates per ecoregion (the distinct population segments [DPS] designations from the proposed listing were based upon ecoregions).	
Audubon Society	5	EA/HCP
	Comment: The HCP and EA should 1) show how Applicant's current 70,000 acres (ac) under management of its mitigation bank has played a role in maintaining a stable or increasing population of LEPC and provide monitoring data from those lands that illustrates the success of the program; 2) The biological goals and objectives should include a projected increase in population size in individual birds and not just acres as a result of the efforts to verify success; 3) DNA data shows that regional populations of LEPC are genetically distinct. The biological goals and objectives should include directing mitigation lands to the same populations impacted by the Covered Activities rather than anywhere in the Plan or Permit area; 4) the HCP and ITP should provide written commitment for incorporation of the Recovery Plan for LEPC and its biological goals and objectives when available if LEPC becomes federally listed.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response to recommendations: 1: While the existing 70,000 ac has been approved under the programmatic conservation banking agreement, to date, there have been no credit transactions on two of the parcels; thus, the terms and conditions are currently non-binding. At the point of which a credit transaction is imminent and the easement is recorded, these parcels will then be permanently conserved and the management terms and conditions will be required over the portions of the property covered by the easement. The other parcels have easements recorded over portions of the property, the management plans are being implemented, and they have had credit transactions. These parcels are in the Shinnery Oak Ecoregion and consist one parcel of 2,737 ac (1,108 hectares [ha]) approved in October 2015. Another parcel consisting of approximately 10,500 ac (4,249 ha) was approved in September 2018. Monitoring has occurred on the two shinnery oak properties are they are meeting the performance standards outlined within the programmatic banking agreement. It is also worth noting that while the Service has reviewed and approved the entirety of these parcels during our evaluation, due to the size of these properties the bank sponsors are using a phased easement approach. This means that rather than one large easement covering the entire property, the bank sponsor places smaller easements over portions of the property as credits transactions occur. For details on performance standards one should refer to the programmatic banking agreement and it is not necessary for this HCP. 2: The regulatory standard for an HCP is to fully offset the covered impacts and thus it is not a required to create an increase in population size. Additionally, as discussed in the HCP, due to concerns around survey methodologies and detectability of the species it is not possible to quantify take (and offsets) in terms of individuals but instead we use habitat as a proxy. 3. The genetic data available shows that the primary genetic differences across the range of the LEPC indicate that the genetic differentiation largely occurs based upon ecoregions. While not included in the biological goals and objectives the HCP requires all impacts to be offset within conservation occurring within the same ecoregion. All tracking and reporting of impact projects and conservation offsets will be occurring at the ecoregional scale and summed per Distinct Population Segment. 4. This is not a requirement of an HCP but instead we must determine that HCP meets issuance criteria for the LEPC. One of those issuance criteria is that "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild," we have determined that the HCP as proposed would fully offset the impacts of the covered activities and thus would not reduce the likelihood of survival or recovery. This does not need to be covered in the Biological Goals section.
Audubon Society	6	EA/HCP
		Comment: Under section 6.2, a specific analysis or model of potential changes in the HCP lands due to warming from climate change over the 30 years of the permit should be included specifically and the HCP should explain how adaptive management will be implemented and monitored. The final EA and the HCP should incorporate this data and specify a plan for the impact of warming by degrees on the lands and LEPC populations. **Response:** The HCP and EA includes the current version of the estimated occupied range based upon the current best available scientific information. The current estimated occupied range will change overtime but we cannot predict what those changes will be and climate change will only be one factor which determines this. The application identifies the plan area and permit area, the Service and applicant have had discussions about the potential for LEPC to occur outside of the identified areas. The Applicant understands the issue and decided to keep the plan and permit area as depicted in the application. In the future if the Applicant determines that they would like to amend the permit to cover additional areas, they can work with the Service to do so.
Audubon Society	7	EA/HCP
		Comment: A strategy for incorporating new scientific findings, such as a growing body of understanding related to climate change, should be specified. This information will be critical in meaningfully managing this species, especially as mapping off strongholds and connectivity may change.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: While we do expect climate change to impact the LEPC, we expect the HCP is adequately designed and allows the needed flexibility to address climate change concerns over the next 30 years. Prior to any renewal of the permit after the 30-year term of this HCP we will re-evaluate. While we do not disagree with the additional information provided regarding potential northward expansion of the species, we have determined that as designed the application meets issuance criteria in the identified permit area.
Audubon Society	8	HCP
		Comment: Recommendation: Monitoring reports, which include agency/industry responses to findings, should be made publically available. Recommendation: Raw data should be made available to relevant agencies and academia, to advance research and future management. **Results:** The annual reports submitted to the Service will be part of the public record and thus available. The information included in the annual reports will provide the needed information to ensure that mitigation program is being implemented as described in the HCP. The raw data, beyond what is included in the annual reports, cannot be shared without express written consent due to privacy concerns and thus unless the development entity or mitigation provider agrees to provide raw data in a separate agreement those will not be made available through this HCP.
Audubon Society	9	HCP
		Comment: Knowledge on how to improve future management of imperiled species is constantly evolving. In March 2021, the U.S. Geological Survey (USGS) released the most comprehensive analysis of Greater Sage-grouse population trends - “Range-wide Greater Sage-Grouse Hierarchical Monitoring Framework.” This report revealed that sage-grouse populations have declined significantly over the last six decades, with an 80% range wide decline since 1965 and a nearly 40% decline since 2002. More importantly and of relevance to LEPC, the study provides a monitoring framework database with a “Targeted Annual Warning System” to alert biologists and managers when local sage-grouse populations begin to decline or have diverged from regional trends. Recommendation: The HCP should incorporate this methodology and protocol into a monitoring framework for LEPC along with the warning system as a specific threshold in the adaptive management framework. **Response:** Inclusion of such monitoring requirements would be beyond the scope of the requirement for an HCP. The monitoring within the HCP has been designed to ensure it is accomplishing the intended purposes and specifically fully offsets the covered impacts.
Audubon Society	10	HCP/EA
		Comment: Applicant has applied for a permit term of 30 years. However, the proposed HCP and draft EA do not account for variable permit entry CI application terms or the life of the projects in regards to the covered activities. **Response:** The assumption built into the HCP is that all features installed are permanent and thus must be permanently offset. This has been taken into account. Section 2.0 of the proposed HCP reads "The ground disturbance related to construction and/or placement of infrastructure as part of a Covered Activity is assumed to permanently impact LEPC and their habitat due to the expected duration of that infrastructure on the landscape, unless otherwise noted."

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Audubon Society	11	HCP/EA

Comment: The HCP and EA also fail to clarify how mitigated lands will be managed – whether conserved and managed in perpetuity or only for the life of a given project. Furthermore, the proposed HCP and draft EA fail to define the "life of the project", which will influence the life of the CI.

Recommendation: "Life of the project" should be defined as well as the CI term.

Response: As discussed throughout section 5.0 of the HCP all conservation provided will be in perpetuity. The project life is as long as the project exists on the landscape, as outlined in section 2.0 of the HCP "Covered Activity is assumed to permanently impact LEPC and their habitat due to the expected duration of infrastructure on the landscape, unless otherwise noted. All impacts are considered permanent, while some may "only" have a life span of 20 or 30 years this is actually 8-12 generations of LEPC and thus the biological impacts are permanent. Entities that enroll in the HCP through a CI will have coverage until the permit expires, so if an entity enrolls 10 years after approval of the HCP they would receive coverage for the 20 years at which point the permit maybe renewed. This should not be of major concern to developers as the potential for "take" of the LEPC largely occurs upon construction. After initial construction the LEPC largely avoids these areas and thus the potential for take is minimal.

Audubon Society	12	HCP/EA

Comment: If LEPC is federally listed and the Service issues an ITP to the Applicant, as described in the Proposed Action then public participation may only be offered once during this comment period on the EA and FEA and FONSI and the resultant 30 year ITC permit.

Recommendation: In order to continue public participation in the Program and HCP, the Service should conduct 5 year reviews of the status of the species as well as the HCP program and make them available for public comment and participation.

Response: As required in the HCP, the Administrator will be required to conduct compliance and effectiveness monitoring. Monitoring data will provide information about the need for, and type of, adjustments that should be made to the minimization and mitigation measures conformant with the assurances of this HCP. Should changes in the HCP be potentially warranted to address significant uncertainty related to the LEPC or the effect of the conservation measures, the Applicant will indicate this and meet with the Service to discuss possible changes to the conservation measures. The required monitoring will determine if any revisions are effective in progressing toward the goals and objectives described in the HCP, and in this way establish the feedback loop that ultimately refines minimization and mitigation measures in the HCP. The Applicant is required to submit an annual report describing all monitoring and adaptive management efforts/results and the progress made towards meeting the HCP Biological Goals and Objectives. The annual reports submitted to the Service will be part of the public record and thus available. Once a permit is issued, there is no requirement through NEPA or the ESA that any additionally public comment period is required.

Audubon Society	13	HCP/EA

Comment: The HCP should be more explicit in how to calculate acres of mitigation needed by activity and set a standard for each type of project. For example, the impact of an oil and gas well is larger than the acreage of the actual wellpad and its associated operations. The area around it becomes unsuitable for chickens as well, and that entire radius surrounding the project which becomes unusable should be mitigated rather than the small area of the wellpad itself.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: As designed the HCP outlines a detailed, extensive methodology that is based upon the best available scientific information to quantify the effects of oil and gas development. This approach was developed with significant input from the Service. This methodology accounts for not only the direct impacts but also the indirect impacts (such as avoidance) of the development. Both direct and indirect impacts are accounted for in the impact evaluation process and are required to be mitigated. We believe it adequately quantifies effects that rise to the level of "take" as defined by the ESA from oil and gas development (including the effects of displacement).
Audubon Society	14	HCP/EA
		Comment: We submit that avoidance is the first and highest method in the mitigation hierarchy to address impacts, and avoidance could be implemented through a planning process that spatially defines and incentivizes more efficient permitting and fewer potential mitigation costs for projects that avoid LEPC habitat including “complete avoidance”. Although it is not the Service obligation to initiate this planning effort, and which may be conducted by one or more states, it should be considered in the HCP and EA. **Response:** We agree that the avoidance is key on a project specific basis and this is actually built into the design of the HCP. The referenced quote on page 11 of the HCP is speaking about development on range-wide basis. That is, it is not practical to assume that no additional wind, solar, met, or transmission development will occur across the range of the LEPC moving forward so complete avoidance over the 30 years from these actions is not feasible.
Colorado Parks and wildlife (CPW)	15	HCP
		Comment: The proposed Permit and Plan Area (Section 1.5) does not use the best and most current available information to delineate the area occupied by LEPC in Colorado. Several counties (Pueblo, El Paso, Crowley, Otero, Bent) are included that do not provide suitable LEPC habitat while areas in Kit Carson county, where CPW has documented LEPC and where LEPC are expected to expand, are not part of the Plan Area. CPW has recently updated LEPC Estimated Occupied Range (EOR) and as well as LEPC Focal Areas (CHAT 1) and Connectivity Zones (CHAT 2) for Colorado (https://hub.arcgis.com/datasets/190573c5aba643a0bc058e6f7f0510b7). These data are the best available information regarding LEPC occurrence in Colorado and document priority areas that should be targeted for conservation. CPW recommends that the proposed HCP Permit and Plan Area utilize CPW’s updated EOR plus a 10 mile buffer in Colorado. Furthermore, the updated Colorado CHAT 1 and CHAT 2 mapping should be used as the mapping layer to target avoidance, minimization, and mitigation rather than the Southern Great Plains Crucial Habitat Assessment Tool (SGP v 3.0) maps for Colorado. The proposed HCP Mitigation Offset Ratio Requirements (Section 5.3.3.1) specifically use LEPC CHAT categories to incentivize development outside of high priority areas. **Response:** Being that the Applicant was developing a range-wide HCP the Service recommended the use of a singular data set that covered the entire range. Thus, at the time of development, the best available range-wide data set is the Southern Great Plains CHAT data available from WAFWA. Prior to publication of this proposal, the Service made the Applicant aware that the plan area and thus the permit area does not include all areas occupied by the LEPC, the applicant understood and wished to keep the boundaries as depicted. This is an Applicant driven process, and the Service can provide advice, but at the end of the day we must evaluate the application submitted and determine if it meets issuance criteria. We determine that not including all occupied areas in this HCP does not prevent it from meeting issuance criteria. In the future if the Applicant wishes to include additional areas they can work with the Service on an amendment.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CPW	16	HCP
	Comment: CPW recommends adding lek buffers as additional permit exclusion areas (similar to mitigation properties and others listed in Section 1.5). This recommendation would be similar to Colorado Oil and Gas Conservation Commission Rules enacted after the passage of Colorado Senate Bill 2019-181 https://cogcc.state.co.us/reg.html#/rules. These rules require avoidance of high priority habitat by restricting ground disturbance within designated High Priority Habitats, including prohibiting surface occupancy within 1.25 miles of a LEPC lek site https://cpw.state.co.us/Documents/Conservation-Resources/Energy-Mining/CPW_HPH-Map-Layers.pdf. **Response:** We agree that avoidance is the priority, this HCP was designed to cover impacts where complete avoidance is not possible. Creating areas designated as no-build zones within the HCP based upon leks is problematic for several reasons (including no clear definition of what constitutes a lek, issues with species detectability, issues with survey effort, and issues with mapping precise locations of existing leks) making this not practical. Additionally, to meet issuance criteria for an HCP, an applicant is not required to avoid all impacts, instead the requirement is to minimize and mitigate to the maximum extent practicable	
CPW	17	HCP
	Comment: If additional exclusion areas are not possible, then CPW recommends adjusting the Mitigation Offset Ratio Requirements (Section 5.3.3.1) to include known lek occurrence as the highest category requiring additional Mitigation Acres for one Impact Acre. For a declining species such as the LEPC with already reduced numbers, particularly in Colorado, it is essential to develop conservation plans that effectively incentivize avoidance of known lek occurrence areas, along with the associated nesting and brood rearing habitats. As proposed, the HCP only requires documentation of known LEPC occurrences within and near the project, but does NOT incentivize avoidance of these areas through the Mitigation Offset Ratio if leks are not within CHAT 1 or 2. **Response:** The HCP is designed to measure impacts to the LEPC using habitat as a proxy for take. If impacts occur in landscapes that have the ability to support the LEPC and the site specific vegetative conditions meet the needs for the species, then the HCP assumes it is occupied habitat and requires mitigation as such. Due to issues with lek data and surveys it would not be practical to use lek locations to adjust mitigation ratios. The HCP does incentivize avoidance of high priority LEPC areas by the use of a tiered mitigation system and the design also encourages placement of new infrastructure in areas which are already impacted.	
CPW	18	HCP
	Comment: Section 9.1.2 of the HCP describes a HCP Advisory Board in general terms, but only says that the "HCP Administrator will develop, within six months of the ITP issuance, an Advisory Board to assist with oversight and implementation of the HCP." State wildlife agencies are mentioned as potential members, but not required members. Given that the LEPC is not currently listed under the ESA and therefore under the authority of state wildlife agencies, CPW requests mandatory inclusion of state wildlife agencies on the Advisory Board. **Response:** The Service cannot require the administrator to make this mandatory, we have discussed this with the Applicant and the Applicant has declined to make this change.	
CPW	19	EA
	Comment: CPW also notes that the eastern black rail (*Laterallus jamaicensis jamaicensis*) a federally threatened species is known to occur in the project area. The eastern black rail should be added to Table 4-2 in the Draft EA. **Response:** We have reviewed the status of the eastern black rail in the plan area and have updated Table 4-2 in the EA as appropriate.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Oklahoma Department of Wildlife Conservation (ODWC)	20	HCP
	Comment: ODWC requests that the Service require that mitigation for impacts that cannot be avoided or minimized occur within the state in which the impact occurs. The ODWC has worked with landowners within the LEPC range in Oklahoma for decades, and we are anxious to see LEPC persist in Oklahoma. Therefore, we have considerable concern that development projects occurring in Oklahoma will, through this action, now be mitigated in other states, causing continued or even exacerbated declines of this iconic bird from the native Oklahoma landscape. **Response:** The plan area is defined by the Applicant and was based upon the Service LEPC Mitigation Service Areas map. The HCP outlines the process (by reference) which will be used to site mitigation lands to ensure they provide benefits to the LEPC. The HCP adheres to the same biological standards as other existing programs which are based upon the best available science that the LEPC exists in 4 ecoregions and thus impacts in given ecoregion will be offset with offsets in that same ecoregion. This is the same system that ODWC and the other State Wildlife Agencies within the range of the species developed and implemented within their range-wide conservation plan for the LEPC. The comment provides no biological justification to based mitigation service areas on state boundaries.	
ODWC	21	HCP
	Comment: ODWC also strongly recommends changing the HCP project area map boundary to be more reflective of the actual current range of LEPC and the Estimated Occupied Range plus 10 miles (EOR+10). This would provide mitigation in areas that would currently benefit LEPC. **Response:** The purpose of the project area is to define the area that will be analyzed for the effects of the action. This is the boundary used for the analyses included in the EA. The HCP was designed to ensure that all mitigation lands are sited in areas that will provide conservation benefits to the LEPC. This includes the requirement of mitigation lands to utilize the Services 2014 guidelines for permanent LEPC mitigation lands as well as requiring that all mitigation used under this HCP has been reviewed and approved by the Service.	
Kansas Department of Wildlife and Parks (KDWP)	22	HCP
	Comment: The Application for the ITP goes beyond the statutory authority granted to the Service contained in 16 U.S. Code (USC) 35, Section 1531, et seq., and to rely on such a broad reading of a conference committee report from 1982 is in error; furthermore, KDWP requests the Service to consider and adhere to the “Revised Interagency Cooperative Policy Regarding the Role of States in [ESA] Activities” 2016 (FWS-HQ-ES-2016-N017). The revised policy reflects a renewed commitment by the Service and State fish and wildlife agencies to work together in conserving America’s imperiled wildlife. This policy explicitly expresses the need for the Service to consult with and solicit information from state agencies in determining which species are included in the ESA; use the expertise of State agencies in designing and implementing prelisting stabilization actions consistent with the States’ authority for species and habitat to remove or alleviate threats so listing priority is reduced. The policy also encourages collaborative conservation planning with the State agencies across the range of the species and encourages the collaboration between the Service and States on development and use of proactive conservation tools such as Candidate Conservation Agreements with Assurances (CCAAs) and HCPs.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: Applicants and the Service have been developing CCAAs that more and more are used as HCPs for unlisted species. While they meet the 2016 CCAA policy standard, they are based more on the minimize and mitigate strategy of a section 10(a)(1)(B) ITP. These are typically large plans that match an industry that impacts an unlisted species with landowners or mitigation providers that can implement the conservation strategy in the CCAA to cover future and ongoing impacts to the species, by setting up a conservation program that minimizes and mitigates the effects of the incidental take of the unlisted species. This arrangement is not what the CCAA policy or regulations were intended to cover. CCAAs were to be used for purely beneficial projects and to provide conservation for the unlisted species, and in return for increasing the number of individuals, distribution or other conservation outcome; the permit holder would be provided incidental take for existing, ongoing activities. The proposed HCP has been developed to treat the currently unlisted LEPC as if it were a listed species and has provided sufficient background information, analysis of effects from proposed covered activities, and mitigation and monitoring requirements. Furthermore, the HCP would provide voluntary pre-listing conservation that may be used to evaluate the species' status in a future listing decision. Unlike a CCAA, an HCP developed for a non-listed species, such as the currently proposed HCP, would provide additional benefits for the LEPC by providing for enrollment, additional conservation, and a known regulatory environment post-listing. While our 2016 revised HCP handbook provides guidance that an ITP and supporting HCP include at least one ESA-listed animal species, we believe considering an HCP without a currently listed species, in this instance, is supported by the Conference Report to the 1982 Amendments that created HCPs which expressly considered both listed and unlisted species. Furthermore, we have determined that there are no specific regulations prohibiting the processing of an ITP for an unlisted species. The proposed HCP would still be required to meet all issuance criteria in section 10 of the act and 50 CFR 17.22(b) and 17.32(b) prior to an ITP being issued, therefore, processing this ITP application and HCP is consistent with all current regulations. We understand identified concerns regarding potential changes in State management authority over the LEPC with the approval of the HCP and issuance of an ITP. However, the proposed HCP supports States' management ability of the LEPC in that, per the 10(a)(1)(B) permit issuance criteria, project proponents seeking coverage under the HCP through CIs must comply with all applicable federal, state, and local statutes and regulations. In addition, just as 10(a)(1)(A) Enhancement of Survival permits issued for CCAAs, the proposed ITP would not become effective until such time that the LEPC may be listed. Prelisting participation in the HCP is voluntary for participants and would continue to provide the affected States continued regulatory authority regarding wildlife species.
KDWP	23	HCP
		Comment: KDWP is highly concerned with the Service' lack of collaboration with and allowance for state fish and wildlife agencies in the process for which the ITP and HCP was developed. As of the release of this notice, the LEPC is a state trust species and under the management of the state wildlife agency. The process for this ITP for HCP differs from how other HCPs and CCAAs have been completed in the past, while seeming to presume the re-listing of the species under the ESA. This is contrary to the regulatory authority in 50 CFR Sec 17.22(b) and 50 C.F.R. 17.32(b) as well as in direct contravention of the Service HCP Handbook, such as Section 3.1.2, among others. This process has denied States the ability to actively participate in the possible conservation outcomes for the species vis-a-vis new energy infrastructure – which may contribute to increased habitat fragmentation and suitable habitat abandonment. This process, in addition to usurping management authority from the States by the Service, increases the likelihood of industries bypassing State consultations and regulations in favor of working with the Service, avoids working with the States on conservation offsets and minimization strategies for other non-game State trust species in the future, and sets poor precedence for collaboration and transparency concerning habitat conservation planning.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: See response to comment 22 above. In addition, the Service has and will continue to cooperate to the maximum extent practicable with the States. Specifically, for this HCP the Service did corporate to the maximum extent practicable with the affected States. We provided monthly updates on the process and expectations during our coordination calls. As discussed with the affected States, the Service requested permission from the applicant to share draft versions of the HCP and the EA but the applicant did not grant the Service that permission. The Applicant stated concerns over conflicts of interest, as the affected States are largely responsible for the administration of the WAFWA mitigation strategy which also covers the LEPC and this same industry. Being that we could not share the documents for early review, the most we could do was to keep the affected States informed as to the process and expectations, and thus the Service has met all requirement under Section 6 of the ESA. While we were not able to share the specific document early, we do not that the Service and the affected States have coordinated significantly over the past decade regarding LEPC conservation and mitigation design. Specifically, we have held numerous meetings (in person and virtual) and coordination calls discussing topics like defining LEPC habitat, mitigation rations, impact radii, conservation targeting, and mitigation design. During the development of this HCP, while discussing these topics, the Service was mindful of those past discussions and all past recommendations we have received on these topics.
KDWP	24	HCP
		Comment: At a minimum, the KDWP would like the opportunity to coordinate with the Service and HCP applicant, according to the process outlined in the HCP handbook and requests that the Service and HCP applicant consult further with KDWP on any potential applicable laws and State concerns that would need to be included in the HCP. Please see HCP Handbook page 2-4 thru 2-5, State and local coordination: "Some States have laws similar to the ESA and prohibit take of State-listed species, or they have laws similar to NEPA, and most States have “sunshine laws” similar to the Freedom of Information Act. We recommend the appropriate State agency or agencies be involved early in the process to facilitate and streamline coordination and information exchange." Further, "Under section 6 of the ESA, States with adequate and active cooperative agreements are our partners in conserving listed species. The Services should discuss this partnership with prospective applicants and strive to accommodate State requirements in the development of HCPs". The KDWP Section 6 agreement with the Service does include LEPC. And continuing, "Our staff should also cooperate with States so that their concerns for non-ESA-listed species are considered in HCP planning. We should encourage applicants to include State-recommended conservation measures in HCPs. However, even if a proposed ITP application and its accompanying HCP complies with the ESA, the HCP still may not fully satisfy all State management goals in all instances. The applicant is required to comply with all other applicable Federal, State, and local laws." **Response:** See response to comments 22 and 23 above.
KDWP	25	HCP
		Comment: The HCP handbook at bottom of page 2-8 continuing on page 2-9 "Include state wildlife agencies early: Encourage the applicant to include effected State wildlife agencies at the beginning of the HCP development. The State wildlife agencies share management responsibilities for many species, can provide excellent scientific and technical expertise, and often are more familiar with the local politics and issues. Some States have their own ESA statutes and NEPA equivalents that we should consider during HCP development." **Response:** See response to comments 22 and 23 above.
KDWP	26	EA
		Comment: KDWPT is concerned about the lower conservation standard of this HCP relative to a CCAA. The Service states that ”Implementation of the proposed LEPC habitat conservation measures are projected to result in no net loss of LEPC habitat.” And for Alternative 1, the Service states, “We anticipate that this alternative would result in the same level of potential impacts to LEPC and the same level of LEPC conservation as what is proposed in the HCP for those enrolled prior to listing…”. However, the Service’s CCAA policy requires a net conservation benefit. We request that the Service clarify the benefits of the proposed HCP relative to a CCAA.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: The assumption outlined within EA is that the if the Applicant proposed a CCAA with the same covered activities and the same mitigation design that is included within the proposed HCP, that the impacts to the species and the conservation would be the same. We do acknowledge the different regulatory standards. The CCAA option was included as an alternative under NEPA for consideration. We simply include this as it is an option, the Applicant could develop an application for a CCAA instead of an HCP so it should be considered. Simply including it as an alternative does not mean that it would by default meet the regulatory standards for a CCAA. In fact, within the EA it only states the impacts would be the same under either a CCAA or an HCP and that because it is assumed that the mitigation program would look the same that impacts under either program "would be fully offset". This is not a conclusion that an Application for an EOS permit associated with a CCAA would meet issuance criteria.
KDWP	27	–
		Comment: Furthermore, KDWP objects to the waiving of restoration requirements during the first five years of the ITP term. This waiving allows impacts to only be offset by existing conservation acres, which results in a net loss of habitat during this period. This grace period should be removed and required restoration should be required immediately upon approval of the ITP. **Response:** The Service will evaluate the implications of the prioritization of the first 50,000 ac of existing approved conservation banking properties (as discussed in Biological Objective 1b of the HCP) when evaluating this proposal for permit issuance. This will include an evaluation in context of the Section 10a1b issuance criteria, our intraservice conference opinion, and our findings documentation.
KDWP	28	–
		Comment: The KDWP does agree that proactive, voluntary mitigation is often better for positive conservation outcomes than mandatory mitigation requirements and HCPs would allow interested parties/industries to develop innovative, proactive approaches to minimizing development impacts and maximizing conservation benefits. HCPs are scalable, from single parcel to range-wide, allowing flexible approaches for interested parties. While agencies encourage voluntary mitigation of impacts to the species, these discussions are currently happening in a non-standardized, piecemeal fashion that lacks a convenient program framework through which appropriate offsets can be achieved. Based on the voluntary nature of the discussions, this may result in inequitable offset strategies and/or delays in offset implementation from project to project. As such, KDWP supports the concept of a new voluntary mitigation program; however, we remain concerned about being excluded from the process of developing the proposed HCP. **Response:** The Service is committed working with all interested parties to develop additional conservation opportunities for the LEPC that both meet the needs of the party and meet the statutory requirements outlined within the statute and our policies, as appropriate. For the LEPC the Service strives to create consistency across programs where appropriate. Specific to this point, in 2021, we produced an LEPC Guidance document which provides guidance for project proponents regarding the Services recommended approach to account for impacts that rise to the level of take and provides guidance regarding our recommendations on how to design a mitigation program which would fully offset those impacts, and thus meet issuance criteria for an Section 10a1b permit. It is worth noting that this HCP fully incorporated all elements of the 2021 guidance document. During our discussions with all project proponents the Service is recommending that they implement this guidance.
KDWP	29	–
		Comment: In summary, the KDWP feels that the approach taken by the Service is without legal authority and bypasses the State and the KDWP in favor of an HCP applicant's ability to work directly with the Service. At this time, the KDWP recommends the No Action Alternative be the final rule and then further recommends that the applicant and Service seek the collaboration and participation from the State wildlife agency to move forward with pre-listing conservation program and ITP. **Response:** Comment noted, no response needed

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Jean Public	30	General
	Comment: The LEPC, lizard, and rat should be considered fully endangered. Nothing that lives on earth is safe to continue to live at this point in time what with acid rain, less sun, toxic chemic applications, climate change, rapacity of humankinds to be rich and kill anything that prevents that accumulation of riches. Look at how the oil drillers operate and kill people all over the world to drill where they want to drill. This comment is for the public record. We need to have this agency do its work for a change and keep these species endangered and fully protect them from rapacity, demons, and evil. This comment is for the public record. All these animals are very vulnerable.	
	Response: Comment noted, no response needed.	
Private Citizen	31	General
	Comment: My niece just sent me our idiot congressman's weekly email newsletter with a paragraph about how"Biden's Fish & Wildlife Service is eager to enact burdensome regulations to rural Kansans...." After then reading about this proposed HCP and the oil company(ies) wanting ITPs-- well, I don't know what burdensome regulations he might be referring to, unless he should mean that said oil companies do not get their way and DO NOT get their ITPs. THOSE rural Kansans. Why should they destroy breeding grounds, or worse, just destroy the birds themselves, that were once so plentiful and now struggle to maintain any population at all? To hell with them! They can drill where populations aren't threatened. Chances are they'll drill a dry hole, anyway. Save the LEPC!	
	Response: Comment noted, no response needed.	
Texas Parks and Wildlife Department (TPWD)	32	–
	Comment: Section 6 of the ESA emphasizes collaboration with state wildlife agencies. 16 USC § l 535(a) ("[T]he Secretary shall cooperate to the maximum extent practicable with the States"). The collaborative policy of the ESA allows for planning and decision-making based on the best available science. As such, TPWD recommends all states within the range of the target species be afforded the opportunity to participate early in the development of an HCP or other federal conservation plan, especially when decisions are being made regarding management actions, minimization measures, and mitigation ratios affecting species currently under state management authority. TPWD values and appreciates each opportunity to provide feedback and additional information and assistance that will aid in the conservation and management of Texas' species and their associated habitats.	
	Response: See responses to comments 22 and 23 above.	
TPWD	33	EA
	Comment: Draft EA Comments, Attachment B, Tables B-1, B-2, and B-3 are titled as, "Federally listed Species with the Potential to Occur within the Plan Area for the Renewable (Wind and Solar) Energy, Power Line, and Communication Tower [HCP] and ITP for the [LEPC]" and should be changed to, "Federally listed Species with the Potential to Occur within the Plan Area for the Oil and Gas [HCP] and ITP for the [LEPC]."	
	Response: Edit made.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
The Nature Conservancy (TNC)	34	–
	Comment: The HCP recognizes that habitat loss, fragmentation, and degradation has reduced LEPC range by an estimated 84%. However, the HCP fails to include measures for strict avoidance of currently occupied LEPC habitat. The ecological function of remaining habitat simply cannot be replaced in the foreseeable future and impacts to currently occupied LEPC habitat may be irreversible in terms of the fate of the species. The Covered Activities in the HCP permit area allows for an aggregate take of up to 500,000 ac of potentially suitable LEPC habitat (or 3.6% of the 13,738,509 ac of the estimated occupied range; 16.5% of the potentially suitable NLCD classes within the Plan Area) but fails to exclude permitting the Covered Activities in known occupied LEPC habitat. **Response:** The purpose of Section 10 of the ESA is not exclude impacts all together to a given species or its habitat. Section 10(a)1(B) instead outlines issuance criteria for an ITP which includes an HCP that minimizes and mitigates the impacts of the taking to the maximum extent practicable. While developing this HCP, the Applicant worked with the Service to develop a system which accounts for all impacts that rise to the level of take and outline a mitigation program that will fully offset those impacts. While evaluating this application the Service will evaluate this proposed HCP to determine if it meets the appropriate standards under the Statute.	
TNC	35	HCP
	Comment: Avoidance should be a key part of the mitigation strategy of this HCP. TNC recognizes that intact habitat represents the only real certainty to LEPC and that all development and subsequent mitigation comes with some risk of deficit to the population. This risk results from an assumption of habitat restoration or protection, and a population's response to those conservation efforts; maintenance of existing intact habitat requires no assumption. A net conservation benefit can only be achieved if project development is precluded from the highest quality LEPC habitats. **Response:** We agree that avoidance is the priority, this HCP was designed to cover impacts where complete avoidance is not possible. An HCP does not have to provide a "net conservation benefit", instead an HCP must minimize and mitigate to the maximum extent practicable. This HCP was designed to fully offset the covered impacts.	
TNC	36	HCP
	Comment: TNC only supports mitigation that will provide a net conservation benefit. The HCP should explicitly state a long-term goal of 1 ac of preservation offset and 1 ac of restoration offset for every ac impacted by renewable energy development. The HCP appears ambiguous about the ultimate offset ratio. **Response:** Section 10 of the ESA does not require an HCP to provide a "net conservation benefit", instead an HCP must minimize and mitigate to the maximum extent practicable. This HCP was designed to fully offset the covered impacts. The reason for some ambiguity is that the required offsets will be determined by using the tiered mitigation system. So in the end, we are looking at an average of a 2:1 mitigation ratio but in reality the exact mitigation ratio for a project will be determined by the location of each enrolled project which cannot be predicted.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
TNC	37	HCP
	Comment: Further, the HCP appears to use “preservation” instead of “enhancement”. The HCP introduction in the Federal Register notes that, “On average, for every ac of LEPC habitat impacted, 2 ac of perpetual LEPC habitat conservation would be required. Of those 2 ac, 1 ac would consist of restoration and the other ac would consist of enhancement.” However, on page 61, it states, “provide a minimum of one ac of restoration for every ac of potentially suitable LEPC habitat impacted by enrolled projects after the fifth year of the ITP term.” And on page 67, it states, “Therefore, it is expected that initially mitigation will primarily occur using habitat preservation, with a goal of implementing a minimum of one ac of restoration for every ac of impacts beginning no later than the fifth year of the ITP term.” TNC made the following same comment in our 5/12/2021 comment letter (Application for an ITP; Renewable (Wind and Solar) Energy, Power Line, and Communication Tower HCP for the LEPC; Colorado, Kansas, New Mexico, Oklahoma and Texas, FWS-R2-ES-2020-N125; FXES11140200000-212-FF02ENEH00) – an HCP created by the same applicant, LPC Conservation LLC. This language appears to be exactly the same as the afore mentioned HCP. It is unclear if the term “preservation” and “enhancement” are referring to the same result. Permanently conserved habitat (i.e. areas of “preservation credits”) requires management in order to be maintained or enhanced, and habitat enhancement or restoration is required for uplift. TNC again requests clarification on whether an action is “preservation”, “enhancement”, or “restoration” and how those actions relate to ITP compliance. **Response:** The EA and HCP will be reviewed for consistency around "enhancement" and "preservation". In short they have been used interchangeably and are meant to represent the same thing.	
TNC	38	HCP
	Comment: TNC has worked in the permanent protection realm for decades, and securing multiple 25,000-ac + easements or complexes of easements to establish strongholds may be quite challenging. This HCP should outline the applicant’s strategy(ies) to achieve these biological goals, to assure it can be obtained. **Response:** As outlined in the HCP the Applicant will follow the Service guidance on permanent mitigation for the LEPC to ensure that conservation sites are strategically located. By strategically locating conservation cites this will allow for the build out of strongholds.	
TNC	39	HCP
	Comment: In addition, further scientific investigation is essential to better define and more efficiently implement strongholds. The Service Conservation Needs of the LEPC (Service 2012a) “white paper” considers a minimum of 25,000 ac of high-quality habitat and 6 leks for stronghold suitability. In many landscapes, 25,000 ac and 6 leks is unlikely to provide long-term certainty for LEPC. The appropriate spatial configuration and continuity requirements of permanently conserved, high quality habitat comprising strongholds, and their connectivity corridors is largely unknown. We understand the necessity of this HCP to be implemented based on the current science; however, because of the foundational role of strongholds in maximizing offsets to impacts through this HCP, a priority of this HCP should be to fund the development of scientifically robust stronghold and connectivity corridor development strategies. **Response:** The Service agrees that on its own 25,000 ac with 6-10 leks will not provide for viable LEPC populations. The stronghold concept was only meant to be one piece to the larger conservation effort for the LEPC. This HCP is designed to help provide progress towards stronghold goals and provide for restoration actions within, around, and between strongholds. The HCP alone will not conserve the LEPC, but instead will provide only the amount of conservation needed to fully offset the covered impacts. The burden of "LEPC recovery" is not the responsibility of the potential participants of an HCP.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
TNC	40	HCP
	Comment: The HCP allows for up to 50% of the offsets to go toward term-based, dynamic mitigation that have a remaining contract of no less than 15 years. TNC recognizes that because of high cost and participation limitations, a strategy based solely on permanent conservation at static locations is not likely to achieve adequate scale. However, other conservation programs (e.g. Farm Bill, state agency programs), are likely to continue to play a substantial role in providing term-based habitat options. Therefore, adaptive management of this HCP should consider whether the sum of range wide conservation efforts are achieving certainty for this species. If 50% of the offsets in this HCP are the only functional means of funding permanent Conservation Easements (static conservation), an increase to 100% might be warranted. **Response:** The HCP was designed to fully offset the covered impacts. The HCP is not required to evaluate existing conservation efforts and attempt to fill existing voids in conserving the LEPC. Instead, the requirement for an HCP (among other issuance criteria) is to fully offset the impacts from covered activities.	
TNC	41	HCP
	Comment: TNC understands the time it takes to secure permanent conservation. However, given that the 4 existing Conservation Bank sites (referred to as “highest value strategic conservation sites”) presumably already have robust LEPC populations and habitat, then likely little to no mitigation uplift is available at those sites. If mitigation dollars are only used for “preservation” at these sites, then landowners will be compensated for permanently securing the good management they’re already doing, but no population uplift for LEPC will occur. TNC would typically find this problematic for a mitigation strategy. However, in the case of LEPC, a wide-ranging, private land species, TNC understands the importance of demonstrating successful models of perpetual conservation, especially stronghold development strategies that are focused on high quality habitat. If successful, this model could expand conservation engagement on working lands. TNC also recognizes that the Service -approved Conservation Banks are subject to rigid performance standards in perpetuity, however, the HCP doesn’t appear to detail a clear path between these standards and adequate habitat uplift through mitigation. In addition to preservation, property-specific, science-supported criteria for maintenance enhancement is critical, and likely a part of approved the Service Conservation Banking management plans. Those plans are not explicitly outlined by the HCP. Instead of the absence of restoration offsets (1 of the 2 ac) for the first 5 years, could restoration offsets somehow be back-end loaded so that they continue to accumulate until appropriate restoration sites are secured, such that over the 30-year term of the HCP, a 1 ac preservation offset and 1 ac restoration offset for every acre impacted is maintained? Although permanent conservation of high-quality habitat through conservation easements should be the highest priority for securing long-term certainty for the species, it does not offset new impacts. TNC supports a 30-year average 2:1 offset to impact acreage ratio, where every offset acre is permanently conserved, high quality habitat that has been enhanced or restored.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: If all mitigation efforts were to be focused on conserving only existing high quality LEPC habitat, this HCP would not meet issuance criteria as those efforts alone would not adequately offset the effects of habitat loss and fragmentation. The HCP also requires restoration efforts to occur. The mitigation system is designed to provide one ac of restoration for every one ac lost to development and then an additional acre of habitat management. Additionally, not acres on the existing approved bank locations currently high quality LEPC habitat. The Service estimates that about 20-30% of those acres are impacted and would require restoration efforts for credit release. These lands which are approved as conservation banks will remain as "working lands" as part of the management plan for each property includes cattle grazing operations. The detail necessary to understand the amount of uplift which will be provided is incorporated by reference as the 2014 Service guidance document outlines how properties will be evaluated to ensure they are sited, have funding mechanisms in place, and are managed for the benefit of the LEPC. As discussed previously, for the first 5 years some of the offset units will be provided via restoration credits but they may not meet the 1 ac of restoration for every 1 ac lost. As the first 50,000 ac of offset units are utilized, the Service will work with the applicant to ensure the mitigation provided fully offsets the impacts at the project level and the permit level. The Service understands the importance of restoration and will be working with the Applicant to ensure restoration levels are adequate to fully offset all covered impacts.
TNC	42	HCP
		Comment: The HCP should also provide an adequate monitoring and adaptive management framework that ensures these goals are being met. Explicit goals and strategies are critical for ensuring compliance with the ITP. The HCP fails to outline explicit goals and strategies within the adaptive management framework, only stating that if a biological goal is not obtained, the applicant will work with the Service to find a suitable solution. A more robust strategy should be developed. **Response:** The biological goals within this HCP are tied to the mitigation framework and there is adequate monitoring in place to ensure that the mitigation framework is fully offsetting all permitted impacts. Due to the uncertainties associated with future participation within this HCP, it is not possible or realistic to try to predict all future possible outcomes and develop responses to each. Instead, the Service is supportive (in this case) of this approach as we believe it provides the Service with the flexibility needed to ensure that the HCP is meeting all requirements.
TNC	43	–
		Comment: the existence of two ITPs and two HCPs for the same Plan Area raises additional questions and concerns related to cumulative impact across the Plan Area. If avoidance is not a cornerstone for LEPC protection, and both renewable energy and petroleum development projects within the Plan Area are allowed to impact up to 500,000 ac each, the cumulative impacts from these projects will continue to negatively impact LEPC, regardless of the establishment of this mitigation bank. **Response:** The cumulative impacts of all actions on the LEPC are included within our analysis of whether this application meets issuance criteria, as required by Section 10 of the ESA, as we consider the current condition of the species and then evaluate the implications of the proposed HCP on the status of the species. So the implications of all previously approved LEPC programs will be considered as part of our decision.
TNC	44	–
		Comment: Copy/paste errors, see P.34, P.39, P.44, P.65 for notable linkage errors. **Response:** Edits made.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
TNC	45	HCP
	Comment: P. 61 - The purpose of this HCP is to minimize and fully offset the impact to LEPC from the development and operation of wind, solar, power line, and communication tower projects. This is primarily accomplished through contributions towards the establishment of strongholds in the form of habitat conservation banks throughout the LEPC range to reduce the threat of habitat loss and fragmentation. Oil and gas development in the Permit Area will drive the establishment and protection of strongholds through the Implementation of the Service approved mitigation. As described above, the establishment of strongholds is necessary to meet the goals and objectives of LEPC conservation throughout the species' range (Service 2012a). Comment: As TNC has previously noted in our comments dated 5/12/2021, if a project is permitted to take within an existing LEPC stronghold, even with 2.5:1 mitigation at another stronghold or at the edge of the impacted stronghold, then the impact is not minimized or fully offset.
	Response: To meet the definition of a stronghold, as defined by the Service, the property must have "long-term protection in place to address the species' relatively short life span, low nest success, high annual mortality, low recruitment, and high juvenile mortality. In the context of the LEPC, 10 to 15 year timeframes may be too short a period due to the species' life-history traits. In Kansas, implementation of the CRP has resulted in favorable habitat conditions for the LEPC due to landscape scale planting of native grasses (and forbs) thereby allowing for LEPC expansion and reoccupation of 16 counties north of the Arkansas River (Service 2010). This management has been beneficial for the LEPC population as a whole, but long-term certainty regarding protection of native habitat strongholds is recommended in order to ensure future survival and conservation of the species. Furthermore, most "split estate" lands, where surface rights and mineral rights are in different ownership, will not meet the definition of a stronghold. Both surface and mineral rights as well as best management practices must be addressed appropriately in order to avoid future developments that could reduce the quality of the stronghold." So for an area to qualify for a stronghold there must be protections in place to preclude the threats and thus we do not expected any covered activities within this HCP to be developed on strongholds.
TNC	46	HCP
	Comment: P.65 - Mitigation costs, such as mitigation bank credits, will be determined by the free-market prices established by mitigation entities at the time the impact occurs, which could fluctuate over the ITP term. In addition to Enrollment and Administration Fees, which will be paid by CI-holders (see Chapter 8), mitigation fees will cover the conservation and management of mitigation lands to fully offset the impacts of CI-holder enrolled projects on LEPC in perpetuity. P.84 - The purchase price of each Mitigation Credit will be set by the mitigation provider and will include all costs incurred by the mitigation provider including the qualifying acreage, all long-term operations and maintenance costs, performance monitoring and reporting (by the mitigation entity), and a non-wasting endowment to ensure mitigation is in place and meeting performance criteria in perpetuity. Comment: P.84 - Table 6 and the final Table E1 report that the total annual cost for implementing the HCP is approximately $80M (i.e. $2.4B over 30 years). Assuming an average 2:1 offset to impact ratio, and that the HCP ends up covering 500,000 ac of impacts (1,000,000 ac offsets), this is predicting an overall cost of $2,400/ac. TNC recognizes the high cost of permanent conservation, especially when coupled with permanent management of high-quality habitat. However, this level of per-acre investment results in a trade-off of adequate spatial scope by addressing only 3% of the acres of potentially suitable habitat within the Plan Area.
	Response: The HCP is not required to recover LEPC populations but instead is only required to meet issuance criteria for an HCP. The HCP is not designed to spread conservation over the greatest number of acres but instead is designed to fully offset permitted impacts by providing conservation that fully offsets those impacts both spatially and temporally.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
TNC	47	HCP
	Comment: P.65 - Under this HCP, a primary mitigation strategy is to create LEPC strongholds that will be funded, in part, from the mitigation purchased by HCP CI-holders. Mitigation will follow the Service LEPC Mitigation Guidance (Service 2014c). However, whereas the LEPC Mitigation Guidelines indicate a preference for mitigation to occur on contiguous properties of at least 9,000 ac within a landscape meeting specific criteria, mitigation under this HCP can occur on any the Service-approved mitigation project within the HCP Plan Area at the requisite size of the mitigation transaction, even if less than 9,000 ac. Comment: This language is exact from the Applicant's previous HCP for wind energy and TNC's comment remains the same: Given the large size of the HCP Plan Area relative to the LEPC EOR, this could result in spatially ineffective mitigation. Although the Service LEPC Mitigation Guidance likely includes such criteria, it is unclear in the HCP proposal whether or how the HCP will ensure that smaller mitigation parcels will be ecologically linked to strongholds or other areas of high-quality habitat under permanent conservation.	
	Response: Within the referenced Service 2014 guidance, which is incorporated by reference here, outlines the process which the Service will use to ensure that mitigation parcels are located in areas to meet the needs for the species when evaluating proposed mitigation for approval (and thus inclusion within this HCP).	
TNC	48	HCP
	Comment: P.67 - Mitigation will initially be preferentially provided through the protection of existing LEPC habitat at a landscape scale that meet the LEPC Mitigation Guidelines (Service 2014c). The HCP Administrator will work with the Service to first meet the goal of preserving habitat that has been approved for preservation by the Service (50,000 ac) by placing these ac, if available, into strongholds or connectivity corridors prior to other potentially available mitigation parcels (Biological Objective 1c), within the constraints of the landscape operation (i.e., on the ground conditions). P.1- Under the LEPC PCBA, LEPC Conservation LLC provides conservation sites for the LEPC in several strategic locations across the species' Estimated Occupied Range (EOR; Figure 1, Section 5.3)" P.2 - The Applicant will work only with property owners who voluntarily enroll lands in the LEPC PCBA or other mitigation projects, or mitigation entities that commit to implementing equivalent management measure to conserve the LEPC. All conservation actions will meet the minimum criteria outlined within this HCP. Comment: It appears that there are currently 4 Conservation Banks with a total of 38,200 ac available, with no banks located in the Sand Sagebrush Prairie Region. Historically, this region supported some of the highest LEPC densities on record; it is currently reported to having only approximately 0.5% of the extant LEPC population (Nasman et al. 2020). Because the Applicant (LPC Conservation LLC) has the only approved Conservation Banks, and through this HCP, would hold the only ITP, how will the Service ensure that the Applicant works with other "mitigation entities that commit to equivalent management" to maximize benefits to LEPC, especially in areas where conservation is most critical, strategic, and most effective in offsetting impacts?	
	Response: This is accurate, there are currently no approved conservation banks within the Sand Sagebrush Ecoregion. The HCP requires that all impacts be offset with conservation within the same service area (ecoregion). The HCP does include some flexibility with regards to this requirement for the first 50,000 ac of mitigation. As discussed under Biological Objective 1b for the first 50,000 ac of mitigation the applicant will prioritize the currently approved 50,000 ac of mitigation. Per discussions between the Service and the applicant the intent is to allow flexibility across ecoregional boundaries for the first 50,000 ac of mitigation. Also per discussions between the Service and the Applicant we have agreed that despite this flexibility, impacts should not be offset across the Distinct Population Segment Boundaries, as outlined in the proposed listing rule for the LEPC. We have added additional langue to biological objective 1b to clarify this. As for how the Service will ensure that any mitigation utilized will provide the required benefits to the LEPC, the HCP outlines the minimum standards necessary which conservation lands must meet to provide offsets within this HCP (primarily by referencing the Service standards for permanent mitigation lands for the LEPC). Thus the Applicant will be required to work with other mitigation providers to ensure that they are committed to meeting the standards for inclusion prior to any credit sales. Additionally, any mitigation included under this HCP must be approved by the Service and thus there are multiple backstops in place to ensure all mitigation meets the appropriate standards.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
TNC	49	HCP
	Comment: P. 65 – Impacts that cannot be completely avoided and remain after minimization measures have been implemented will be mitigated to fully offset the impacts of the take. Comment: Impacts will only be fully mitigated, with an overall net conservation increase, if project development is precluded from the highest quality LEPC habitats.	
	Response: The HCP is designed to accurately account for impacts rising to level of take and fully offset those impacts regardless of the quality of habitat which is being impacted using the best available science. If impacts occur in higher priority areas, the HCP uses tiered mitigation ratios to increase the required offsets are the priority of LEPC habitat increases. This will result in additional offset required for higher priority LEPC lands to fully offset impacts.	
TNC	50	HCP
	Comment: P.66 - In addition, as new science emerges, the HCP will re-evaluate the impact radii of project features used to assess project impacts and update accordingly. This could increase or decrease the mitigation burden for new projects, and any adjustments made to the impact analysis will be reflected throughout the HCP. Comment: TNC recognizes that this HCP has likely been under development for multiple years; however, TNC recommends updating the HCP to reflect the best available science. The literature review, including impact distances listed on P.42, appears to exclude relevant publications, including: cites several publications	
	Response: The HCP does not provide a thorough scientific review of all literature on all threats related to the LEPC. Instead the Service recommended that the applicant provide a concise review and utilize the 2021 LEPC species status assessment for a complete review of the information. While evaluating this HCP the Service utilized the best available information and did not limit the scope of our review to only the information included in the text of the HCP. The Service considered and included the results of all publications which the commenter cited during our evaluation of this HCP.	
TNC	51	HCP
	Comment: P. 76 - If the total amount of land within potentially suitable NLCD classes (i.e. grassland/herbaceous or hay/pasture) decreases such that the buildout increases to affect greater than 40% of land within potentially suitable NLCD classes, as measured at the time of ITP issuance (see Section 4.2), then mitigation requirements will increase to bring the total ratio of buildout to available land within potentially suitable NLCD classes to 40%. Comment: As read, this implies that a 40% loss of potentially suitable habitat in the LEPC EOC is acceptable to the Service under this HCP. For a species who has already lost 84% of its range, impacting potentially suitable habitat even further, even with mitigation, is not compatible with the species' needs.	
	Response: The regulatory requirement for an HCP is to minimize and mitigate to the maximum extent practicable. While we agree that the LEPC has experienced a significant amount of habitat loss and fragmentation, this HCP is designed to fully offset impacts to remaining habitat and thus meets issuance criteria by mitigating to maximum existent practicable and not appreciably reducing the likelihood of survival in the wild. This specific section of the HCP was included only as a backstop to ensure we are monitoring the effectiveness at various scales to ensure it is effective at fully offsetting its impacts.	
TNC	52	HCP
	Comment: P. 77 - If it is found the cost of mitigation (e.g., credits) does not lead to decreased fragmentation and disturbance of potentially suitable LEPC habitat, such that the majority (65%) of land cover within enrolled project footprints are intact grassland/shrubland cover, then adaptive management will be triggered to further disincentivize habitat fragmentation by raising the cost of mitigation credits. Comment: The damage to LEPC habitat and the species is already done at this point. Even if monitoring is granular enough to determine that 65% of the impacts from projects are in potentially suitable habitat, once those projects are permitted and developed, the impacts of fragmentation and disturbance are realized.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: This adaptive management aspect would apply to future impacts under the HCP. If it is determined that a change is required, the purpose would be to ensure that additional projects occurring under the HCP have adequate disincentives to avoid intact LEPC habitat.
Tennessee Ornithological Society	53	–
		Comment: The plan states that the "monitoring process and reporting would be the responsibility of the provider of the mitigation" while, "the HCP Administrator would provide the Service with a combined mitigation monitoring report." The detailed descriptions concerning these reports implies that principally the provider only needs to report the number of acres protected or rehabilitated and their location. And the administrator chiefly needs to sum up the numbers and put them on a bigger map. There seems to be almost no emphasis on the quality or biological effectiveness for LEPC conservation of this protection and mitigation by the provider, who may or may not be serious about the quality or effectiveness of the work. I am very concerned that this process will simply become a "numbers game" with no serious consideration of the biological impact on LEPC. The goal of this HPC is "protecting and expanding existing strongholds and other areas of relatively high-quality habitat and suitable patch size to support viable LEPC populations and restoring currently unsuitable habitat." Without on-the-ground evaluations of the work of mitigation providers, how will we know the quality of the protection or mitigation? There is mention of a "third party" monitor and evaluation team, but not until the third year. And no description of the selection of this third party. In short, the monitoring process and its reporting appear very inadequate for insuring effective conservation of LEPC. The Service should seriously consider requesting a revision of this section of the HCP.
		Response: The specifics related to monitoring of habitat quality and biological effectiveness of mitigation parcels is not outlined specifically in this HCP but instead is incorporated by deferring to the requirements of the Services 2014 guidance on permanent mitigation lands for the LEPC. Specifically, Section 5.4.4 states" The requirements for mitigation monitoring as stipulated under the Service LEPC Mitigation Guidelines (2014c) and this HCP includes interim and long-term management and monitoring, as well as reporting.". This monitoring includes documentation of habitat quality through monitoring of vegetative structure and composition. The requirement of the 2014 guidance is that properties are managed for the maximum benefit of the LEPC and the document also contains a description of high quality LEPC habitat.
Sierra Club – Kansas	54	–
		Comment: Review of actual HCP compliance "on the ground" within habitat is, unfortunately, overly reliant on self-reporting of actions taken by entities acting under Certificates of Inclusion (CI) issued under the HCP with evidently little or no "in the field" oversight by the Service personnel. It is the Service personnel who have the knowledge and dedication to perform accurate, fair evaluations to determine if the actions taken are as effective as reported. Specific examples are found in, but not limited to, Sections 5.4.2 and 5.4.3; where it states that the HCP Administrator and CI holders are receiving and/or accurately reporting results. However, there appears that there is no stated provision for the Service to conduct "on the ground" assessments of the effectiveness of monitoring and mitigation actions. Even relying on third-party evaluators does not provide the level of confidence that in-field evaluation by the Service professionals guarantees. We understand that the Service does not have sufficient staffing to monitor 100% of "on the ground" compliance. As a minimum, the HCP must provide a mechanism for the Service personnel to conduct "on the ground" surveys/audits of actions and results for a specified percentage (maybe 10%) of actions taken by under the HCP to verify program effectiveness. Assuming that all participants will faithfully carry out all program requirements without timely and effective audits of HCP actions on the ground by the Service invites non-compliance with the HCP and will compromise program effectiveness.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
	Response: While the monitoring reports will document the primary information needed to determine compliance with the agreement, the Applicant has added language to section 8.6 of the HCP stating that Service, upon request, will be granted access to enrolled properties to verify site specific details as necessary.	
Sierra Club – Kansas	55	HCP
	Comment: HCP Section 5.3.3, "Measures to Mitigate the Impact of Taking" states that, there is "a preference for mitigation to occur on contiguous properties of at least 9,000 ac within a landscape meeting specific criteria, mitigation under this HCP can occur on any the Service -approved mitigation project within the HCP Plan Area at the requisite size of the mitigation transaction, even if less than 9,000 ac." However, a review of the literature indicates a much larger area is required. In "Ecology and Management of the [LEPC] in Oklahoma E-970" (Oklahoma Cooperative Extension Service, Division of Agricultural Sciences and Natural Resources, Oklahoma State University) The minimum land area to maintain a sustainable population of LEPCs is about 25,000 ac of contiguous high quality native rangeland." This just one example showing a greater land area is necessary. **Response:** The Service agrees that 9,000 ac is not enough land to support long-term population of LEPC alone. Furthermore, even 25,000 ac alone is not enough land to support long-term LEPC populations. It is important to view all the sections of the 2014 permanent mitigation lands guidance together. In acknowledgement that one parcel of 9,000 or even 25,000 ac is not adequate to support the LEPC, that document also states that prior to parcel approval, the Service will evaluate the greater landscape context to determine if the larger landscape (outside of the parcel boundary) has the ability to support the needs of the species. This includes evaluating the landscape within a 6-mile radius around the proposed parcel.	
Sierra Club - Kansas	56	HCP
	Comment: Regarding establishing "strongholds", HCP "Biological Objective 1a" says, "Establish one or more permanent LEPC strongholds more than 25,000 ac in size in each of the four LEPC habitat regions (i.e., mixed grass prairie, sand sagebrush prairie, and shortgrass/CRP mosaic) over the ITP term, if practicable based on availability of suitable land, landowner willingness to participate in LEPC conservation, and cost to ensure mitigation standards will be met." Consequently, a goal of somewhat over 25,000 ac is not very "aspirational", especially given the "if practicable" clause in the statement and consequently will not contribute significantly to long term survival of the LEPC. However, we would be remiss if we did not recognize that at least one other entry on "strongholds" says that they could be up to "50,000 ac". That said, the 25,000-ac limit is too low to achieve plan objectives. **Response:** When describing a stronghold in our 2012 LEPC whitepaper the Service described an area, as the HCP also describes, as a minimum of 25,000 ac. The white paper then goes on to explain that depending upon site specific conditions 50,000 ac or more maybe needed. With this in mind, the HCP describes its stronghold goals of "more than 25,000 ac."	
Friends of Animals	57	HCP
	Comment: Oil and gas companies are already required to abide by various state and federal laws in their polluting extraction business. Issuing them a 30-year permit to take as many LEPCs as they deem "incidental" does not represent the best solution for this species. Given the concerns with the HCP discussed below, it is not even clear that the mitigation efforts therein will in any way make up for the decades of takings of individual LEPCs and their habitat. **Response:** Section 10 of the ESA does not require an HCP to "make up for the decades" of impacts to a species, instead an HCP must minimize and mitigate to the maximum extent practicable. This HCP was designed to fully offset the covered impacts of enrolled projects.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Friends of Animals	58	EA

Comment: The Service should further analyze alternative 3, the no-action alternative. As it currently stands, analysis of this alternative takes up less than a page. Without any explanation, the EA states that it is too "speculative" to even consider what actions the oil and gas industry would forgo without authorization to take LEPCs. Such speculation exists throughout both the EA and the HCP, such as estimates of habitat take, estimates of acres restored, and estimated buildout of oil and gas development itself. The EA mentions no effort to contact members of the oil and gas industry regarding this issue.

As part of the no-action alternative, the Service should further analyze the scenario where the LEPC gains the protection the Service already found it deserves. By granting the status of endangered or threatened to the two DPSs, the Service should protect the habitat and individuals of the species. If the Service were to not issue this ITP, the LEPC would have additional protection, because the oil and gas industry would no longer be allowed to fragment the LEPC's dwindling habitat. In order to have a meaningful comparison between the action alternative and the no-action alternative, the Service should fully disclose and analyze the impacts of the no-action alternative, in which the LEPCs are protected.

Response: The action before the Service is whether to approve the HCP and issue the ITP at the time of the application. Therefore, under the No Action alternative evaluated in the EA, there would be no ITP permit issued and no approval of an HCP for the currently unlisted LEPC. As explained in the EA, the No Action Alternative presumes that current industrial and commercial activity will continue. Whether or not the LEPC may be listed as threatened or endangered in the future is speculative and is subject to a separate regulatory process. In addition, there is no authority under NEPA to include hypothetical future actions in the No Action Alternative, such as a listing decision under the ESA. In addition the Service cannot speculate on the decisions that may be made by private landowners should the LEPC be listed in the future regarding their activities and whether they may modify their activities to avoid take or seek authorization from the Service for take incidental to otherwise lawful. The EA provided a full description of the No Action Alternative, as well as a full analysis of the potential environmental consequences associated with the alternatives based on the best available information.

Friends of Animals	59	–

Comment: The Service states that "the Service is not authorizing oil and gas development itself." However, this hides the fact that soon, these oil and gas developers will not be able to take LEPC without an ITP. Once the LEPC gains protection under the ESA, the industry could not develop "1,712 new oil and gas well pads and supporting infrastructure and 3,408 miles of pipelines and associated facilities" without federal approval because it would result in the take of LEPC. With an ITP in hand, deeming expected and planned takings as "incidental," the oil and gas industry can pursue this expansion.

Thus, the Service is allowing the oil and gas industry to move forward when they otherwise likely could not or would not without developing additional innovations to protect LEPCs. The applicant admits as much in the HCP when it states that "[c]complete avoidance of [LEPC] habitat is not practicable or feasible for most oil and gas industry activities." That is, oil and gas cannot develop without impacting the LEPC, so they require the authorization of the Service to do so.

Response: The action before the Service is whether to approve the HCP and issue the ITP that would provide a specific level of incidental take coverage should activities addressed in the HCP result in take of the covered species if listed. The Service does not authorize nor regulate lawful activities on private lands lacking any federal nexus or jurisdiction. Lawful activities occurring on private property, including oil and gas development, are therefore part of the No Action Alternative.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Friends of Animals	60	–
	Comment: The expansion of the oil and gas industry does not justify the take of candidate species. The species should be given a chance to recover before the Service bows to industry and lets oil and gas development run roughshod over the LEPC. While the term of 30 years may be best for the industry and for Service, it is not best for the LEPC. The Service should consider limiting the term to a more reasonable length of time. The Service explicitly admits that "[i]f the proposed rule to list the [LEPC] is adopted and the [LEPC] is effectively protected under the ESA in 2022, this may have some influence on the rate of development in the absence of a programmatic permit." This means that when the LEPC becomes listed under the ESA, The Service will have already given the go-ahead to the oil and gas industry to take LEPC s. Thus, the proposed ITP is inadequate to protect LEPC s because it authorizes takes that might not otherwise occur. **Response:** Section 10(a)(1)(B) of the ESA authorizes the incidental take of listed species that result from otherwise lawful non-Federal activities. To obtain a ITP for such take, an applicant must develop a conservation plan that meets specific requirements identified in section 10(a)(2)(A) of the ESA and its implementing regulations at 50 CFR 17.22 (endangered species) and 17.32 (threatened species), and 50 CFR 222.25, 222.27, and 222.31. To meet issuance criteria for an HCP, an applicant is not required to avoid all impacts to and take of the covered species (in this case LEPC), instead the requirement is to minimize and mitigate to the maximum extent practicable. This HCP has been designed to fully offset impacts which rise to the level of take of the LEPC, as well as to meet all other issuance criteria.	
Friends of Animals	61	–
	Comment: Summary of information provided: Comment provides summary of the purpose of the ESA, section 9 take prohibitions, Section 10 standards, and Section 7 requirements. **Response:** Comment noted, no response needed.	
Friends of Animals	62	–
	Comment: Under the ESA, the applicants' responsibilities include spelling out mitigation measures that will limit the amount of take. In order to issue an ITP, the Service is required to find that the applicant "will to the maximum extent practicable, minimize and mitigate the impacts of" any taking authorized by an ITP. The Service must also find that the taking "will not appreciably reduce the likelihood of the survival and recovery of the species in the wild." **Response:** Comment noted, no response needed.	
Friends of Animals	63	–
	Comment: The HCP leaves open several loopholes that call into question the HCP's ability to "fully offset" the impacts as the Service claims, and does not constitute minimizing and mitigating the take to the maximum extent practicable. For example, the applicant will only have to start providing habitat after the fifth year of oil and gas production. This means that, for five years (well after the Service anticipates LEPC's final listing under the ESA), the applicants will be authorized to destroy and fragment LEPC habitat with absolutely no replacement.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: The HCP requires mitigation prior to all impacts, even in the first year. The HCP does allow some flexibility for the first 50,000 ac of mitigation or for the first 5 years (whichever comes first) regarding the prioritization of utilization of the already approved conservation banks for the species. We would also note that this flexibility is tied to the currently approved conservation banking parcels and not this HCP, meaning that any transactions that occur on those approved parcels would count towards this 50,000 ac even if those transactions occur outside of this HCP. This flexibility will result in the Applicant initially focusing on the utilization of existing approved mitigation first and possibly not meeting the overall requirement of 1 ac of restoration for every one ac of habitat loss but overall the same amount of mitigation acres would still be required. The Service has fully considered the implications of this flexibility while evaluating this HCP to determine if it meets issuance criteria as outlined by the Act.
Friends of Animals	64	–
		Comment: Many of the mitigation measures in the HCP appear to rely on hopes and wishes. Biological Goal 1 states that the HCP will "[e]stablish, protect, expand, and enhance strongholds and habitat corridors between strongholds." This is an admirable goal, but the HCP fails to require mitigation to the maximum extent practicable, and instead defers to "the landowner's willingness." The HCP expresses the desire to ensure that these strongholds are contiguous to existing habitat, which is necessary for the survival and recovery of LEPCs. However, the HCP states that this will only occur "where feasible." This vague language leaves room for oil and gas developers to destroy valuable habitat for LEPCs, even when there are practical ways to minimize and mitigate take. In addition, this protective habitat—which represents 95% of conservation efforts in the HCP—might not be contiguous, and might not even exist at all, depending on whether landowners can be forced to participate. While the HCP includes a map of all potential mitigation areas, the HCP does not determine which areas will actually gain protection. The ITP allows take for up to five years without having to provide any protected habitat as compensation. Thus, it is not sufficient to ensure contiguous habitat that is essential for the survival and recovery of LEPCs.
		Response: The language around "landowner willingness" and "feasibility" indicates that landowners agreeing to sign agreements providing mitigation offsets will do so voluntarily and there will no requirement to do so. The HCP is designed to ensure that adequate mitigation (which has been reviewed and approved by the Service) is in place prior to any enrolled impacts occurring. The HCP employs a system developed to accurately account for impacts that result in take of the LEPC and includes a tiered mitigation framework that will result in the realized impacts being fully offset.
Friends of Animals	65	–
		Comment: Moreover, the current HCP's one-to-one ratio of banked land to destroyed habitat is not sufficient to offset the take for multiple reasons. First, there is no guarantee that "preservation or restoration" of LEPC habitat will convince the species to start inhabiting that area. The current occupied habitat is the most important habitat to preserve because we know for certain that LEPCs will occupy it. While it is important to create land safe from future development, any new land set aside for the LEPC will be useless unless LEPCs actually inhabit that new land.
		Response: There are uncertainties associated with mitigation, especially restoration actions. To account for these uncertainties the HCP does not require a 1:1 mitigation ratio but instead uses a tiered mitigation system that sets mitigation ratios based upon where the impacts are occurring and the importance of those areas to the LEPC. On average this mitigation frameworks was designed to offset impacts using a 2:1 mitigation to account for the uncertainties noted in the comment and ensure that the mitigation is fully offsetting the impacts. This means that, on average, for every one ac impacted there would be two ac of mitigation required. Of those two ac of mitigation, one ac would consist of habitat restoration (with those offset units not being available until the restoration action occurs and the area is meeting performance standards) and the second ac may consist of either restoration or enhancement of existing habitat.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Friends of Animals	66	–
	Comment: Second, any acres set aside for mitigation will be split among the five ecoregions within the Plan Area. These areas will be separated, even though the LEPC requires “habitat patches with large expanses of vegetative structure in different successional stages to complete phases in their life cycle.” Most LEPCs live in areas that have both small patches of oak woodland and extensive prairie. The Service should ensure that the HCP sufficiently provides the quality, diversity, and connectivity of habitat required by the LEPC. Any land that is provided as a stronghold may not be connected to other habitat, leaving the LEPCs isolated and vulnerable. This means that when the applicant takes 500,000 ac of LEPC habitat, they cannot simply preserve or restore 500,000 ac of various habitat scattered among five states. The LEPC requires larger habitat sites with patches of at least 20,000 to 30,000 ac. Fragmentation of habitat also threatens the LEPC’s genetic variance by isolating populations. Dense areas are critical for nesting, while open areas are necessary for foraging. Preserving a large area with uniform restoration will not help the LEPC. Neither will preserving lots of small areas, even if they do have mixed vegetation. Furthermore, LEPCs are intolerant towards habitat alteration in the first place, “particularly for activities that fragment habitat into smaller patches.”
	Response: The HCP requires that mitigation for impacts occur within the same service area in which the impact occurs. There are four service areas. This is common in mitigation design and is meant to maintain representation across the species entire range. The HCP requires that all mitigation lands be approved by the Service and that they meet the standards outlined in the 2014 guidance for LEPC permanent mitigation lands. This document provides extensive guidance relating to siting of mitigation parcels for the LEPC to ensure those parcels and the surrounding landscape include the characteristics necessary to support the LEPC.
Friends of Animals	67	General
	Comment: Friends of Animals urges the Service to re-analyze the terms of both the ITP and the HCP to ensure that they comply with both NEPA and the ESA.
	Response: The Service has determined that we have met all obligations of the ESA and NEPA.
Petroleum Alliance of Oklahoma (OK)	68	HCP
	Comment: On page 2 (and elsewhere in the document) of the HCP, the text appears to limit mitigation and conservation actions not associated with the Applicant and the HCP e.g., it states that the Lesser Prairie-Chicken Programmatic Conservation Bank Agreement (LPC PCBA) is expected to be used to secure mitigation. It also states that "The Applicant will work only with property owners who voluntarily enroll lands in the LPC PCBA or other mitigation projects, or mitigation entities that commit to implementing equivalent management measure to conserve the LEPC. All conservation actions will meet the minimum criteria outlined within this HCP." Additionally, the HCP does not identify any approved mitigation banks associated with the Applicant and the HCP in Oklahoma so any LEPC habitat impacts in Oklahoma would benefit LEPC habitat in other states. To provide operators' flexibility and provide additional LEPC habitat benefits, the HCP should allow operators other mitigation and conservation options. For example, the ODWC has a long history of effectively managing species in Oklahoma, including the LEPC. The ODWC manages the Packsaddle Wildlife Management Area in western Oklahoma where mitigation and conservation actions could benefit the LEPC. It is unfortunate that the HCP and the Service’s 2014 Guidelines for the Establishment, Management, and Operation of Permanent LEPC Mitigation Lands will not allow this option that could be beneficial to the LEPC. Additionally, the WAFWA CCAA and the New Mexico CCAA provides mitigation and conservation opportunities; however, the HCP appears to prevent the use of those options. To maximize participation and benefits to the LEPC, we encourage the Service to incorporate into the HCP the option to allow operators to participate in the HCP while allowing them to obtain mitigation or conservation (not limited by HCP equivalency requirements) through other avenues like the ones specified above.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: The HCP allows for the permit administrator to utilize mitigation from any party as long as that mitigation has been approved by the Service and utilizes the 2014 guidance on permanent mitigation lands for the LEPC. The purpose of this language is to ensure that all mitigation included is strategically located and providing additional conservation value that would not already exist without the mitigation agreement in place. The comment does not provide any biological rationale regarding how providing additional money to a State Agency to fund management of an area that is already being managed by the State would provide the conservation value needed to offset the covered impacts of the HCP. Additionally, the NM CCAA and WAFWA CCAA, as referenced in the comment, do not provide mitigation that is available for other plans, instead those are self-contained agreements and any mitigation generated within those agreements are used to offset impacts enrolled within those agreements.
Petroleum Alliance of OK	69	HCP
		Comment: The HCP states (see page 9) that a Certificate of Inclusion (CI) will be issued on a per-project basis. This would require an operator to repeatedly pay application, enrollment and administration fees which can be very costly if an operator has a larger development plan. We recommend an option be incorporated into the HCP to allow operators (if they choose) to obtain a CI for "bulk" project enrollment e.g., incorporate a reduced application, enrollment, and administration fee structure to incentivize participation. **Response:** The HCP and CI does not specify that a "project" is only one feature on the landscape. A project may consist of multiple features being installed on the same parcel. This means that if a participant intends to drill multiple wells those all can be included and evaluated on the same CI. The only requirement is that participant must carry out all activities included on the individual CI within two years of CI issuance.
Petroleum Alliance of OK	70	HCP
		Comment: On page 10, the HCP states that covered activities will not occur on specific lands in the permit area. It is unclear how operators will know if their project falls into these excluded areas prior to applying and paying application, enrollment, and administration fees. The HCP should identify a screening process before operators expend resources and time to apply and expend significant funds (application, enrollment, and administration fees) to later determine they cannot conduct a project in those excluded areas. **Response:** Prior to enrollment (and payment of any fees) it is the responsibility of both the operator and the HCP administrator to ensure that any projects being considered for enrollment are eligible for inclusion under this HCP.
Petroleum Alliance of OK	71	–
		Comment: On page 14, its states that new infrastructure placed on existing infrastructure will be treated as a new project requiring operators to go back through the application process and the payment of fees and mitigation. It is unclear why this would be required where existing disturbance has already occurred. A new well or equipment added to an existing well pad should not have to re-apply. We request justification for this requirement. This language is included because the project would require a new evaluation to determine if there are new impacts. While the impact radius associated with the new feature will largely overlap the impact radius associated with the existing infrastructure, depending upon site specific conditions such as pad size, additional infrastructure, and placement of the new well in relation to the existing well on the same pad there could be new impacts and this cannot be determined without a new evaluation. If the company (or their representatives) determine that there are no new impacts, then the new well would not need any coverage under the ESA and thus would not need to enroll in this HCP or any other agreement.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Petroleum Alliance of OK	72	–
	Comment: Page 14 outlines upstream covered activities. It is unclear if geophysical seismic surveys, workovers, recompletions, offsite flow lines, offsite water lines, water recycling facilities and disposal well facilities are included. We request these activities be included in the HCP as covered activities under upstream production. **Response:** The applicant has chosen to not include seismic surveys as part of the covered activities in this agreement. Workovers, recompletions, offsite flow lines, offsite water lines, water recycling facilities, and disposal wells are all already included under the covered activities listed in the HCP.	
Petroleum Alliance of OK	73	–
	Comment: This section discusses the project-specific assessment process operators would undergo. It would be beneficial if the HCP included a summary of the estimated time each step takes. **Response:** Adding this additional information is not possible as it will depend upon the technological resources and knowledge, how many evaluations the participant has completed, site specific conditions of the project, whether the participant completes the evaluations on their own or hires a consultant, and the level of coordination with the administrator and the Service.	
Petroleum Alliance of OK	74	–
	Comment: Section 5 • Measures to Avoid, or Minimize and Mitigate Impacts of the Taking This section discusses conservation measures during the LEPC breeding season. The text implies emergency operations are allowed during the hours of 3:00 am and 9:00 am in areas within three miles of known leks recorded as active within the previous five years; however, it would be beneficial if the text specifically addressed that emergency operations are allowed during this timeframe to protect the environment and/ or human health and safety. **Response:** The language within the HCP is clear that this timing restriction only applies to non-emergency activities.	
Petroleum Alliance of OK	75	–
	Comment: Section 5. Monitoring and Reporting This section discusses the required monitoring and reporting by the HCP Administrator and the CI-holders. The HCP Administrator will submit a draft annual compliance monitoring report to the Service, in hard copy and in editable electronic format, on or before March 15 of each year following ITP issuance. Each annual report shall cover the period from January 1 to December 31 of the preceding year; however, the document is silent on when CI holders are to submit data to the HCP Administrator. We request the HCP specify the CI-holder information be submitted to the HCP Administrator no sooner than February 15 of each year following the preceding year unless the parties agree otherwise. This would help operators plan for this recurring effort. Also, we request that CI-holders have the option to submit this information in paper or electronic format. **Response:** Section 5.4.2 of the HCP has been edited to provide additional clarity regarding reporting timelines for participants.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Petroleum Alliance of OK	76	–

Comment: Section 6 - Changed Circumstances

In this section, it states that if the Service determines listing the LEPC under the ESA is not warranted, CI-holders can exercise their option to surrender their CI and cease payment of administration fees and implementation of the conservation measures defined in this HCP and as consistent with any contractual obligations to the HCP Administrator; however, doing so will forfeit CI-holder status and automatically void all regulatory assurances and ITP authorization should the LEPC be listed at a future date during the ITP term. Is this same option allowed if the LEPC listing is warranted, but precluded by other priorities? In addition, we assume former CI-holders are allowed to re-enroll in the HCP in the future since the duration of the HCP is expected to be 30 years. Finally, the HCP should address the changing market and economic conditions that have resulted in extensive downturns that have impacted the industry over the years and provide CI-holders similar options in this scenario.

Response: Language has been added to section 6.2.9 of the HCP to clarify that this option is also available in a warranted but precluded scenario. If a potential participant wants to enroll new projects in the agreement in the future, after terminating a CI, this would be allowed under this HCP given the project proponent agrees to meeting all requirements of the new CI and they are considered in good standing with the Administrator. Participation in the agreement is voluntary, CI holders may terminate their agreement at any point, subject to the terms and conditions of the CI.

Petroleum Alliance of OK	77	–

Comment: Section 7 - Funding

This section discusses funding requirements. It would be beneficial if the HCP provided an outline of the estimated costs operators may incur e.g., costs for application, enrollment, and administration fees, conservation program costs (e.g., self-paid by each CI holder) to participate in the HCP. As an alternative an estimate could initially be provided in the HCP and yearly estimated updates could be placed on an HCP website. This would be beneficial to ensure operators have a general understanding of those estimated costs.

Response: Section 7.2 of the HCP discusses the required fees individually and how they will be calculated. While the enrollment fee is a set cost, the other fees will depend upon the site specific details and complexity of the enrolled project. The proposed HCP provides an estimate, based off of a variety of assumptions, of all these costs in table 6. Interested parties should contact the HCP administrator to discuss their specific projects and the estimated costs of enrollment.

Petroleum Alliance of OK	78	–

Comment: Section 8.0 - Issuance of a Certificate of Inclusion

In this section, it states that the CI-holder will be provided with incidental take coverage provided the covered activities commence within two years of the CI issuance and the CI-holder provides the HCP Administrator proof of fully executed mitigation to offset the covered activities. If the CI-holder does not commence covered activities within two years of the CI being issued, the CI will become invalid, and the former CI-holder will need to reapply should they desire to seek take authorization. Business decisions or market conditions may dictate when covered activities occur. What is the justification for the two-year timeframe and why is an operator required to reapply? We request this requirement be removed if the CI-holder is in good standing with the HCP.

Response: The requirement for covered activity commencement within two years is based upon the fact that the site specific assessment which calculates impacts to the species is only representative of the landscape at the time the evaluation is completed. Impact assessments over two years old will not represent an accurate analysis of the covered activities to the LEPC.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Petroleum Alliance of OK	79	–

Comment: Section 8.6 - Tenns of Certificate of Inclusion

In this section, the HCP provides costs associated with a breach of CI. It states that the CI-holder will pay to the HCP Administrator financial damages at an amount equal to $250,000 plus all damages as specified by the HCP Administrator required to remedy the breach, to include, but not be limited to, payment of any outstanding enrollment fees and obligated mitigation fees plus recovery of attorney's fees if legal action becomes necessary. What is the justification for these damages?

Response: The determination regarding the financial damages required in the event of a breach of the CI is a business decision made by the applicant. It is common while making this determination for an applicant to consider the business and financial risks associated with allowing participating in the agreement. Being that participation in this HCP is voluntary, for those project proponents that the terms and conditions of participation do not work, there are other options for ESA compliance should it be needed.

Audubon Kansas	80	–

Comment: Even though many best practices are implemented with this HCP, the practices outlined may only maintain current LEPC numbers and not be sufficient to increase populations to the extent that they are no longer in danger of extinction.

Response: Section 10 of the ESA does not require an HCP to result in recovery of the covered species, instead an HCP must minimize and mitigate to the maximum extent practicable as well as meet other issuance criteria outlined in the ESA.

Audubon Kansas	81	–

Comment: No development should be allowed in CHAT level 1, those areas currently occupied with LEPCs. Additionally, setbacks of 3-5 km from these areas should be enforced for wind energy projects. Remediation and restoration takes many years and rarely produces habitat used to the extent that current habitat is utilized. Additionally, LEPC habitat is being destroyed at an alarming rate due to agriculture and oil/gas development (https://defenders-cci.org/publication/lpc_habitat_loss/), so we are in danger of losing even more LEPC habitat. This destruction of LEPC habitat is undermining efforts to save this species. If LEPCs are listed, no additional development of currently occupied LEPC habitat should be allowed.

Response: The Service does not recommend blanket inclusions of CHAT 1 areas for the LEPC within HCPs as not all areas within CHAT 1 are habitat for the species. Being that there are significant areas of CHAT 1 that are not habitat, development in those areas would not impact that LEPC and thus this sort of conservation measure would be overly restrictive. The HCP was designed to accurately account for impacts from covered activities that result in take of the LEPC and provide mitigation that fully offsets those impacts. See response to comment 65 for additional details regarding how the HCP was designed to account for the uncertainty around restoration efforts.

Audubon Kansas	82	–

Comment: The current HCP/ITP acknowledges the conservation value of CHAT level 1 habitat in the form of slightly higher remediation rates, but we feel that even this assessment under-values CHAT level 1. The difference in mitigation acreage (0.75 ac) approximates the difference in conservation value of estimated occupied range (CHAT level 4; 1:1.25 impacted/mitigated acre ratio) and modeled habitat (CHAT level 3; 1:2.00 ratio), and seems reasonable. However, the mitigation difference of 0.25 ac between currently occupied focal areas (CHAT level 1; 1:2.5) and connectivity zones (CHAT level 2; 1:2.25) seems extremely small given the important conservation value of currently occupied focal areas. A mitigation ratio of 1:2.5 for CHAT level 1 extremely undervalues CHAT level 1 habitat, and should be set high enough to discourage all development in CHAT level 1 (see point 1).

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: The mitigation ratios included considered the purpose of CHAT 1 and CHAT 2 areas. The Service does not believe that CHAT 1 areas are significantly more important than CHAT 2. For LEPCs, without CHAT 2 areas many of the lands that are identified as CHAT 1 would be isolated and be at an increased probability of extirpation. Any conservation strategy for the LEPC should include the areas within all CHAT categories as the LEPC is a landscape scale species and relies upon large landscapes for persistence. Currently there are known occupied areas that exist within all CHAT categories. The mitigation ratios were designed to create priorities but not over or under value any area with regard to LEPC conservation.
Audubon Kansas	83	–
		Comment: We applaud the inclusion of an acreage cap in this HCP, but the distribution of the authorized take between DPS units does not scale with the habitat in each DPS. The requested authorized amount of take associated with this HCP is capped at 500,000 ac, to encompass 200,000 ac in the southern DPS and 300,000 ac in the northern DPS. The species' current potential usable area is estimated at about 13,738,509 ac (5,559,777 ha), including 11,112,204 ac (4,496,949 ha) in the northern DPS and 2,626,305 (1,062,827 ha) in the southern DPS. Given that the northern DPS accounts for 80% of the total current LEPC range, it should reason that 80% of the cap should be ascribed to the northern DPS. Therefore, the northern DPS should be capped at 400,000 ac and the southern DPS at 100,000 ac. This is especially warranted given the potential 'endangered' status of the southern DPS and 'threatened' status of the northern DPS. **Response:** The Applicant requested take associated with this HCP was not based upon purely acres but instead included considered the likely future rates of development and participation. The Service has evaluated this proposal and determined that the HCP meets issuance criteria because in both the Northern and the Southern DPS the mitigation framework was designed to fully offset the impacts.
Audubon Kansas	84	–
		Comment: When mitigation is warranted, it should be located in the same ecoregion (shinnery oak, mixed grass, short grass, or sand sagebrush) as the impact occurs. Not only is this biologically supported, it also fosters community support to see that impacts are mitigated locally. **Response:** We agree, this is a requirement of the HCP, with exception of the first 50,000 ac as noted in response to comment 48.
Audubon Kansas	85	–
		Comment: There are numerous models examining the impact of climate change on species distributions. A recent model shows the potential for significant expansion of the LEPC's range northward under various climate change scenarios (https://www.audubon.org/field-guide/bird/lesser-prairie-chicken). Annual population counts also indicate that the species is increasing only in the northernmost ecoregion (shortgrass ecoregion; K. Nasman, T. Rintz, D. Pham, and L. McDonald. 2020. Range-Wide Population Size of the LEPC: 2012 to 2020. Prepared for WAFWA). An extensive survey for LEPCs north of the current range to the Nebraska border or Platte River is warranted. When LEPCs are observed, the locations should be included in CHAT level 1. It would be short-sighted to ignore this potential for range expansion. **Response:** The determination regarding the covered area is that of applicant. The Service and the applicant have discussed that the species may occur in some areas outside of the covered area within this HCP. The applicant understands that the ITP only covers take from covered activities that occur within the covered area and are enrolled. In the future, if the applicant is interested in covering additional areas they can work with the Service to amend this HCP.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Audubon Kansas	86	–
	Comment: The permit length of 30 years is justified in the HCP as the time needed to implement conservation strategies and implement adaptive management. This seems like an incredibly long period of time given the species' potential to quickly respond to favorable habitat conditions. We suggest that 15 year permit might be more prudent. That time period would allow for the establishment of conservation strategies and obtaining preliminary data, and a determination of whether a 15 year renewal is warranted.	
	Response: As discussed in the HCP, the 30-year duration of the permit was designed to account for 1) uncertainties inherent in the HCP; 2) the appropriate period of time and funding to implement the HCP and maximize its contribution to the conservation of the LEPC; and 3) the need to ensure the costs and the effort of developing the HCP, obtaining the ITP, and implementing the HCP are spread over multiple years. The HCP includes an extensive monitoring and reporting program with yearly implantation compliance/effectiveness review by the Service for the life of the permit. If determined necessary, adjustments can be made through adaptive management to ensure that the goals and objectives of the conservation strategy are still being met.	
Audubon Kansas	87	–
	Comment: The goal of the HCP is to "minimize and fully offset the impact to LEPC from the development and operation of oil and gas projects." Typically, management plans associated with Endangered Species have a goal of increasing population sizes so that the species can be removed from the Endangered Species list. This plan only maintains the status quo. Additionally, there are no population goals or population viability analysis. Population size is the typical metric of success, not acres. Therefore, this is not a recovery plan as is warranted if this species becomes listed as an Endangered Species.	
	Response: This HCP does not represent a "management plan" or recovery plan for the LEPC. This HCP is meant to meet the issuance criteria required for an ITP as outlined with Section 10 of the ESA.	
Audubon Kansas	88	–
	Comment: Although ecoregions are mentioned, no population size goal or habitat mitigation goal is designated for each region beyond the 25,000 ac of 'stronghold' habitat in each of the four LEPC habitat regions. Will some regions be prioritized over other regions? How will mitigation priorities be established, and will ecoregion be considered?	
	Response: See response to comment 66.	
Audubon Kansas	89	–
	Comment: Biological Objective 1c ("Secure one ac of restoration for every ac of potentially suitable LEPC habitat impacted after the fifth year of the ITP term.") seems to conflict with Biological Objective 2a ("Implement mitigation ratios (Section 5.3.3.1) that increase the mitigation obligations for projects sited on higher value (i.e., higher CHAT category))." Shouldn't the impact referred to in 1c also be mitigated according to ratios that reflect their CHAT categories?	
	Response: All impacts will use the mitigation ratios (which are based upon CHAT categories) identified in Section 5.3.3.1. The requirement for restoration actions does not preclude those restoration acres from occurring in a CHAT category of equivalent or higher value. In fact there are a substantial number of acres within the highest priority CHAT category (CHAT 1) that need restoration actions.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Audubon Kansas	90	–
	Comment: In this HCP, the impact distance for pipelines is set at 98 ft/30 m or 'Similar to Unimproved Road.' In the renewables HCP [FWS–R2–ES–2020–N125; FXES11140200000–212–FF02ENEH00], the impact distance for pipelines was 2,789 ft/850 m or 'Similar to Improved Paved Road.' We feel that the installation and maintenance of pipelines warrants impact distance of 220 ft/67 m or 'Similar to Improved Gravel Road.' **Response:** This was a typo that has been corrected. Table 3 of the HCP now assigns an impact radius of 850 meters for pipelines.	
Audubon Kansas	91	–
	Comment: Given that previous LEPC plans suffered from misuse of funds (https://nmpoliticalreport.com/2020/05/06/audit-finds-inappropriate-handling-of-funds-for-lesser-prairie-chicken-conservation/), the requirement of an audit after 3 years and annually thereafter will provide trust and proof that LEPC Conservation LLC is acting in good faith for the conservation of LEPCs. However, it is unclear if the audit only examines whether impacts were appropriately characterized and remediated, or if the audit also covers financial accounting. Hopefully, the proposed audit examines both, and makes publicly available raw data as well as reports. Additionally, every 5 years, there should be a public comment period on reports of the status of the species. This will allow the public and environmental organizations to stay engaged in LEPC conservation. **Response:** Language has been to section 5.4.5 to indicate that the audit will also cover financial accounting.	
Audubon Kansas	92	–
	Comment: There is no disclosure about how much of the mitigation costs are for administration. Hopefully, this would be disclosed as part of the annual audits. **Response:** Section 7.2 of the HCP discusses the required fees which will cover administration and how they will be calculated. The proposed HCP also provides an estimate, based off of a variety of assumptions, of all these costs in table 6.	
Audubon Kansas	93	–
	Comment: The description of 'adaptive management' relates back to the goals of the HCP to discourage development and provide habitat mitigation to maintain levels of habitat. The discussion focuses on how mitigation ratios will be adjusted to maintain levels of <40% of the area impacted. It is unclear to what scale this 40% applies – rangewide? Within an ecoregion? The adaptive management section also describes 'annual monitoring', but does not explicitly say of what. Monitoring of land cover is implied, but it is unclear how strong the relationship between land cover and LEPC utilization is. Audubon of Kansas suggests that adaptive management strategies not only respond to land cover, but also to LEPC population sizes. The states conduct annual aerial surveys of LEPC population sizes, so this data is available for ecoregion and should be utilized to determine targets for restoration. Both land cover monitoring and population size monitoring are necessary to ensure the success of this HCP. **Response:** It would not be appropriate to judge success of this HCP by evaluating annual population trends for the LEPC as there are a variety of factors outside of the success, or lack thereof, of this HCP that will determine both short-term and long-term population trends for the LEPC. Specifically, annual fluctuations and short-term trends will be driven almost entirely by local precipitation patterns and long-term trends will be tied to habitat availability which will be impacted largely by factors outside of the control of this HCP.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Audubon Kansas	94	–
	Comment: March, 2021 USGS released "Range-wide Greater Sage-Grouse Hierarchical Monitoring Framework" which provides a monitoring framework database with a "Targeted Annual Warning System" to alert biologists and managers when local greater sage-grouse populations begin to decline or have diverged from regional trends. We suggest that the HCP incorporate this methodology and protocol into a monitoring framework for LEPC along with the warning system, and incorporate a warning system as a specific threshold in the adaptive management framework.	
	Response: See response to comments 9 and 93.	
Audubon Kansas	95	–
	Comment: If LEPC Conservation LLC's permit is approved (FWS-R2-ES-2022-N223) for the oil and gas industry, it creates a level playing field with renewable energy (FWS–R2–ES–2020–N125; FXES11140200000–212–FF02ENEH00), but only if WAFWA Candidate Conservation Agreement with Assurances (CCAA) is discontinued. The WAFWA CCAA, "Range-Wide Oil and Gas Candidate Conservation Agreement with Assurances for the [LEPC]" was approved by the Service on February 28, 2014. Given the reported misuse of funds of WAFWA's CCAA (https://nmpoliticalreport.com/2020/05/06/audit-finds-inappropriate-handling-of-funds-for-lesser-prairie-chicken-conservation/, https://biologicaldiversity.org/w/news/press-releases/western-association-fish-and-wildlife-agencies-bungle-lesser-prairie-chicken-conservation-effort-2020-04-28/, and others), and the Service's letter to Brad Loveless dated July 16, 2021 (FWS/IR06/IR08/ES-ARD/075235) outlining areas of noncompliance, Audubon of Kansas proposes that WAFWA's CCAA be revoked so that all impact from energy development be treated equally and that there is a level playing field for mitigating impacts to LEPCs. If the LPC Conservation LLC permit is approved, WAFWA's CCAA is no longer necessary for the oil and gas industry to be compliant with ESA regulations.	
	Response: Comment noted, no response needed as this is outside the scope of this permitting decision.	
Audubon Kansas	96	–
	Comment: Audubon of Kansas supports this HCP and ITP because it provides predictability to energy developers, landowners, and LPC Conservation LLC regardless of the timing of the listing or delisting of the LEPC. The environmental assessment of this HCP summarizes the problem with the alternative CCAA strategy succinctly, "… the enrollment of projects under the CCAA would end upon the future date of a possible listing of the covered species; whereas, the HCP enrollment would continue for the duration of the permit." The 'do nothing' alternative is not acceptable as it will likely result in the extinction of the LEPC in light of threats from development and climate change.	
	Response: Comment noted, no response needed.	
Audubon Kansas	97	–
	Comment: The current ITP/HCP permit application focusing on habitat and maintaining current population sizes of LEPCs is a manageable and economically feasible goal for a business. However, the goal of the Service in regulating species listed under ESA is to increase population sizes so the focal species can be delisted. This plan does not provide a strategy for this more challenging goal.	
	Response: See response to comment 87.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Permian Basin Petroleum Association	98	–
	Comment: According to the 2016 Habitat Conservation Planning and ITP Processing Handbook (HCP Handbook), Congress also envisioned the HCP program as an opportunity to establish "creative partnerships" between the public and private sectors and State, municipal, and Federal agencies to conserve endangered and threatened species and their habitats (H.R. Rep. No. 97-835 (1982)). Congress intended the HCP program to function not only to authorize incidental take, but also as a process to integrate non-Federal development and land-use activities with conservation goals, resolve conflicts between protection of listed species and economic activities on non-Federal lands, and create a climate of partnership and cooperation. It is clear that HCPs are intended for listed (endangered or threatened) species; however, HCPs can add other at-risk species (e.g., candidate species, proposed species, and other species not listed under the ESA). This is reinforced with language in the HCP Handbook that "you must have at least one ESA-listed animal species to do an HCP. Encourage applicants to also include … proposed or candidate species that may be listed …." A HCP was never intended to be the appropriate conservation program for a non-listed species, such as the LEPC. In fact, the Service's current public information documents recognize and communicate this view clearly. From the Service FAQs on LEPC O&G HCPs: The purpose of the ITP is to authorize the incidental take of a listed species, not to authorize the activities that result in take. **Response:** See response to comment 22.	
Permian Basin Petroleum Association	99	–
	Comment: Further, the LEPC O&G HCP acknowledges the LEPC has not been listed, and is proposing the LEPC O&G HCP in the event the LEPC is listed – implying potential "pre-decisional action: While the LEPC is not at this time a federally listed species, on June 1, 2021 the Service published a proposed rule to list tow DPS of the LEPC under the EAS….This HCP has been developed in collaboration with the Service, and is intended to provide a Service-approved mechanism for proponents in the oil and gas industry to participate in LEPC conservation while meeting the statutory and regulatory requirements of the ESA, should the LEPC become an ESA-listed species. The HCP will cover the LEPC across its range (portions of Kansas, Colorado, Oklahoma, Texas, and New Mexico). **Response:** See response to comment 22.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Permian Basin Petroleum Association	100	–

Comment: Nevertheless, the Service, in the preamble of the Federal Register notice cites the 1982 ESA Amendments Act as the legal basis for the change in position – public statements mentioned above notwithstanding. From the notice: We believe considering an HCP without a currently listed species, in this instance, is supported by the Conference Report to the 1982 Amendments that created HCPs (Conference Report) which expressly considered both listed and unlisted species, H.R. Rep No. 97-835, at 30 (1982). The Conference Report states that "although the conservation plan is keyed to the permit provisions of the Act which only apply to listed species, the committee intends that conservation plans may address both listed and unlisted species." Id.

The Conference Report continues by stating that the inclusion of unlisted species supports the Congressional purpose that the species are not viewed in isolation but in terms of their relationship to the ecosystem as a whole. This broad view of conservation, including conservation planning and permitting for unlisted species, is "consistent with the purposes of several other fish and wildlife statutes (e.g., Fish and Wildlife Act of 1956, Fish and Wildlife Coordination Act) which are intended to authorize the Secretary to cooperate with the States and private entities on matters regarding conservation of all fish and wildlife resources of this nation." Id. The Conference Report encourages the Secretary to develop "creative partnerships between the public and private sectors" and notes that the Secretary "may utilize this provision to approve conservation plans which provide long-term commitments regarding the conservation of listed as well as unlisted species." Id.

Based on a review of the full reading of the Conference Report language, both references by the Service – the use of "and" and "as well as" bolded above – would need to be an "or" for the Service's argument to be legally correct. The context of both statements in the Conference Report instead provides both non-listed and listed species can and should be covered by an HCP only when combined. In fact, that is how the handbook outlines, as we cite above and how it works in practice.

In addition, importantly, report language reflects congressional intent however it does not have the binding force of law.
For these reasons, we believe HCP is not appropriate or legally applicable for LEPC protection here.

Response: See response to comment 22.

Permian Basin Petroleum Association	101	–

Comment: In proposing an HCP for the LEPC, the Service has indicated that an HCP and CCAA have the same conservation standard. We believe, based on the Service's own standards that is not correct: As it relates to the conservation standard, the Director may issue an ESP supported by a CCAA only if "implementation of the terms of the CCAA is reasonably expected to provide a net conservation benefit to the affected covered species." 50 C.F.R. §§ 17.22(d)(2)(ii); 17.32(d)(2)(ii) (emphasis added). This standard requires a "projected increase in the species' population or improvement of the species' habitat, taking into account the duration of the Agreement and any off-setting adverse effects attributable to the incidental taking allowed by the enhancement-of-survival permit." 81 Fed. Reg. 95164, 95171 (Dec. 27, 2016) (emphasis added).

In contrast, to issue an ITP supported by an HCP, the Director need only find that "[t]he taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild." 50 C.F.R. §§ 17.22(b)(2)(i)(D); 17.32(b)(2)(i)(D) (emphasis added). This is equivalent to the jeopardy standard in 50 C.F.R. § 402.02. Habitat Conservation Planning & ITP Processing Handbook, 16-5 (Dec. 21, 2016). Alternatively, we believe the continued adherence to the currently successful LEPC Candidate Conservation Agreement with Assurances (CCAA) would be appropriate.

Response: See response to comment 26.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Permian Basin Petroleum Association	102	–
	Comment: The LEPC O&G HCP states that "At present, WAFWA has suspended enrollment under the RWP CCAA, and the future of the CCAA remains uncertain", this statement is false and speculative, respectively. The Western Association of Fish and Wildlife Range-Wide Oil and Gas CCAA rescinded the enrollment suspension, and is currently accepting enrollment in the CCAA by Oil and Gas participants (C. Pettie, WAFWA pers. Comm., 2021). **Response:** This language, on page 4 of the HPC has been edited to accurately reflect the current status as outlined in the comment.	
Permian Basin Petroleum Association	103	–
	Comment: The LEPC O&G HCP is silent on the complementary conservation benefits realized by on-going voluntary conservation programs for the LEPC, including the WAFWA Range-wide Oil and Gas CCAA, and the Center of Excellence (CEHMM) CCAA and CCA in New Mexico. The Oil and Gas industry has demonstrated their support and conservation commitments for the past decade with continued participation in these conservation programs. As of December 31, 2020, there were 111 active agreements in the WAFWA Oil and Gas CCAA with a total enrolled acreage of 6,228,136 ac. Additionally, a total of 41 oil and gas operators are enrolled in the New Mexico CCA/CCAAs with an additional 2,189,006 ac of conservation commitments under these agreements. PBPA agrees that all conservation programs should work together to continue the trend of successful collaboration to benefit the LEPC, however, the LEPC O&G HCP as proposed does not recognize the current conservation programs and the benefits realized for the LEPC and its habitat. **Response:** There is no requirement for an applicant to fully analyze or discuss, within their HCP, the status or conservation benefits of other existing or planned voluntary conservation programs that are outside of their control.	
Permian Basin Petroleum Association	104	HCP
	Comment: The LEPC O&G HCP states "New infrastructure placed on an existing infrastructure (e.g. adding well heads to an existing well pad) will be treated as a new project, with impacts and mitigation evaluated accordingly." This is highly contrary to a widely used and beneficial minimization conservation measure. Co-location of wells and infrastructure is used to minimize disturbance areas associated with oil and gas development and reduces the potential for fragmentation of contiguous habitat. Advances in drilling techniques has provided the ability to expand the use of horizontal wells. This allows for the construction of a single pad site, sometimes called a drill island, to accommodate multiple wells. The practice significantly reduces the acreage that is disturbed on the land, compared to multiple wells drilled laterally that each need a pad site which creates multiple disturbances. Single pad sites that accommodate multiple wells, versus multiple pad sites that hold a single well also reduces fragmentation of larger contiguous patches of undisturbed areas. Identifying projects that seek to collocate infrastructure on existing disturbances as "new projects" is disingenuous. It is unclear why a HCP would disincentivize the minimization of disturbances to LEPC habitat and promote fragmentation. **Response:** The Service agrees and this system was designed to encourage co-location of infrastructure. See response to comment 71 for details on the justification for this language.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Permian Basin Petroleum Association	105	EA
	Comment: 3.3 Alternative 3: No-Action Alternative The EA states “Under the No-Action Alternative the Service would not issue an ITP or an ESP, and therefore a programmatic permitting structure would not be available for willing participants to apply for CI’s.” This statement is false. There are two programmatic permitted options available across the LEPC range. The WAFWA Range-wide Oil and Gas CCAA, which covers Colorado, Kansas, Oklahoma, New Mexico, and Texas as well as, the Center of Excellence (CEHMM) CCAA and CCA in New Mexico both provide programmatic permitting structure, for willing participants, to apply for CI’s. **Response:** We have added clarification in the EA that rewords this to state "and therefore this programmatic permitting structure would not be available for willing participants to apply for CIs."	
Kansas Independent Oil and Gas Association	106	General
	Comment: Comment summary: Commenter provided extended comments regarding concerns with the ESA and economic impacts that a listing can have on the local community and small businesses. The commenter went on to discuss LEPC conservation efforts, population trends, and threats to the species concluding that the LEPC should not be listed under the ESA. **Response:** Comments noted, no response required as these are outside the scope of this permitting decision.	
Kansas Independent Oil and Gas Association	107	HCP
	Comment: The draft HCP provides regulatory assurances to continue operations and development in the LEPC habitat areas. However, the HCP imposes restrictions on oil and gas operations and requires payment of significant fees for any new drilling or construction projects. **Response:** Comment noted, no response required.	
Kansas Independent Oil and Gas Association	108	HCP
	KIOGA does not believe the draft HCP covering potential impacts to the LEPC from oil and gas development in the Great Plains takes into account the impacts to the small businesses that make up the Kansas oil and gas industry. The cost of the HCP is huge and not well thought out. We encourage the Service to chart a different course to reduce regulatory burdens and encourage stakeholder involvement in the development of a free market approach to the conservation of the LEPC. We believe a risk-based free market approach with an HCP administered by local governments would work much better for protecting the LEPC and small businesses. **Response:** The application for a section 10 permit under the ESA is an applicant-driven process. Once the Service receives a proposal we have an obligation to evaluate that proposal. If there are other parties who are interested in developing additional conservation options under section 10 of the ESA the Service is available to assist.	
Kansas Independent Oil and Gas Association	109	General
	Comment: Comment summary: Commenter discussed the importance of energy security and highlighted the implications of the Russian invasion of Ukraine counties of the European Union. Commenter discussed the need to not restrict domestic energy productions so that foreign governments do not control our access to energy. **Response:** Comments noted, no response required as these are outside the scope of this permitting decision.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Kansas Natural Resource Coalition	110	General
	Comment: KNRC notes that the programmatic HCP proposed for the oil and gas (O&G) industry is not a stand-alone program in that it anticipates the ESA listing of the LEPC as threatened in the northern DPS range, and as endangered in the southern DPS range. As a result the proposed O&G HCP is an integral part of but subordinate to the ongoing proposed LEPC listing process, for which a listing decision has not yet been made. The proposed ESA listing is regarded as the controlling the Service action, with the HCPs playing supporting roles to it. The HCPs would not be necessary unless the LEPC's status as a candidate species under consideration for listing brought a regulatory focus to its conservation. KNRC recognizes that the public record for the proposed LEPC listing and a separate HCP for renewable energy, power lines, and communications towers has been closed, and that the latter plan has been formally adopted. Nonetheless, the Service has solicited new information for each action and as a result has committed in the record to consider new information in decision-making. In light of the many significant changed circumstances that have occurred that may effect on-the-ground conditions in the LEPC estimated occupied range (EOR), KNRC respectfully requests that the Service consider these changed circumstances in its decision-making for the proposed LEPC listing. **Response:** We disagree, this HCP was designed to allow participation in the agreement regardless of the listing status. We acknowledge that for many potential participants the outcome of the listing determination will impact their determination of whether to participate in this HCP. This proposal and permitting determination is a stand alone decision and by no way is dependent upon a specific outcome of the listing determination.	
Kansas Natural Resource Coalition	111	General
	Comment: The required Regulatory Flexibility Analysis of economic impacts to counties and businesses is missing from the ITP process. In KRNC's previous comments to the record, we noted the responsibility of the Director of the Service to quantify impacts to local businesses, governments, and communities. **Response:** Regulatory Flexibility Analysis (RFA) requires federal agencies to consider the impact of regulations on small entities in developing proposed and final regulations. The approval of an HCP and issuance of an ITP does not constitute a proposal or finalization of a new rule or regulation by the Service. In addition, participation in the HCP is voluntary. While the economic impacts associated with the HCP are required for those entities that voluntarily participate, there is no required economic impact for any local business, government or community that does not voluntarily participate in the HCP. Therefore, the Service has determined that no additional quantification of economic impacts to local businesses, governments or communities is appropriate or required.	
Kansas Natural Resource Coalition	112	HCP
	Comment: The proposed HCP does not consider local interrelationships, and support from the O&G sector has not been demonstrated, which could impair effectiveness of acceptance, participation, and the overall conservation objective. Designed for perpetual management of LEPC habitat, the HCP runs counter to the Congressional intent that the ESA's purpose is to improve and recover imperiled species to the point where they no longer require the ESA's protection. The objective needs to be direct LEPC recovery, not support of a cumbersome business model that did not work, as in the case of the WAFWA Range wide Conservation Plan (RWCP). **Response:** While it is a good business practice, there is no regulatory requirement for an applicant to demonstrate the support from the sector of covered activities. For a response to the portion of this comment that states the objective of the HCP should be to result in recovery of the species, see response to comment 80.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Kansas Natural Resource Coalition	113	HCP
	Comment: Assumptions associated with the cost structure over the thirty-year life of the associated ITP have been invalidated by the sharp and still-accelerating rise in inflation since January 2021. For the United States O&G sector, these recent disruptions are exacerbated by the Biden administration's astonishing policies directed toward energy transformation and phase-out of internal combustion engines **Response:** The cost structure identified in the HCP is based upon the best available information at the time of the application. We understand that inflation rates can rise and fall over time. To account for fluctuations, the inflation rate identified in the HCP is based on the Consumer Price Index over the past 35 years. In addition, the HCP funding assurances include the development of a Contingency Fund to provide a buffer in the event some costs are underestimated.	
Kansas Natural Resource Coalition	114	HCP
	Comment: Unforeseen and Illegitimate Consolidation of O&G Sector. The proposed HCP will far exceed the estimated financial cost to individual O&G operators. It is foreseeably unaffordable and will lead to transformation of the economies of KNRC counties as operators are shut out of business due federal fiscal policies specifically designed to curtail access of the O&G sector to loans and operating cash. This will foreseeably result in closure of small operators and aggregation of assets dominated by larger oil companies. The proposed HCP illegitimately uses Federal authority to create winners and losers across the Kansas O&G sector. **Response:** Comments noted, no response required as these are outside the scope of this permitting decision.	
Kansas Natural Resource Coalition	115	HCP
	Comment: Socially unacceptable. The proposed HCP, as written and marketed, will not work because it is generally unacceptable across the O&G industry in the 5-state region. • The HCP is perceived as being similar to the WAFWA Range Wide Plan (RWP) • Many were unsettled by what they see as mismanagement of the RWP • The proposed O&G HCP is top-down driven, and broadly perceived as having originated from outside the State of Kansas • It has a high-cost barrier to entry for most O&G operations • There is mistrust of the Service stemming from the history of the WAFWA RWP that the proposed HCP does not adequately address. **Response:** Participation in this HCP is voluntary. If companies have concerns regarding the requirements and structure of the HCP the do not have to participate in the HCP.	
Kansas Natural Resource Coalition	116	HCP
	Comment: Changed circumstances. The proposed O&G HCP will not work because changed circumstances exist that are likely to affect the geographic area of the plan, and require modification to how conservation should be conducted to achieve the most effective outcomes for the LEPC's improvement and recovery. **Response:** Changed Circumstances and potential additional conservation measures that may necessary to respond to those Changed Circumstances were identified and discussed in the HCP.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Kansas Natural Resource Coalition	117	General
	Comment: Regulatory Flexibility Act Compliance. Among other purposes, the Regulatory Flexibility Act (RFA) was enacted to achieve statutory goals as effectively as possible without imposing unnecessary burdens on the public and to avoid the creation of barriers to entry. Agencies need to examine the impact of proposals on small businesses and small governmental jurisdictions and make available alternative regulatory approaches that do not conflict with the stated objectives of the applicable statutes. They are further mandated to fit regulatory requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation (the regulated entities). While participation in the proposed HCP is optional on the part of a O&G firm, once it is granted a certificate of inclusion, the requirements for participation become regulatory. KNRC regards the combination of the proposed ESA listing of the LEPC and its two associated HCPs as a single body of regulation (administrative law) because the HCPs rely upon the listing of the LEPC for the HCPs and their associated (ITPs) to be fully actionable. The commenter went on to provide extensive background information on the Regulatory Flexibility Act and concludes that the Service failed to perform the required Regulatory Flexibility Act analysis on the proposed listing and the two HCPs. KNRC proposes to work with the Service to ensure that affordable LEPC conservation alternatives are made available for those businesses and governments and to satisfy the mandates of the RFA. **Response:** See responses to comments 110 and 111.	
Kansas Natural Resource Coalition	118	General
	Comment: KNRC is committed to economical conservation and recovery of imperiled species such that they no longer require the protections of the Act. To that end, KNRC will work with its members and partners to conserve and recover the LEPC so that it no longer requires federal protections for continued survival and success of the LEPC. KNRC further proposes to support the necessary actions with the goal of reaching this definition of success in the shortest time possible so that the resources required for the effort can then be rededicated to the needs of other imperiled species. **Response:** Comment noted, no response needed.	
Kansas Natural Resource Coalition	119	HCP
	Comment: KNRC notes that the proposed LCP Conservation LLC HCP and its associated HCP are predicated using a programmatic approach that ultimately will be financially infeasible to a number of the O&G firms within the plan area over the thirty-year period. There is no satisfactory off-ramp described in the HCPs for the event of the LEPC recovering to the point where it no longer requires the ESA's protection and is delisted. For the LPC Conservation LLC HCPs to be financially successful, the LEPC conservation-to-recovery timeframe will also need to conform to the thirty-year enrollment period of the plan and its associated ITP. Should the LEPC reach the point where it no longer requires ESA protection before the end of the thirty-year ITP term, regulated entities would no longer be incentivized to enroll projects in the HCP. **Response:** This HCP was designed to allow participation in the agreement regardless of the listing status. We acknowledge that for many potential participants the listing status under the ESA will impact their determination of whether to participate in this HCP.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Kansas Natural Resource Coalition	120	HCP
	Comment: The proposed HCP's implementation costs for 1,000 O&G projects over a thirty year period - assuming a 2.7% annual inflation rate - is $3,625,755,592. This is a demonstrably understated cost given that the inflation rate for 2021 alone was 7%. The associated renewables, power lines, and communications HCP presents the same number of enrolled projects over the same period for the same total implementation cost. Combined, the published estimates are $7,251,511,184, a total that is far less than what the actual expenditures would be given the accelerating inflation rate the United States is now experiencing.	
	Response: See response to comment 113.	
Kansas Natural Resource Coalition	121	General
	Comment: KNRC and its member counties are interested in development of locally-managed conservation programs that lead to low-cost recovery of the LEPC which also protect local industries, lands and economies. This is focused on expeditiously bringing the LEPC to the point where it no longer requires ESA protection and in contrast to for-profit ventures whose mission contains capital, administrative and operations costs.	
	Response: Comment noted, no response needed.	
Kansas Natural Resource Coalition	122	General
	Comment: The WAFWA RWP was an out-of-state LEPC conservation model that experienced well-publicized fiscal, administrative, and technical issues, and failed to make substantive progress toward recovery of the LEPC. As a result, the WAFWA RWP model is not well-accepted by the O&G community, and the proposed HCP program resembles the WAFWA program.	
	Response: Comment noted, no response needed.	
Kansas Natural Resource Coalition	123	General
	Comment: The O&G sector would, however, be more open to a locally based programmatic LEPC conservation option that is predicated on rapid recovery of the LEPC to a point where it does not require ESA protection for its ongoing viability and success as a species. A program that is managed under local (county) government supervision, with conservation actions taking place on local properties managed by local landowners, with people the participating O&G firms know and trust, is a program that those firms will be much happier to work with.	
	Response: Comment noted, no response needed.	
Kansas Natural Resource Coalition	124	General
	Comment: Congress' intent is that federal financial assistance is not only for developing the system of incentives for a species conservation program but also for the maintenance (ongoing operation) of that program. One aspect of this intent is that the cost of recovery of an imperiled species is to be borne by the entire nation, not just a local group of regulated entities who possess resources. It is worth noting that funding sourcing for the conservation program is not limited to the Service alone. Because Congress did not limit the federal funding source for species recovery, that funding can originate from any federal agency or Congress itself. On March 16, 2022, the Federal Reserve began the process of attempting to achieve a "soft landing" for the U.S. economy. Part of that process will be to shrink the Federal Reserve's $9 trillion in bond holdings. KNRC sees this as an indicator that there is sufficient money in the economy to make it reasonable to believe resources exist to enable the federal government to provide the necessary financial assistance for LEPC conservation and recovery.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
	Response: Comment noted, no response needed as this is outside the scope of this permitting decision.	
Kansas Natural Resource Coalition	125	General
	Comment: Commenter stated that due to population trends the Service should consider finding that the LEPC is warranted but precluded or providing a 4(d) rule for the Oil and Gas Sector. **Response:** Comment noted, no response needed as this is outside the scope of this permitting decision.	
Kansas Natural Resource Coalition	126	General
	Comment: Separately, KNRC is aware of a four-year research project where LEPCs were translocated from the Shortgrass/CRP Mosaic Region where 70.8% of the known estimated LEPC are documented as being present. While the LEPC's status is not constrained to the point where the Service would normally consider a captive breeding program using the birds from the Shortgrass/CRP Mosaic area, we suggest that such a program may nevertheless be used as a means of augmenting LEPC populations in the other regions, with particular emphasis for the Sand Sagebrush Prairie Region. **Response:** Comment noted, no response needed as this is outside the scope of this permitting decision.	
Kansas Natural Resource Coalition	127	General
	Comment: Neither the proposed HCP, the adopted HCP, nor the proposed ESA listing for the LEPC provide a precise definition of what constitutes recovery such that the LEPC in a DPS can be delisted (or down listed from endangered to threatened). This deficiency must be rectified and incorporated in each of the HCPs prior to a final decision for the proposed listing or enrollment in any program will be inhibited. The regulated community must be able to understand what constitutes LEPC recovery before investing in conservation activities, and those investors must be able to monitor progress toward a stated objective. The Service must also commit to not increasing the LEPC population level that defines recovery. **Response:** Determinations about what constitutes recovery fall outside the scope of an HCP. If the proposed listing is finalized the Service will then follow our recovery planning process to develop a recover plan for the species.	
Kansas Natural Resource Coalition	128	HCP
	Comment: The proposed HCP fee schedule was developed using a 2.7% annual inflation rate. After the HCP was published, the inflation rate accelerated rendering the original calculation invalid. The 2021 inflation was 7.0%, and in February it accelerated to an annual rate of 7.9%, with a forecast to further accelerate to 8.2% for March 2022 (Bureau of Labor statistics; April 12, 2022). Energy price inflation was the greatest contributor at 25.6%, and a significant surge in that inflationary factor is expected due to the costs of war in Ukraine. At the time the fee schedule for the proposed HCP was developed, the annual inflation estimate seemed justifiable, although it wasn't reasonable to expect that it would remain that low over the course of a thirty-year period used in the fee schedule. The attached chart shows the inflation rate over the course of 25 years and demonstrates a somewhat cyclical rise and fall in the rate of inflation which could be expected to continue throughout the thirty-year period of the HCP's ITP and that of LPC Conservation LLC's sibling renewable energy, power line, and communication tower HCP. The 25-year inflation chart also illustrates that the current inflation rate far outpaces the previously projected inflation over the long term. **Response:** See response to comment 113.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Kansas Natural Resource Coalition	129	HCP
	Comment: When looking at the combined issues of ESA compliance; the high cost of the proposed HCP for most of the O&G firms in the plan area; an expectation that the LEPC, if listed, would remain on the ESA list for three decades; and, potentially higher inflation rates resulting from current administrative policies, KNRC believes the proposed HCP is unlikely to realize its projected enrollment. **Response:** Comment noted, no response needed.	
Kansas Natural Resource Coalition	130	–
	Comment: Since the proposed HCP was finalized there have been several changed circumstances that influence LEPC conservation activities, requiring modification of the proposed HCP prior to adoption. Some relate to the proposed HCP, some to the LPC Conservation LLC's already adopted associated Renewable (Wind and Solar) Energy, Power Line, and Communication Tower HCP for the LEPC, and some to the proposed ESA listing for the LEPC. The Service should pause the listing process at its present pre-decisional stage, retaining the LEPC as a candidate species, and work with its partners to amend the already-approved HCP and modify the proposed HCP while lower-cost conservation alternatives are considered and their effectiveness demonstrated. Although the changed circumstances below may not appear to affect the potential listing process or either of the LPC Conservation LLC HCP efforts, ongoing economic and geopolitical dislocations do have consequences that the federal government must consider in tandem with regional policy decisions. These responses must address both immediate and long-term responses to extraordinary inflationary pressures, the war in Ukraine, significant upheaval in the domestic and international oil and gas sector, and the immediate need to increase agricultural production to supplement and replace crops lost to the effects of the current war in Europe. Commenter went on to cited Russian invasion of Ukraine resulting in inflation, ban on imports of Russian Oil, loss of crops and food exports from Russia and Ukraine, Increases in fertilizer prices resulting from the Invasion and other related factors. **Response:** Comment noted, no response needed as this is outside the scope of this permitting decision.	
Kansas Natural Resource Coalition	131	HCP
	Comment: In reviewing the proposed Oil and Gas (O&G) HCP for the LEPC and the Renewable (Wind and Solar) Energy, Power Line, and Communication Tower HCP for the LEPC KNRC found a great deal of commonality between the two, indicating shared philosophy and roots. Both use the LEPC conservation banks managed by LPC Conservation LLC and Common Ground Capital. Both also use the same fee schedule over the course of thirty years; both use the same assumptions of an annual 2.7% annual inflation rate after Year 1 of the ITP period; and both use an average of 33 projects enrolled per year for a total of 1,000 projects enrolled over the course of the 30-year ITP term. The application, enrollment, and administration fees and mitigation costs to the participants are identical throughout the thirty years. KNRC infers that these two HCPs anticipate a total enrollment of approximately 2,000 projects over the course of the 30-year ITP for each, and, as an instrumentality of local member governments, needs to know if this is the case. KNRC therefore asks the Service to require LPC Conservation LLC provide specific information stating whether it is operating two programmatic HCPs that each anticipate an enrollment of approximately 1,000 projects for a total of approximately 2,000 projects or two programmatic HCPs that together anticipate an enrollment of approximately 1,000 projects for both HCPs combined. KNRC and its member counties need this information to refine the accuracy of its estimation of the impacts of LPC Conservation LLC's programs on the local and regional economies of its member counties. **Response:** The requested take and projected number of potential projects which may be enrolled identified in the HCP represent enrollment specific to this HCP and are not related to any other proposed or approved HCP.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Kansas Natural Resource Coalition	132	HCP
	Comment: While the fees and costs for the HCP programs might be affordable for the larger O&G companies, most of the smaller O&G operators will not be able to commit this level of funding to the LPC Conservation LLC program. This is problematic because many of these companies perform support tasks needed by those companies that are large enough to afford the administrative fees and mitigation costs. **Response:** Comment noted, no response needed.	
Kansas Natural Resource Coalition	133	HCP
	Comment: As noted above, changing economic circumstances have resulted in much higher inflation than the 2.7 annual increase assumed in Table E2, HCP/ITP Implementation costs over the ITP term, including annual inflation rate of 2.7% after Year 1 over the 30-year ITP term. The inflation rate for 2021 was 7%, which accelerated to 7.5% in January 2022 and then to 7.9% in February 2022. The Russian invasion of Ukraine on February 22, 2022 will drive continued inflation for the near-to-median term. KNRC recommends that LPC Conservation LLC be required to refine its approach to estimating future year fees and costs, otherwise Table E2 immediately has no utility in helping potential enrollees evaluate the business costs associated with enrollment. Footnote 2 to Table E2 indicates that the mitigation costs are estimates because the overall amount of mitigation implemented through the HCP for a project will vary based on the actual impacts from enrolled projects in each category. Does this mean that the actual mitigation costs and 5% contingency will vary, with each enrollee paying the actual mitigation cost for the individual project, or will the costs be split among the enrollees evenly regardless of the amount of mitigation implemented for their enrolled project? **Response:** For the portion of the comment related to inflation please refer to the response to comment 113. With regard to the required mitigation fees for each project this will depend upon the results of the impact evaluation which will then be used to determine the amount of mitigation required to offset the project, as outlined in detail in the HCP. This means that each project will have its own mitigation costs that are dependent upon the impacts of that project to the LEPC which will determine the amount of mitigation required.	
Kansas Natural Resource Coalition	134	General
	Comment: There are four approved programmatic mitigation bank agreements, two for the Shinnery Oak Prairie, one for the Mixed Grass Prairie, and one for the Shortgrass/CRP Mosaic. There is none located in the Sand Sagebrush Prairie. Other Service-approved LEPC conservation banks, LEPC in-lieu fee compensatory mitigation programs, or permittee-responsible mitigation efforts that meet the standards required by the HCP would provide mitigation to be implemented through the HCP. This appears to imply that there are no other lands in the HCP plan area that would be available to smaller O&G companies that cannot afford to participate in the proposed HCP. **Response:** This HCP was developed to provide an option for operators in the oil and gas industry. It is not expected that this HCP will work for all operators in the oil and gas sector. There are also other Section 10 options which already exist covering impacts to the LEPC from oil and gas activities. Lastly, if none of those options work for an operator or if they would just prefer to develop their own option the Service is available to work with those interested parties.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Kansas Natural Resource Coalition	135	HCP
	Comment: Footnote 2 to Table E2 indicates that the mitigation costs are estimates because the overall amount of mitigation implemented through the HCP for a project will vary based on the actual impacts from enrolled projects in each category. The public needs clarification as to whether the actual mitigation costs and 5% contingency will vary, with each enrollee paying the actual mitigation cost for the individual project, or will the costs be split among the enrollees evenly regardless of the amount of mitigation implemented for their enrolled project? **Response:** See response to comment 133.	
Kansas Natural Resource Coalition	136	General
	Comment: Relationship Between the Proposed LEPC Oil and Gas HCP and Current Energy Policy. The LEPC HCP for the oil and gas industry defines a program within the proposed HCP plan area lasting a minimum of thirty years, during a period when national policy is currently to move away from fossil fuel use altogether according to White House press secretary during a February 27, 2022 interview with ABC News. There are no fewer than 25 administration policies driving a national transition away from fossil fuels. KNRC believes that, particularly in the present geopolitically unsettled situation, it is not only unwise to continue working under policies designed to hamper oil and gas producers' ability to operate. In contrast, KNRC believes that the nation policies must be changed to facilitate those producers' return to increased production levels that ill return the nation to full energy independence and move beyond that to a position of energy dominance that allows the United States to replace Russian oil and gas imports to our European allies and to ensure a return to energy independence and to dominance. **Response:** Comment noted, no response needed as this is outside the scope of this permitting decision.	
Kansas Natural Resource Coalition	137	HCP
	Comment: Oil and Gas Projects Occupying an Area with Portions Inside and Outside the Plan Area. Enrolled projects with impacts to LEPC populations both within and outside the HCP permit area are required to seek alternative methods to ensure ESA compliance for those portions of their projects outside the plan area should the LEPC become listed. This would not only require that the enrolled participant to pay all the fees and costs associated with being an enrollee but would also require that same entity to come up with more money and a separate conservation plan to cover for incidental take on that portion of the project that happens to be outside the plan area. This would be sufficient to bring most O&G companies with the wherewithal to pay the financial obligations of being an enrollee to decide not to participate in the LPC Conservation LLC program. It would be less expensive overall for them to make a separate agreement with the Service to protect the company from incidental take issues. KNRC recommends that, if this HCP is approved, a mechanism be developed to include those portions of a project outside the plan area to be included with a prospective participant's certificate of inclusion (CI). This provision within the LPC Conservation LLC is reminiscent of the picture of someone shooting themselves in the foot and seems illogical if program success is the goal. "Other means" as found at line 107 on page 13 is not defined. It needs to be, so that prospective participants can have a clearer idea of what might qualify as those "other means." **Response:** See response to comment 15.	
Kansas Natural Resource Coalition	138	HCP
	Comment: The Nature Conservancy (TNC) is a private nongovernmental organization (NGO). There is, among a portion of the public, the impression that TNC acts as the federal government's real estate agent in bringing formerly private properties into federal ownership. It is not appropriate that TNC be the only private NGO that is exempt from LPC Conservation LLC's permit area overlap.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: Section 1.5 of the HCP identifies the Plan/Permit area for the HCP as well as those areas that the Applicant has excluded from the Plan/Permit area because those lands are either being used for mitigation under the HCP, or are otherwise protected as permanent conservation for the LEPC. The Applicant chose to remove lands owned by The Nature Conservancy from the Plan/Permit Area because they represent a large area of permanent conservation within the range of the LEPC. The delineation of the Plan/Permit Area, as well as the identification of areas that are not eligible for coverage under the HCP, is the discretion of the Applicant.
Kansas Natural Resource Coalition	139	HCP
		Comment: Adding Infrastructure to Existing Infrastructure Counted as New Project. The proposed HCP mandates that: "New infrastructure placed on existing infrastructure (e.g. adding well heads to an existing well pad) will be treated as a new project, with impacts and mitigation evaluated accordingly." KNRC believes that if new infrastructure is placed within an existing enrolled project, it will be counterproductive to the HCPs project-based enrollment goals and further add to enrollee's mitigation costs. If the enrollee has already contributed the 2021 equivalent $2,423,850 for the entire project, how is it reasonable to require that enrollee to put up additional fees and costs for new well heads adjacent to a pad that is near those that are already in place? **Response:** See response to comment 71.
Kansas Natural Resource Coalition	140	General
		Comment: Controversially. KNRC recognizes the proposed listing and the HCPs are controversial and that the changed circumstances in our public comments substantively complicates that controversially. Fortunately, estimated LEPC populations are, at the time the most recently available data were incorporated into the proposed HCP, at their highest level since the incorporated data were placed into the draft, allowing opportunities for designing greater flexibility into the process targeted toward recovering the LEPC to the point where it no longer requires ESA protection. • The LPC Conservation LLC proposed HCP is controversial because it focuses on LEPC conservation on reserved properties, creating locally concentrated LEPC populations rather than across the LEPC occupied landscape. • KNRC believes that recovery of the LEPC will be most successful if it is managed through local government with the cooperation and participation of both landowners and industries working together within a framework where KNRC holds a permit and local government provides oversight and coordinates resources on behalf of the regulated entities and the landowners. • KNRC believes that the best chance for expeditious recovery for the LEPC relies on the ability for all O&G businesses of any size and fiscal capacity to engage in recovery efforts. The proposed HCP is priced out of the range of affordability for most of those firms. Healthy businesses will yield greater conservation participation and effectiveness. • KNRC recognizes that its ability to offer conservation opportunities that are affordable at all levels of financial capacity will be seen as controversial by the commercial conservation provider and its supporters. For its part, KNRC does not perceive offering a viable playing field for all businesses in the O&G sector as controversial … pricing the smaller businesses out of the participation opportunities being made available by the commercial provider, on the other hand, is something KNRC sees as unfair, controversial, and not fully supporting the expeditious recovery of the LEPC. • Finally, KNRC recognizes that its position that, even in this rapidly emerging economic and geopolitical landscape, the locally-/regionally-driven programmatic LEPC conservation and recovery approach, managed by local government, priced so that O&G companies financially barred from participation the LPC Conservation LLC proposed HCP can actively participate, offers the LEPC a significantly improved route to conservation and recovery than sole reliance on the commercial conservation program, will be viewed as controversial by some. **Response:** Comment noted, no response needed.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
Crown Rock Minerals (CrownRock)	141	–

Comment: As an initial matter, CrownRock strongly objects to the issuance of an ITP to a conservation banking entity that will provide conservation credits, for profit, to project proponents enrolling in its plan (hereinafter referred to as "enrollees"). Exhibit E to the Proposed HCP indicates an assumption that each conservation credit required under the plan will fetch $2,500-totaling $75 million over the requested 30-year permit term. While the Applicant indicates in the Proposed HCP that a variety of sources for conservation credits may exist, it appears that the only credits currently available under the plan are held by Applicant. Such an arrangement represents a conflict of interest that is apparent in every aspect of the Proposed HCP, including without limitation the mitigation ratios, and is compounded by the fact that neither the Service nor the Applicant sought input on the feasibility of the conservation plan (e.g., its required avoidance, minimization, monitoring, and adaptive management measures, or the financial implications of the same) from the affected industry during the HCP development process.

Should the Service approve the Proposed HCP and issue the requested ITP, doing so would establish troubling precedent whereby a private, for-profit entity could develop a programmatic HCP covering lands over which that entity has no legal interest. In the case of the Proposed HCP, CrownRock does not suggest that Applicant is opposed to development and delivery of oil and gas resources; however, Applicant cannot possibly represent the interests of actual energy developers when Applicant will be providing mitigation at a profit to enrollees. This concern is amplified given the lack of information suggesting the oil and gas industry provided input on the development of the plan. Similarly, allowing Applicant to be the long-term HCP administrator ("HCP Administrator") also represents an improper conflict of interest. Among the roles of the HCP Administrator described by the Proposed HCP are: seeking out, evaluating, and recommending mitigation credits or projects; assisting with mitigation reviews and any "needed adjustments in the amount of mitigation provided"; and initiating amendments to the Proposed HCP. In none of those circumstances is the HCP Administrator (the conservation banker) required to seek input from enrollees or the public on the economic feasibility of its actions. Under this scheme, the HCP Administrator may find and acquire mitigation parcels, set pricing of the parcels, and then sell conservation credits at a profit to itself. Similarly, the HCP Administrator could determine there is a "need" for upward adjustments to the mitigation ratios set by the plan, or could initiate other amendments to the plan for the economic benefit of the HCP Administrator. Given that the Proposed HCP does not require the HCP Administrator to seek review or comment by industry stakeholders or the public, in none of these instances are the interests of an existing or eventual enrollee required to be considered. It flies in the face of reason that the Service would approve an HCP and issue an ITP to a conservation banking entity that will determine the permitting terms including the impact and mitigation obligations- for oil and gas entities that have no connections whatsoever to the conservation bank, when the very implementation of the plan will benefit the banker or banking industry.

The sole interest of the Applicant in this case is to find willing enrollees and make a profit. The permitting program adopted by Congress in 1982 and set forth in ESA section 10 was not intended to create an economic benefit to conservation bankers. Rather, the purpose of the ITP program, as described by Congress, was to "establish a procedure whereby those persons whose actions may affect endangered or threatened species may receive permits for the incidental taking of such species ... " and "address the concerns of private landowners who are faced with having otherwise lawful actions not requiring federal permits prevented by the section 9 prohibitions against taking."2 In every aspect of the Proposed HCP, it is clear that the plan has little regard for private landowners or project proponents, contrary to the intent of ESA section 10. Indeed, the very basis for the mitigation requirements in the Proposed HCP highlights this concern: Under the [Proposed] HCP, impacts of the loss or fragmentation of potentially suitable LEPC habitat that cannot be avoided by oil and gas development must be mitigated, and the cost of purchasing mitigation credits is expected to provide a strong incentive for developers to reconsider their site plans in order to reduce impacts to LEPC habitat, in order to reduce the mitigation burden to [project proponents].

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: We disagree with the assertions that a) approving an HCP and issuing an ITP to a for-profit entity establishes a negative precedent and b) approving the Applicant as the administrator of the HCP represents an improper conflict of interest. Regarding the first point, there is no regulatory provision preventing the Service from approving and HCP and issuing an ITP to a for-profit entity. In fact this is common practice and has been done in numerous occasions nationally for HCPs associated with timber harvest and other development. With regards to the concerns of conflict of interest, the HCP has been designed to include multiple options for meeting mitigation requirements, including but not limited to, conservation banks operated by the Applicant. Additionally, all project impact assessments and proposed mitigation to offset those impacts must be approved by the Service as well as the Applicant to ensure the proper backstops are in place to avoid issues related to conflict of interest and to ensure all mitigation meets appropriate standards.
CrownRock	142	–
		Comment: In addition to the obvious conflict of interest presented by the Applicant, CrownRock is also troubled that the Service's approval of the Proposed HCP and issuance of the requested ITP would result in a permittee that does not now and will not ever own, control, or otherwise exercise authority over the majority of lands or activities enrolled in the plan. The Service's Habitat Conservation Planning and Incidental Take Permitting Handbook ("HCP Handbook"), issued jointly with the National Marine Fisheries Service, states that a "qualified applicant" for an ITP must have "legal authority to execute their proposed project on the lands that are proposed for coverage under an HCP and sufficient legal control to implement the HCP, such as ownership of property in fee simple, a lease agreement that grants authority for the proposed project, or similar type of legal authority to conduct the proposed activities."4 The Service has interpreted such ownership or control as including the power to condemn lands covered under an ITP, and has issued myriad ITPs to entities with such authority. As a conservation banking entity, Applicant does not meet this threshold. **Response:** As discussed in section 1.3 of the HCP, the HCP will operate under a programmatic structure. The Applicant will serve as the Permit Holder and will hold the ITP and serve as the HCP Administrator. The HCP Administrator will not be undertaking any impacts to LEPC on lands for which they do not have legal authority to conduct activities. Rather, individual oil and gas industry proponents (or associated project LLCs) interested in participating in the HCP and seeking take coverage under the ITP can enroll projects on lands under their "direct control" in the HCP through the completion of a certificate of inclusion application. The Permit Holder will then administer the regulatory authority to convey incidental take coverage to these eligible landowners via a certificate of inclusion consistent with regulations found at 50 CFR 222.307 (f) and 50 CFR 13.25(e). CI holders must remain in compliance with all elements of the HCP and ITP to retain incidental take coverage through the CI. As the Permit Holder, the Applicant will oversee HCP-related activities of CI-holders and will manage the requirements of the HCP, the ITP, and amendments to the HCP/ITP as the HCP Administrator.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CrownRock	143	–

Comment: In addition to the legal authority to carry out the proposed activities, the HCP Handbook also states that a qualified applicant must have "direct control" over "any other parties who will implement any portion of the proposed activity and the HCP." 5 The HCP Handbook notes direct control may extend to: (1) those who are employed by a permittee; (2) anyone under the regulatory jurisdiction of a permittee; and (3) entities that have an interagency agreement establishing the permittee's legal control. 6 The HCP Handbook contemplates that in some circumstances, the Service may approve "programmatic" HCPs which are "typically landscape-scale HCPs initiated by a State, county, or local municipality" and employ an applicant's "local regulatory authority." 7 The HCP Handbook further explains that the Service's general permit regulations allow those under "direct control" of a permittee to be authorized under an ITP, which is described as "those who are employed or contracted by the permittee, for purposes authorized by the permit, to conduct the authorized activity without on-site supervision by the permittee." 8 The Service's general permit regulations also establish that a master permittee must have jurisdiction over those conducting the activities under the ITP or must be a "government entity" that has executed one or more written agreements with those receiving authorization under the ITP. Potential enrollees in the Proposed HCP will not be employed by Applicant, will not be under the regulatory jurisdiction of Applicant, and will not have an "interagency agreement" establishing Applicant's legal control over enrollee activities. Nowhere in the HCP Handbook's description of programmatic HCPs does the Service contemplate that an applicant wholly unrelated to and without any regulatory authority over the eventual sub-permittees should be issued an ITP covering take for activities over which the applicant has no authority or control.

While the Service certainly has approved HCPs and issued ITPs and enhancement of survival permits to entities who do not have current or future legal or regulatory control over a project (including the power of condemnation) where the permittee and enrollee are contractually bound to one another, in almost every case, the terms of the ITP and the conservation program set forth in the relevant HCP, candidate conservation agreement with assurances, or safe harbor agreement received significant input from the relevant industry or landowner group. For example, the Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands ("CCAA") was developed by the Energy Resources Center at the University of Illinois at Chicago ("UIC"), the Service, and more than 30 stakeholders from the energy and transportation sectors. The plan administrator for that CCAA, UIC, does not derive a substantial financial benefit from its administration of that plan. In the case of the Malpai Borderlands HCP, approved by the Service in 2008, the applicant for the ITP, the Malpai Borderlands Group ("MBG") was a private, non-profit organization established by a coalition of ranchers/landowners who together represented far more than half of the ranchers present in the area covered by that HCP. The MBG was formed more than a decade prior to its application for the ITP, and had long been engaged in finding solutions for sustainable ranching and land stewardship. There is no clear indication in the Malpai Borderlands HCP that the MBG would derive any significant economic benefit as permittee or plan administrator. These circumstances are vastly different than the framework of the Proposed HCP.

Response: See responses to comments 141 and 142.

CrownRock	144	–

Comment: Nothing in the Proposed HCP or Federal Register notice announcing the same indicate the Applicant or Service sought input from the very industry they are seeking to enroll in the plan. This approach runs counter to the process described by the Service's HCP Handbook on how best to prepare an HCP. For example, section 3 of the HCP Handbook states: Services staff should encourage the applicant to bring their affected constituents into the programmatic HCP development process. Establishing a collaborative effort among stakeholders who can contribute to creating a successful programmatic HCP requires a significant investment of time and resources by the prospective permit applicant and the Services, but is essential to a successful HCP. CrownRock is aware of no effort by the Service or Applicant to seek input from representatives of the oil and gas industry in connection with the conservation program described in the Proposed HCP and appears to have made no attempt to ascertain whether the conservation program described in the plan is economically or technologically feasible from a project perspective.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
	Response: See response to comment 112.	
CrownRock	145	–
	Comment: CrownRock is troubled that the Proposed HCP provides no information concerning Applicant, who will ultimately be the Plan Administrator. While a Google search confirms that Applicant is a conservation banking entity, there is no information about its structure, including whether it has the resources or expertise to meet its obligations under an ITP. As discussed in greater detail below, the fact that the Applicant will provide none of its own funds to support plan administration should raise significant red flags for the Service. **Response:** Section one of the HCP provides information related to the accomplishments of the Applicant. These accomplishments include relevant experience in executing mitigation banks that meet commonly excepted standards within the conservation banking community and well as within the Service. These accomplishment pertinent as they show the Applicant has the ability to accomplish the LEPC habitat mitigation standards (including conservation and financial assurances) required under this HCP. There is no requirement that an Applicant provide its own funds to support plan administration, in fact this is common practice in most programmatic agreements covering development.	
CrownRock	146	–
	Comment: With respect to the need for the Proposed HCP, the document lists as an impetus for its development the "high number" of oil and gas facilities in the plan area and "expected increase" of such facilities; however, as the oil and gas industry is well aware, this Administration is highly antagonistic toward fossil fuels. If these ill-advised policies continue, then it is plausible that the number of facilities across the landscape may remain steady or even decrease over time. Similarly, where the Proposed HCP estimates buildout of oil and gas facilities over the life of the permit, its authors provide almost no information on how those estimations were put together, other than to cite to sources indicating an increase of production over time. **Response:** The assumptions included in the HCP regarding increases in oil and gas facilities in the range of the species is a very conservative assumption. While rates of future development may increase and decrease for various reasons, we are not aware of any information which would indicate an expectation of no future new oil and gas development within the range of the species in the future. With regard to the portion of the comment about projecting future buildout, section 4.3 the HCP outlines the process, data, and assumptions used to project build out.	
CrownRock	147	–
	Comment: In connection with the expected benefits of the Proposed HCP to the industry it purports to serve, the document predicts that "participating oil and gas companies can reduce the time and cost associated with implementing LEPC conservation to fully offset project impacts." As an initial matter, a conservation banker has an inherent conflict in determining where and how oil and gas production will occur, and in any event, the Proposed HCP makes no attempt to demonstrate precisely how the Proposed HCP will reduce the timing or cost of implementing LEPC conservation. The Proposed HCP makes no attempt to compare the cost of enrolling in this plan against the cost of project-specific permitting or compliance. Important to that cost analysis is the fact that a project proponent seeking incidental take authorization under ESA section 10 (or 7) is under no obligation to "fully offset" impacts to the species associated with any permitted take. Rather, section 10 requires only that the impacts of any take authorized be minimized and mitigated to the maximum extent practicable, while section 7 does not contemplate provision of mitigation at all in connection with authorized take.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: The language referenced in this comment is in acknowledgment that development of options under Section 10 of the ESA would require additional resources. This would include time and costs to develop an HCP, an application fee, time for the Service to carry out requirements of NEPA and make a permitting decision, time and resources necessary to minimize and mitigate to maximum extent practicable for any approved HCP, and any required monitoring and reporting. The references to Section 7 of the ESA within the context of this permitting decision is not applicable because if a project has a federal nexus then it would not be eligible for inclusion under this HCP and thus the regulatory standard for Section 7 is not relevant for an analysis of costs.
CrownRock	148	–
		Comment: Table 3 of the Proposed HCP sets forth impact distances of anthropogenic features used by the plan to establish estimates of take and mitigation. However, those impact distances have been called into question by studies more recent than some of those cited. For example, the Proposed HCP cites to Pitman et al. 2005 to support an 805-m impact distance for compressor stations. However, compressor stations vary in size and, thus, impact. The Service's own conservation framework for the LEPC distinguishes between a "gas line" (805-m buffer) and "small" (200-m buffer) compressor stations. Similarly, in 2015, the WAFWA used a matrix of noise levels (75 decibels [dB], structure height [150'], and facility size [5 ac]) to apply impact buffers ranging from 200-m to 667-m. The variability of compressor station attributes (and therefore the degree of impact to the LEPC) does not appear to be taken into account by the Proposed HCP. **Response:** Table 3 has been updated to make it consistent with the Service conservation framework referenced in this comment, including providing for a distinguishment between gas line compressor stations and small compressor stations.
CrownRock	149	–
		Comment: the Proposed HCP's treatment of the impact of oil and gas wells on the LEPC fails to take into consideration that several studies suggest well density-rather than presence of individual wells-plays a larger role in LEPC avoidance. The correlation between well density and LEPC avoidance likely is a result of habitat fragmentation (e.g., roads and transmission line that attend higher density projects) and cumulative noise levels rather than the existence of the well structure itself. Indeed, Pitman et al. (2005) reported that nesting LEPC avoided wellheads by 80-m; however, distance to the feature was not a substantial predictor of apparent nest success. Instead, vegetative structure was more predictive of nest success than was distance to infrastructure. The Proposed HCP also fails to take into account landscape context when establishing impact buffers. Pitman et al. (2005) noted that topography likely played a role in the severity of impacts to the LEPC-including noise and visual impacts-which are lower in undulating topography compared to flat terrain. **Response:** The impact radii used within this HCP were recommended by the Service. Those impact radii were established by the Service after a review of the best available scientific information, including that referenced within this comment. The purpose of these impact radii are to account for the distance out from a specific feature where impacts to the LEPC would rise to the level of take as defined the ESA. This is important as there are variety of studies that estimate the impact of a given feature on a measured response variable (such as nest placement, or nest success, or habitat use). This means that one study may report a lack of impacts of a specific feature to a specific measured response variable (such as nest placement) but this does not indicate that the feature did not impact other aspects of the species life history that the Service must consider when evaluating effects and ultimately take.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CrownRock	150	–

Comment: Finally, myriad studies indicate that additional research is needed to understand the effect of anthropogenic sources on and other threats to the LEPC, and the Proposed HCP recognizes this fact as well. For example, the Proposed HCP makes the following statements, among others:

- "The state of the science related to the effects of wind energy . . . is developing; thus, management recommendations ... are limited."
- "While limited empirical data on the effects of wind, solar energy, and power line development on LEPC are available, concerns exist about the impacts of this development on habitat suitability ... "

Similarly, Pitman et al. 2005, cited extensively in the Proposed HCP, states: Because our method of modeling nest success was an exploratory analysis and the models were not tested on an independent data set, the resulting statistics are likely upward-biased estimates of the true probabilities in each case. Future research that focuses on validating our models with independent data would be useful in determining if variables we identified are causally associated with success of LEPC nests in sand-sagebrush habitats.

Response: There is uncertainty associated with any scientific study due to assumptions, data availability, study design, and a myriad of other factors. Additional studies would add to the body of work on this issue and may further refine the analysis related to impacts of anthropogenic features on the LEPC. This information was informed by the best available scientific information

CrownRock	151	–

Comment: In addition to the concerns described above, CrownRock also believes the Service's issuance of an ITP authorizing take of only non-listed species is not supported by the ESA, or Service regulation or policy.

Section 10(a)(1)(B) of the ESA states that the Service "may permit ... any taking otherwise prohibited by [ESA] section [9](a)(l)(B) ... if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." ESA section 9(a)(l)(B) states that "[e]xcept as provided in sections [6](g)(2) and [9] ... with respect to any endangered species of fish or wildlife listed pursuant to [ESA] section [4] ... it is unlawful for any person subject to the jurisdiction of the United States to ... take any such species within the United States or the territorial sea of the United States." Thus, when Congress established the incidental take permitting program under ESA section 10, it was intended to permit take only of species listed as endangered under the statute.

Pursuant to the authority given the agency under ESA section 10, the Service established the incidental take permitting program by regulation. Service regulations found at 50 C.F.R. § 17 .22 establish the requirements for persons wishing to obtain an ITP authorizing take of species listed as endangered, while regulations found at 50 C.F.R. § 17.32 set forth identical requirements for ITPs issued for "any activity otherwise prohibited with regard to threatened wildlife."

The Service's HCP Handbook puts it bluntly: "You must have at least one ESA-listed animal species to do an HCP."

The LEPC is not a listed species and as demonstrated above, Service issuance of an ITP covering only a non-listed species clearly violates Service policy and is wholly inconsistent with the ESA and Service policy.

Response: See response to comment 22.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CrownRock	152	–

Comment: Throughout the Proposed HCP, there are many instances where the Applicant-HCP Administrator is able to alter critical portions of the conservation plan without input from oil and gas stakeholders or review and comment from the public. Crown Rock urges Applicant to revise the Proposed HCP so that any changes made to the conservation program that could affect enrollee or future enrollee project operations or finances would require public notice and comment as well as an opportunity for the affected industry to weigh in on the changes.

For example, the Proposed HCP gives the HCP Administrator and Service the ability to upgrade the Critical Habitat Assessment Tool ("CHAT") categories over the life of the ITP. Given the substantial impact to enrollees associated with the CHAT categories, updates to the CHAT categories should be subject to a public review and comment period of at least 30 days. Updating the CHAT categories could be highly lucrative for the HCP Administrator who is likely to also be providing mitigation under the plan. Without the opportunity for public and stakeholder review and input, the HCP Administrator has no real incentive to consider the needs of future enrollees, particularly if the Service strongly advocates for projects to enroll in the plan.

Likewise, the Proposed HCP contemplates that the HCP Administrator and the Service may at some future point adopt a programmatic agreement concerning National Historic Preservation Act ("NHP A") compliance. Because compliance with the NHPA could create additional time and resources constraints for project proponents seeking to enroll in the Proposed HCP, any contemplated programmatic agreement under the NHPA should receive a public review and comment period of at least 30 days.

Further, section 5.5 of the Proposed HCP indicates that monitoring data will inform the HCP Administrator on the need for and type of adjustments that should be made to minimization and mitigation measures required under the plan. Any such changes should receive public and stakeholder comment of at least 30 days. This includes, but is not limited to, any changes to the extent of impact radii and related mitigation requirements.

Response: As described in the Adaptive Management (Section 5.5), Changed Circumstances (Section 6.2), and HCP/ITP Amendments (Section 9.8) sections of the HCP the Service and the Applicant can discuss changes to the HCP, including, but not limited to, changes to minimization and/or mitigation measures based on information gathered from compliance/effectiveness monitoring, changes to CHAT categories based on new science/mapping, and NHPA Compliance requirements. If both parties mutually agree to the proposed changes the HCP, CI application, and, if necessary, ITP will be updated to reflect the agreed upon changes. Any changes to the HCP, CI, and ITP will only affect CI applications approved after the changes. Existing CIs will not be subject to additional or changed requirements unless requested by the CI-holder. Section 9.8 of the HCP outlines the process that will be followed for various types of changes/amendments to the HCP, CI, and or ITP.

CrownRock	153	–

Comment: Should the LEPC eventually be listed by the Service, the minimization, mitigation, and other commitments established under the Proposed HCP could-and are likely to--become the de facto standard of LEPC incidental take permitting. In such a case, project proponents seeking alternate means of ESA compliance (e.g., project-specific ITPs or development of an alternative programmatic HCP) may have little room to effectuate a set of conservation measures that are more economically and technologically feasible. CrownRock has myriad concerns about the approach to mitigation adopted by the Proposed HCP.

Response: Any applicant interested in developing an HCP may do so and the Service would evaluate that proposal to determine if it meets issuance criteria as defined by the ESA.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CrownRock	154	–

Comment: CrownRock is very troubled that the Proposed HCP purports to achieve a "net conservation benefit" for the LEPC. As the Service is aware, through a series of cases spanning several decades, the United States Supreme Court has established that exactions or mitigation sought by governmental entities in connection with permits or approvals must bear a reasonable nexus to the impact sought to be addressed and must be roughly proportional to such impact and that governmental entities seeking to impose such requirements must perform an individualized analysis to ensure that the request does not exceed the rough proportionality limitation 32 In connection with the Service's withdrawal 33 of its general Mitigation Policy 34 and ESA-specific Compensatory Mitigation Policy, the Service acknowledged that: Under Supreme Court precedent, the Takings Clause of the Fifth Amendment of the United States Constitution limits the ability of government to require monetary exactions as a condition of permitting private activities, particularly private activities on private property . Further, because by definition compensatory mitigation does not directly avoid or minimize the anticipated harm, its application is particularly ripe for abuse. These concerns are particularly acute when coupled with a net conservation gain standard, which necessarily goes beyond mitigating actual or anticipated harm to forcing participants to pay to address harm they, by definition, did not cause. 35 Thus, pursuant to the Fifth Amendment to the United States Constitution and Supreme Court precedent, the Service must make project-specific findings that mitigation required under the ITP is roughly proportional and bears a reasonable nexus to the impacts resulting in the mitigation requirement. The structure of impacts assessments and mitigation requirements under the Proposed HCP, when coupled with the plan's commitment to providing a "net conservation benefit," ensures the required analyses will not occur. Tying mitigation ratios to the CHAT categories results in a mitigation regime whereby project proponents will provide far more mitigation than is lawfully required or biologically supportable outside of the purposes of pure conservation. For example, the Proposed HCP requires that impacts to areas within CHAT category 4 (which is described by the Proposed HCP as a "10-mi buffer ... provided to consider areas potentially suitable for future LEPC range expansion and conservation planning") be mitigated at 1.25 mitigation ac for every one CHAT category 4 ac impacted. 36 In other words, although CHAT category 4 does not contain LEPC habitat and is outside the zone wherein LEPC avoidance is thought to occur, the Proposed HCP would nevertheless require project proponents to mitigate at greater than a 1 : 1 ratio for theoretical future potential impacts. This is wholly inappropriate. ESA section 10 requires that impacts associated with permitted take of listed species be minimized and mitigated to the maximum extent practicable. CHAT category 4 does not include areas currently occupied by LEPC or LEPC habitat; thus, impacts to such areas cannot result in take. Because impacts to such areas cannot result in take, mitigation should not be required for those areas at all.

Response: The language referenced in this comment is not correct. The HCP actually reads "net benefit for LEPC" and this should not be confused with use of the term "net conservation benefit in terms of mitigation. When this section is read in context it is clear that the HCP is describing providing take coverage for activities implemented on mitigation lands that will have a short term adverse impact the LEPC but provide overall long term benefits for managing the species on that parcel. The additional context of the language cited specifically states: "The following descriptions provide a general overview of the types of activities commonly associated with oil and gas development that can affect potentially suitable LEPC habitat, as well as grassland improvement and management activities that, while expected to result in a net benefit for LEPC, may have temporary adverse effects upon initial implementation, and for which incidental take coverage will be available through this HCP." This HCP was designed only to fully offset the recognized impacts, not produce a net conservation benefit. Additionally, the comment states that CHAT 4 areas do not contain LEPC, this is not accurate, there are documented occurrences of active LEPC leks in CHAT 4 areas. As outlined in the HCP, the impact assessment will allow an evaluation of whether full avoidance of impacts to the LEPC and its habitat have occurred. If impacts have been fully avoided there is no need for enrollment in the HCP and no need for mitigation.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CrownRock	155	–
	Comment: Similarly, section 5.3.3 of the Proposed HCP explains that mitigation at a ratio of greater than 1: 1 will be provided to account for "inherent uncertainties associated with compensatory mitigation" and to be "in alignment with standard practices." 37 In support of this higher than necessary mitigation ratio, the Proposed HCP cites to two studies dating back decades or more and to the Service's 2016 Compensatory Mitigation Policy that was withdrawn by the agency in 2018 in part because the policy ran afoul of Fifth Amendment to the U.S. Constitution. The Proposed HCP's reliance on a policy that has been withdrawn is disingenuous and would result in enrollees being forced into providing unconstitutionally high mitigation ratios. As such, the mitigation ratios in the Proposed HCP should be reconsidered. **Response:** See response to comment 65.	
CrownRock	156	–
	Comment: Finally, CrownRock notes that the conservation plan described in the Proposed HCP utilizes mitigation sequencing (describing that project proponents will first avoid impacts associated with take, then minimize impacts that cannot be avoided, then mitigate any impacts remaining after implementing all avoidance and minimization measures). However, use of mitigation sequencing has previously been interpreted by the Service as unnecessary under ESA section 10, and the D.C. Circuit Court of Appeals has upheld that interpretation as reasonable 38 CrownRock encourages Applicant and the Service to reconsider use of mitigation sequencing in the Proposed HCP. **Response:** Though not required by the ESA, it is the Service's general practice to ensure that measures to avoid and minimize adverse effects to covered species and their habitats are considered, in that order, before mitigation. In addition, sequential approaches are required by a number of federal laws, regulations, agency directives, and policies, and therefore are often incorporated by applicants for efficiency through concurrent and integrated environmental review/permitting processes. In addition, when carrying out responsibilities under the NEPA, federal agencies, including the Service, must apply the mitigation meanings and consider the hierarchal approach in the CEQ regulations (40 CFR 1508.20). The sequencing approach for the conservation program within the HCP was developed by the Applicant, in coordination with the Service.	
CrownRock	157	–
	Comment: Projects electing not to enroll in the Proposed HCP should not be held to a standard set forth in a plan created by a conservation banking entity that relies on mitigation ratios that potentially violate the Takings Clause. Further, to the extent the Service actively encourages project proponents to enroll in the Proposed HCP rather than to seek individual ESA authorizations, the Service may be at risk of violating the Constitutional rights of those entities. **Response:** Participation within this HCP is voluntary. The Service has and will continue to provide project proponents interested in have coverage under the ESA for impacts to the LEPC all available options for consideration. This includes participating in existing CCAAs or HCPs, as well as the option to develop their own CCAA or HCP	
Crown Rock Minerals	158	EA
	Comment: By considering only the action alternative (issuance of the proposed ITP) and describing the "no action" alternative as avoiding all take of LEPC, the Proposed HCP fails to consider a reasonable number of viable alternatives including, but not limited to, alternative ESA compliance mechanisms (e.g., project-specific ITPs, an industry-led ITP, a programmatic ITP that would authorize less take than would be provided under the Proposed Alternative). Pursuant to ESA section 10, the Service must find that the Proposed HCP sufficiently describes alternatives to the taking proposed by the Applicant in order to lawfully issue an ITP. In its current form, the Proposed HCP fails to meet this necessary criteria of permit issuance.	

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: Regulations require that an applicant identify and evaluate an alternative to the taking of a covered species in an HCP; however, regulations do not require that an applicant identify a certain number of alternatives within their HCP. The proposed HCP identified one alternative to the taking, identified how that alternative would potentially avoid and minimize take of LEPC if implemented, identified why the alternative was not practicable or feasible and why it was not considered further. As such, we have determined that the HCP has demonstrated that the Applicant has reasonably considered an alternative to the taking and no additional alternatives are required as part of the HCP>
CrownRock	159	–
		Comment: Among the more concerning aspects of the Proposed HCP is its failure to consider how the conservation program set forth in the plan could implicate both privacy and security concerns. For example, the Proposed HCP's requirement that as part of the enrollment process potential enrollees must provide a "detailed deconstruction" description of the component parts of facilities to be enrolled may raise issues relating to security of the underlying facility, raise unfair competition practice issues or, in some cases, may raise issues associated with privacy of the underlying landowner. Similarly, while the Proposed HCP requires that impact assessments received by the HCP Administrator must be submitted and reviewed by the Service, the plan makes no effort to address whether and to what extent such impact assessments would be protected from disclosure to third parties under the Freedom of information Act ("FOIA"). In the context of a project-specific HCP, these kinds of discussions would typically be exempted from disclosure under FOIA pursuant to the Service's deliberative process privilege; however, here, the information would be submitted to the Service by a third party in connection with that third party's own assessment of impacts under an approved HCP. The Proposed HCP should clearly explain how enrollee information will be protected from disclosure to parties potentially opposed to projects seeking enrollment. Finally, while the Proposed HCP provides that the HCP Administrator must ensure enrollee compliance with the terms of individual certificates of inclusion and must annually report on compliance to the Service, the plan does not indicate in what form this information will be kept (electronic or other means) and what the HCP Administrator will do to ensure information remains private to unrelated third parties. This includes any maps of an enrolled project required to be submitted by an enrollee under section 5.4.3 of the Proposed HCP. **Response:** Requests for copies of documents submitted to, and held by the Service will be handled in accordance with the Freedom of Information Act (FOIA), Service and Department of the Interior policies and procedures. FOIA identifies what information must be made available to the public and provides exemptions for certain qualified categories of information that address privacy and other concerns.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CrownRock	160	–

Comment: Section 10(a)(2)(A)(ii) of the ESA requires an applicant for an ITP "ensure that adequate funding for the [conservation] plan will be provided." 46 Unfortunately, the Proposed HCP makes no attempt to demonstrate that Applicant would be able to meet its obligations under the plan, including obligations specifically related to plan administration (not to mention its obligations to obtain mitigation). Instead, chapter 7 of the Proposed HCP, which is the chapter relating to funding, explains that in all cases, the Applicant is relying on future enrollment fees to support its administration of the plan. For example, section 7.2.2 of the Proposed HCP explains that "HCP Administrative Costs will be met in part by an Enrollment Fee for each project enrolled in the program to cover costs incurred by the HCP Administrator and Administrative staff to enroll a project." 47 Relative to costs associated with covering ongoing operations of the HCP Administrator and any staff, the Proposed HCP explains that enrollees will pay an annual "administration fee" which will be determined by the HCP Administrator.

Although it appears that the Proposed HCP would be open for business upon approval by the Service and issuance of an ITP, there is no seed funding, and no apparent initial hiring of staff or qualified biologists to assist the HCP Administrator in reviewing applications for enrollment, or other tasks that would be necessary prior to any significant plan funding. Instead, the Proposed HCP requires a potential enrollee to "demonstrate funding assurances for full implementation of the HCP, including implementation of minimization, mitigation and changed circumstances." 48 While the Applicant apparently will not be required to demonstrate it can meet any funding obligations whatsoever, the Proposed HCP provides that a potential enrollee may provide a financial test and corporate guarantee, letter of credit, trust fund, surety bond, performance bond, or insurance to "demonstrate funding assurances for full implementation of the HCP ... "49 The Proposed HCP does not clarify who would make the ultimate determination as to whether or not a potential enrollee has adequately demonstrated an ability to fully implement the HCP.

Response: Section 7 of the HCP provides details regarding funding assurances. Specifically the HCP provides details regarding the costs of administration and how those funds would be provided. Additionally, the HCP provides details regarding the costs of required mitigation and how those funds would be generated. Any potential enrollee would be required to provide the appropriate fees and demonstrate the ability to implement the CI to the administrator upon enrollment.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CrownRock	161	–

Comment: In addition to the problems inherent in the Applicant's failure to independently demonstrate its ability to meet its obligations under the Proposed HCP, CrownRock is also troubled by the fact that the Applicant appears to be giving itself carte blanche to assume costs and set fees accordingly-including the ability to raise fees for subjective reasons-without providing a rational basis for the underlying costs, without providing support for why fees were raised, and without oversight by a third party without financial interest in the success of the plan.
For example, Chapter 7 indicates that each potential enrollee must pay an "enrollment fee" that will be determined on a "case by case basis" by the Applicant, who will unilaterally decide the amount of effort needed to process applications for enrollment and may take into account, among other things, inflation, labor shortages, and the ambiguous "other factors."

In addition to enrollment fees, projects seeking to enroll in the Proposed HCP must also pay an administration fee that will be varied. 50 The Proposed HCP then predicts that administering the Proposed HCP will cost $780,423 in the first year after ITP issuance and will cost more than $35 million over the life of the ITP. This number was derived by assuming a yearly administrative cost of $780,423 and escalating that cost by 2.7% each year over the life of the ITP. The Proposed HCP indicates these costs will include overhead and administrative tasks such as preparing reports, scheduling meetings, office space, legal and consulting tasks, and travel; however, there is no indication how the costs were derived 51

In sum, CrownRock urges the Service to require Applicant to provide greater detail about its own ability to fund the conservation plan associated with the Proposed HCP, to require Applicant to provide greater detail about the cost of plan implementation, and to encourage Applicant to engage a third party to provide oversight on the reasonableness of fees-including any increase in the same over time.

Response: Section 7 and Appendix E of the HCP provide extensive details regarding the cost of plan implementation, how the costs identified were derived, and the funding assurances for the life of the HCP. There is no regulatory requirement for the Applicant to engage a third party to provide oversight on the "reasonableness" of fees required by participants in the HCP. Participation within the HCP is voluntary.

lk,	162	–

Comment: While courts have held that it is permissible for the Service to express take by utilizing habitat as a surrogate for take of a specific number of individuals, use of a surrogate is improper unless the Service demonstrates it is impractical to express take as a number of individuals. Further, the surrogate selected by the Service may not be arbitrary, and the agency must adequately establish a causal connection between the response of the surrogate and take of the listed species. Importantly, courts have held that a surrogate that exhibits an ecological response to an action that is too vaguely associated with the listed species is improper because it does not accurately measure the level of allowable take.

Given the above, the Proposed HCP should better establish a causal link between the CHAT categories and impacts assessments, should more explicitly describe why use of the CHAT categories is an appropriate surrogate for describing take of LEPC, and should incorporate methods by which use of the CHAT categories can be validated as a proper surrogate throughout the requested permit term.

Response: The HCP is not using CHAT categories as the surrogate for take. As outlined in Section 4.1 of the HCP, habitat is used as a proxy for take. The HCP outlines the detailed approach which will be implemented to determine if an area is habitat for the LEPC and if impacts to that area will rise to the level of take. Language has been added to Section 4.1 to better establish the causal link between the construction of infrastructure included in the covered activities, impacts to habitat, and take of the LEPC,

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CrownRock	163	HCP

Comment: The Proposed HCP should clarify that in some cases, minimization measures described in section 5.3.2.2 relating to limitations on noise and off-road travel may not be practicable due to an enrollee's need to conduct emergency operations or maintenance or ensure continued generation or distribution of oil and gas in the event of fire or other conditions such as icing. In short, the Proposed HCP should recognize that emergency circumstances may occur and should clarify that minimization measures will not apply where there is a potential for loss of life, property, or interruption of energy supply.

Response: See response to comment 74.

CrownRock	164	HCP

Comment: Among the basic tenets of a programmatic HCP is establishing appropriate anti-cross-default provisions. While the Proposed HCP indicates that where there is a failure of one enrollee to meet its obligations under the ITP, other enrollees will not be at risk of losing authorization for incidental take. However, there is no similar provision indicating that should the Applicant default on its obligations, enrollees who are complying with the terms of their certificate of inclusion will not be held liable for unpermitted take. Related, section 5.4.5 of the Proposed HCP should include specific language indicating that enrollees will not be held responsible for the failure of any given mitigation parcel or program established under the Proposed HCP.

Additional information on the Service's view of cross-default language may be found in section 3.4.7 of the HCP Handbook.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
		Response: If the Service becomes aware of a deficiency in implementation (either of the project or the mitigation), of activities not covered by the ITP, or of take in excess of that authorized we will work with the Permit Holder consistent with the criteria and process outlined in regulations of 50 CFR 13.27 and 13.28, 50 CFR 17.22(b)(8), 50 CFR 17.32(b)(8), and Section 17.6 of the HCP Handbook.

Response to Comments Received on Draft EA for Application for an Incidental Take Permit Pertaining to Oil and Gas Habitat Conservation Plan for Lesser Prairie-chicken (LEPC)

Commenter/ Organization	Comment Number	Applicable to Environmental Assessment (EA)/Habitat Conservation Plan (HCP)/or General
CrownRock	165	HCP

Comment: CrownRock encourages Applicant and the Service to revisit the process for enrollment and issuance of certificates of inclusion under the Proposed HCP. Below, we identify several provisions that should be reconsidered.

First, CrownRock urges the Applicant and Service to revise section 8.6 of the Proposed HCP to remove the significant damages that would be required of an enrollee should the enrollee's authorizations under a certificate of inclusion be revoked-$250,000 plus any outstanding enrollment fees. As an initial matter, CrownRock questions whether this kind of provision is even enforceable in the states included in the permit area. Additionally, in our experience, other programmatic HCPs do not contain damages provisions that are so highly punitive. Indeed, the recently approved Nationwide Candidate Conservation Agreement for the Monarch Butterfly on Energy and Transportation Lands explicitly stated that parties to that agreement would not be liable in damages for any breach. Rather than instituting stark damage provisions, CrownRock urges the Applicant and Service to rely instead on robust cross-default language and the Service's authority to enforce the ESA under section 11 of that statute.

Second, transfer of certificates of inclusion from one entity to another should be far less onerous, consistent with treatment by other Service-approved programmatic HCPs.

Finally, enrollees should be given advance notice of any proposed transfer of the HCP Administrator role away from Applicant to a different entity, and should be given the opportunity to object to the same. Any HCP Administrator should be required to demonstrate adequate levels of internal funding to administer the plan, as well as the ability to administer the plan in an objective manner, free from inherent conflicts of interest. The identity of the HCP Administrator could have a real impact on enrollees and, as such, any change in HCP administration should be treated with care.

Response: For the portion of the comment related to damages related to breach of the CI, see response to comment 79. For the portion of the comment regarding transfers, the process for transferring a CI and transferring the ITP to another entity are clearly outlined in Sections 8.10 and 9.9 respectively. The processes outlined in these sections of the HCP are consistent with the process identified in the Service's Habitat Conservation Planning Handbook (Service 2016) as well as federal regulations found at 50 CFR 13.25.