

Range-Wide Oil and Gas  
Candidate Conservation Agreement  
with Assurances

for the

Lesser Prairie-Chicken  
(*Tympanuchus pallidicinctus*)

In Colorado, Kansas, New Mexico, Oklahoma  
and Texas

Between the:  
U.S. Fish and Wildlife Service  
and the  
Western Association of Fish and Wildlife Agencies/Foundation  
for Western Fish and Wildlife

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## LIST OF ACRONYMS

<b>APLIC</b>	Avian Power Line Interaction Committee
<b>BLM</b>	Bureau of Land Management
<b>CCAA</b>	Candidate Conservation Agreement with Assurances
<b>CEHMM</b>	Center of Excellence for Hazardous Materials Management
<b>CFR</b>	Code of Federal Regulations
<b>CHAT</b>	Crucial Habitat Assessment Tool
<b>CHI</b>	Crucial Habitat Index
<b>CI</b>	Certificate of Inclusion
<b>CRP</b>	Conservation Reserve Program
<b>dB</b>	Decibel
<b>EOR+10</b>	Estimated Occupied Range plus 10 miles
<b>ESA</b>	Endangered Species Act
<b>FR</b>	Federal Register
<b>FSA</b>	Farm Service Agency
<b>FWFW</b>	Foundation for Western Fish and Wildlife
<b>FWS</b>	U.S. Fish and Wildlife Service
<b>GIS</b>	Geographical Information Systems
<b>HEG</b>	Habitat Evaluation Guide
<b>LEPC</b>	Lesser Prairie-chicken
<b>LPC</b>	Lesser Prairie-chicken
<b>NEPA</b>	National Environmental Policy Act
<b>NHPA</b>	National Historic Preservation Act
<b>NRCS</b>	Natural Resources Conservation Service
<b>OHVs</b>	Off-highway vehicles
<b>RWP</b>	The Lesser Prairie-chicken Range-wide Conservation Plan (Oct. 2013)
<b>SHPO</b>	State Historic Preservation Officer
<b>THPO</b>	Tribal Historic Preservation Officer
<b>TSP</b>	Technical Service Provider
<b>USC</b>	United States Code
<b>WAFWA</b>	Western Association of Fish and Wildlife Agencies
<b>WCP</b>	WAFWA Certification of Participation

## GLOSSARY

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

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

**Certificate of Inclusion (CI)** – A certificate documenting the Participant's voluntary agreement to enroll specified property in the CCAA under a master permit to be held by WAFWA. Through the CI, the Participant voluntarily commits to implement or fund specific conservation actions and to otherwise comply with the terms and conditions of the CI, CCAA and the Permit.

**Changed Circumstances** – Changes in circumstances affecting a species or geographic area covered by the conservation plan that can reasonably be anticipated and planned for by plan developers and FWS.

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

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

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

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

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

cover, and expert opinion.

**CHAT 3** – The CHAT category comprised of predicted high-quality habitat from the lek MaxEnt models. MaxEnt is an abbreviation for maximum entropy classifier and is an ecological niche model used for describing available and potential habitat. The model uses base layers (e.g., lek, nests, Conservation Reserve Program (CRP), land cover, abiotic site condition) to characterize that habitat on the landscape.

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

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

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

**Eligible Properties** – Non-Federal properties within the Covered Area that may be enrolled in this CCAA/CI.

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

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

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

**Enrollment Fees** – Fees of \$2.25 per acre a Participant is required to pay when enrolling its property in the CCAA by executing the CI.

**Facility Boundary** – The edge of a pad, compressor station, or any industrial building as determined by a boundary fence, or that location in which vegetation has been cleared or disturbed, whichever is farther from the pad, compressor station, or industrial building. The Facility Boundary does not include disturbances that are reclaimed following the construction and/or installation of infrastructure. For example, a well pad (with all of its associated drilling equipment) may initially disturb three acres. Following completion, the operation will remove equipment that is no longer necessary (e.g., the drilling rig) and reclaim the affected area such that the remaining disturbance is one acre. The Facility Boundary would be the edge of one acre of disturbance that remains for the life of the well, not the three acres of initial disturbance.

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

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

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

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

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

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

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

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

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

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

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

**Lek** – An area where male LEPCs gather during the mating season and engage in competitive

displays to attract female LEPCs for mating.

**Mitigation Fees** – Fees a Participant is required to pay when impacts to the LEPC from Impact Activities cannot be avoided or minimized. Mitigation Fees are calculated using the process described in Appendix A of the CCAA and Exhibit 2 of the CI and will be applied to generate offset units.

**New Property** – Property located within the Covered Area that a Participant enrolls in the CCAA by amending its CI. A CI may be amended to enroll New Property at any time before the effective date of any decision to list the LEPC. If the FWS in the future decides to allow post-listing enrollment of property in CCAAs, it will consider whether to propose an amendment to this CCAA that would allow a CI to be amended to enroll New Property after listing, consistent with any potential criteria that may be developed if the FWS allows post-listing enrollments in the future.

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

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

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

**Parties** – The Parties to the CCAA are FWS and WAFWA, who will administer the CCAA.

**Permit Holder** – The entity to which the Permit is issued by the FWS. WAFWA is the Permit Holder.

**Project** – For oil and gas activities, a Project consists of the Participant's construction of a well pad, road, distribution line, compressor station (of any size), or industrial building. If a well pad is constructed together with a road and/or distribution line, the well pad and the associated road, and/or distribution line will be considered a Project. If a compressor station is constructed together with a road and/or distribution line, the compressor station and the associated road and/or distribution line will be considered a Project.

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

**Remediation and Restoration** – For the purposes of this document, remediation and restoration means the process of restoring or reclaiming an impacted area to a natural vegetation type. A variety of management activities may be implemented to accomplish remediation and restoration, including decommissioning, removing infrastructure and re-



vegetating with appropriate vegetation those areas affected by an impact activity.

**Remediation Units** – A quantified measurement of remediation that occurs to previously impacted LEPC habitat. Remediation Units are generated when a Participant remediates impacts to LEPC habitat, as described in Exhibit 3 to the CI.

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

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

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

**Terminated Property** – Property removed from enrollment in the CCAA pursuant to an amendment of the CI or termination of the CI.

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

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

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

## EXECUTIVE SUMMARY

In 1995, the U.S. Fish and Wildlife Service (FWS) was petitioned to list the lesser prairie-chicken (*Tympanuchus pallidicinctus*) (LEPC) as threatened under the authority of the Endangered Species Act of 1973 (ESA), as amended. The FWS ruled that listing of the LEPC was warranted but precluded because of other higher priority species. The LEPC was then designated as a candidate for listing as threatened or endangered in 1997. On December 11, 2012, the FWS issued a proposed rule to list the LEPC as threatened. (77 Fed. Reg. 73,828).

This Range-Wide Oil and Gas Candidate Conservation Agreement with Assurances (CCAA) for the LEPC represents a collaborative effort between the FWS, the Western Association of Fish and Wildlife Agencies (WAFWA), WAFWA's Foundation for Western Fish and Wildlife (FWFW), interested oil and gas companies, and trade associations. It is one of the enrollment options for implementing the conservation strategy set forth in the 2013 Lesser Prairie-Chicken Range-wide Conservation Plan (RWP), which is a comprehensive conservation plan developed by the Lesser Prairie-Chicken Interstate Working Group of WAFWA. This CCAA utilizes the same impact metrics and conservation delivery system outlined in the RWP. All citations to the RWP in this CCAA reference the October 2013 version of the RWP. To the extent conflicts exist between the CCAA and RWP, the terms of the CCAA control.

The CCAA is a voluntary agreement intended to address the effects of oil and gas activities on the LEPC and its habitat in the species' five-state range in Kansas, Colorado, Oklahoma, New Mexico, and Texas. The agreement will be administered by WAFWA with oversight by the FWS ("Parties"). It will be the responsibility of WAFWA to work with participating members of the oil and gas industry (hereinafter "Participants," as more fully described in Section VII of this CCAA) to enroll properties in this CCAA using Certificates of Inclusion (CIs) (see Appendix C) which will facilitate the voluntary cooperation of the oil and gas industry in providing conservation benefits to the LEPC. When fully implemented, this CCAA will provide for the conservation and management of the LEPC and its habitat by reducing and/or eliminating threats to this species associated with non-Federal mineral development. Participants will implement conservation measures described in Section XII of this CCAA and in their CIs ("Conservation Measures") on properties enrolled through CIs as described in Section VIII of this CI ("Enrolled Property") and contribute funding for conservation to offset unavoidable impacts as part of their CIs. Funds contributed as part of this CCAA may or may not be used on the Enrolled Property since other habitat areas may be a higher priority for implementation of habitat improvement efforts. The Conservation Measures implemented by Participants would consist of avoidance and minimization measures, habitat restoration and enhancement activities, and mitigation of habitat impacts to preclude or reduce threats to the species.

This CCAA incorporates adaptive management principles. Using adaptive management principles, and with the consent of all the Parties, if new Conservation Measures are deemed to be necessary in the future, the Parties can amend the CCAA and/or the incorporated CI (Appendix C) to include additional measures that would apply to all future enrollments to facilitate the continued conservation of the LEPC.

## I. INTRODUCTION

If and when a species becomes listed under the ESA, as amended (16 U.S.C. § 1531, et seq.), that listing action triggers a prohibition against “take” of the listed species, i.e., a prohibition against activities that harass, harm, pursue, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct of listed species. Under ESA Section 10(a)(1)(A), however, FWS may issue a permit authorizing incidental take of a listed species when the activities covered by the permit enhance the survival of the species.

FWS has determined that a 10(a)(1)(A) Enhancement of Survival Permit can be issued to persons or entities that enter into a CCAA with the FWS. A CCAA is an agreement in which participating property owners voluntarily agree to undertake management activities on enrolled properties to conserve species that are proposed for listing under the ESA, are candidates for listing or may become candidates, and/or to enhance, restore, or maintain habitat benefiting such species. If the species addressed in the CCAA is later listed under the ESA, the Enhancement of Survival Permit becomes effective, and authorizes take of the species that is incidental to otherwise lawful activities on enrolled properties as specified in the CCAA, provided the activities are performed in accordance with the CCAA’s terms. A CCAA and the associated Permit also encourage non-Federal property owners to implement conservation efforts for species by providing them regulatory assurances that so long as they comply with the terms of this CCAA and their CI additional conservation measures above and beyond those contained in the agreement will not be required and that additional land, water, or resource use limitations will not be imposed upon them should the LEPC become listed in the future.

This CCAA and its associated Enhancement of Survival Permit address the LEPC, which the FWS has proposed to list as threatened under the ESA. If the species is ultimately listed, this CCAA and the associated Permit will authorize incidental take of the LEPC and provide Participants regulatory assurances that so long as they comply with the terms of this CCAA and their CI additional conservation measures above and beyond those contained in the CIs will not be required on the Enrolled Property and that additional land, water, or resource use limitations will not be imposed upon them should the LEPC become listed in the future.

This CCAA is designed to include Conservation Measures that reduce and/or eliminate threats by oil and gas development on non-Federal property. If enough Participants implement Conservation Measures on these properties through their participation in the CCAA, the likelihood that the species will be listed may be reduced. Through this CCAA, WAFWA will work with Participants who voluntarily commit to implementing conservation actions that will reduce and/or eliminate threats to this species.

This CCAA tiers to the RWP, as developed by WAFWA’s Lesser Prairie-Chicken Interstate Working Group and published in October 2013. Copies of this document are maintained by WAFWA, and the document is electronically available at (<http://www.wafwa.org/documents/LPCRWPFinal.21102013.pdf>). WAFWA developed the RWP with the goal of conservation of the LEPC for future generations while facilitating continued and uninterrupted economic activity throughout the entire five-state LEPC range. The

RWP, if implemented in a timely manner, is intended to address the conservation needs of the LEPC and preclude the need to list the LEPC under the ESA. The RWP emphasizes tools and incentives to encourage landowners and others to voluntarily partner with agencies in LEPC habitat to implement conservation efforts, while also achieving land use needs. The terms of this CCAA are intended to support the conservation strategy set forth in the RWP by implementing this range-wide framework for avoidance, minimization, and mitigation of impacts to LEPC from oil and gas activities.

As required by its CCAA Policy, 64 FR 32726 (June 17, 1999), FWS will determine whether the benefits of the Conservation Measures to be implemented by participating property owners under this CCAA, when combined with those benefits that would be achieved if it is assumed that Conservation Measures were also implemented on other necessary properties, would remove the need to list the LEPC. The basis for this FWS determination is set out in Section XIX of this CCAA (Expected Conservation Benefits). It is important to note, however, that this determination does not predetermine the outcome of FWS's final listing determination. The FWS's final decision on whether to list the LEPC will be based on an assessment of the current status of the species and threats to its continued existence range-wide, using the best available scientific and commercial data, under the five factor framework set out in ESA Section 4(a). Conservation efforts such as this CCAA will be evaluated by FWS as part of this determination in accordance with the FWS Policy for Evaluation of Conservation Efforts (2003) and factored into the five-factor analysis of the listing decision as appropriate.

## **II. PURPOSES OF THE CCAA**

The primary purposes of this CCAA are to:

- Develop, coordinate, and implement Conservation Measures provided in the RWP that relate to oil and gas activities to reduce and/or eliminate known threats to the LEPC within its range;
- Support ongoing efforts to maintain viable populations of LEPC in occupied and suitable habitat;
- Serve as a range-wide document for oil and gas Conservation Measures implemented by WAFWA and Participants;
- Encourage creation, enhancement and protection of suitable LEPC habitat by requiring Participants to implement certain Conservation Measures and by creating incentives for Participants to avoid and minimize impacts to unfragmented and higher quality LEPC habitat and, where avoidance and minimization are not possible, to mitigate for impacts to LEPC habitat (as described in their CI);
- Provide Participants assurances that during the duration of this CCAA, additional conservation measures above and beyond those contained in the agreement will not be required and that additional land, water, or resource use limitations will not be imposed upon them should the LEPC become listed in the future, so long as Participants properly implement the Conservation Measures agreed to in the CIs and the other terms of CIs; and

- Allow Participants to continue operations while providing conservation for the LEPC.

### **III. AUTHORITY**

Sections 2, 7, and 10 of the ESA, as amended, allow the FWS to enter into this CCAA. Section 2 of the ESA states that encouraging interested persons or entities, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs is a key to safeguarding the Nation's heritage in fish, wildlife, and plants. Section 7 of the ESA requires the FWS to review programs that it administers and to utilize such programs in furtherance of the purposes of the ESA. By entering into this CCAA, the FWS is utilizing its Candidate Conservation Programs to further the conservation of the Nation's fish and wildlife. Lastly, Section 10(a)(1)(A) of the ESA authorizes the issuance of Enhancement of Survival Permits for acts that would otherwise be prohibited by Section 9 if such acts are expected to enhance the propagation or survival of the affected species.

### **IV. THE LESSER PRAIRIE-CHICKEN**

The LEPC is a species of prairie grouse endemic to the southern high plains of the United States, commonly recognized for its stout build, ground-dwelling habit, and elaborate breeding behavior. The RWP contains detailed background information regarding the LEPC, including information about the species' life history, habitat requirements, and population status (pages 13–26 of the RWP). Because this CCAA is intended to align with and complement activities associated with the RWP, as explained below, the descriptions of LEPC species information set forth in the RWP are incorporated and adopted herein.

### **V. THREATS**

Section 4(a)(1) of the ESA lists five factors that must be considered when determining if a species should be listed as threatened or endangered. A species may be listed due to one or more of the following factors:

- A) present or threatened destruction, modification, or curtailment of its habitat or range;
- B) over-utilization for commercial, recreational, scientific, or educational purposes;
- C) disease or predation;
- D) inadequacy of existing regulatory mechanisms; and
- E) other natural or manmade factors affecting its continued existence.

The RWP describes potential threats to LEPC populations (pages 30–38).

### **VI. RELATED CONSERVATION EFFORTS**

In order to issue an Enhancement of Survival Permit, the FWS must find that implementation of the terms of the CCAA will not conflict with any ongoing conservation programs for the LEPC. 50 C.F.R. § 17.22(d)(2)(v), 17.32(d)(2)(v). There are numerous conservation programs ongoing

for the LEPC, including range-wide programs administered by the U.S. Department of Agriculture, such as the Lesser Prairie-Chicken Initiative (LPCI) and Conservation Reserve Program (CRP) and CCAAs that will reduce or eliminate threats to the LEPC associated with agricultural practices in Texas and Oklahoma. These ongoing conservation efforts are more fully described in the RWP (pages 38–66). This CCAA does not conflict with these existing conservation programs because it utilizes the same USDA practice standards outlined in the LPCI conference report and opinion and in the FSA conference report. This CCAA is for oil and gas practices and does not conflict with the existing agricultural CCAAs in Texas and Oklahoma.

With respect to oil and gas development, ongoing conservation programs benefit the LEPC. The FWS has approved a CCAA in New Mexico with the Center of Excellence for Hazardous Materials Management (CEHMM) and a companion CCA between the Bureau of Land Management (BLM) and CEHMM. The CCAA and CCA for the Lesser Prairie-Chicken and Sand Dune Lizard (2008) facilitate the voluntary cooperation of the oil and gas industry, livestock producers, and other interested stakeholders to provide conservation benefits to the LEPC. Oil and gas operators that participate in the CCAA and CCA commit to implement a suite of impact avoidance and minimization measures. Additionally, participants contribute funds to assist in restoration or protection of habitat. On non-Federal lands in New Mexico, oil and gas operators would have the option of participating in either the 2008 CCAA or this CCAA, or both. This range-wide CCAA does not conflict with these existing agreements. As a CCAA, it does not address Federal lands that are enrolled under the New Mexico CCA. On non-Federal lands, the two CCAA agreements are very comparable. The Conservation Measures in the range-wide CCAA were developed based on those in the New Mexico agreement with minor changes based on new scientific information.

## **VII. PARTIES AND PARTICIPANTS**

### **A) The Western Association of Fish and Wildlife Agencies and the Foundation for Western Fish and Wildlife**

WAFWA is a 501(c)(4) non-profit organization representing 23 states and Canadian provinces, advocating appropriate management of fish and wildlife within the borders of member states. FFWF is a 501(c)(3) that serves as the fiscal agent for WAFWA and will receive funds from Participants.

WAFWA will serve as the administrator of this CCAA and will hold the Enhancement of Survival Permit issued in association with this CCAA, subject to FWS oversight consistent with 50 C.F.R. § 13.21(e)(2). WAFWA will also maintain positions for biologists to facilitate enrollment of property in the CCAA and distribute funds for conservation efforts through coordination with other state and Federal agency staff and outreach to property owners. FFWF will serve as the fiscal agent for this agreement, managing a non-wasting endowment to fund conservation activities that will benefit the LEPC through habitat restoration, enhancements and the removal of threats. These conservation activities will offset industry impacts and will also provide a conservation benefit to the LEPC. FFWF will maintain positions for accounting and administrative staff, as well as GIS support for this agreement. This structure is fully described in the WAFWA Business Plan for Implementing the LEPC RWP, contained in Appendix L of the RWP. Hereafter these two organizations will be referred to collectively as “WAFWA.”

B) U.S. Fish and Wildlife Service

The FWS, by delegation from the Secretary of the Interior, is responsible for the implementation and enforcement of the Endangered Species Act with respect to certain species, including the LEPC. It is authorized to enter into this CCAA and to issue the associated Enhancement of Survival Permit by 50 CFR §§ 17.22(d), 17.32(d) and its CCAA Policy, 64 FR 32,726 (June 17, 1999). The FWS is responsible for overseeing WAFWA's administration of this CCAA and for monitoring and enforcing the terms of this CCAA and Permit as necessary.

C) Participants

The Participants in this CCAA are non-Federal property owners who choose to enroll property in this CCAA by completing and executing the CI attached as Appendix C to this CCAA. A "Property Owner" eligible to become a Participant in this CCAA is any non-Federal person or entity with a fee simple, leasehold, or other property interest (including owners of water or other natural resources) sufficient to carry out the Conservation Measures described in this CCAA and the attached CI, subject to applicable State law, on non-Federal land within the Covered Area (see Section VIII(A) (Covered Area)). By executing the attached CI or a version thereof, the Participant agrees to the obligations and responsibilities identified in the CI and this CCAA.

## **VIII. ENROLLED PROPERTY**

Property Owners may enroll properties in the CCAA as set forth in this section.

A) Covered Area

Non-Federal properties within the Covered Area are eligible for enrollment in this CCAA ("Eligible Properties"). For purposes of this CCAA, this Covered Area is defined as the Estimated Occupied Range plus 10 miles (EOR+10), as identified in the 2013 Crucial Habitat Assessment Tool (CHAT) (<http://kars.ku.edu/maps/sgpchat/>). The EOR+10 encompasses approximately 40.1 million acres.

B) Enrollment Period

Eligible Properties may be enrolled in this CCAA by Property Owners at any time before the effective date of a final rule listing the LEPC as threatened or endangered under the ESA. Enrollment through the Enrollment Process described in Section D, below, must be completed by the effective date of the final rule except as provided by Section C.

Eligible Properties that were enrolled in a CI during this Enrollment Period may also be transferred to a new or different CI as a result of a change in property ownership at any time during the duration of this CCAA pursuant to the provisions in Section XXV(A) (Succession and Transfer).

C) Post-listing Enrollment

Currently, the FWS has not proposed and does not have any policies that provide for post-listing enrollment of a property in a CCAA. If the FWS in the future develops a policy allowing

enrollment of properties in a CCAA after listing, it will consider whether to propose an amendment to this CCAA that would allow a CI to be amended to enroll New Property after listing, consistent with any potential criteria that may be developed if the FWS allows post-listing enrollments in the future.

D) Enrollment Process

- 1) An interested Property Owner will initially contact WAFWA to enroll Eligible Properties. The Property Owner shall provide WAFWA with sufficient information regarding the property or properties it seeks to enroll for WAFWA to verify whether they are located in the Covered Area and hence eligible for enrollment.
- 2) If WAFWA determines the specified properties are eligible for enrollment in this CCAA, it will provide the interested Property Owner with a copy of the CI (see Appendix C).
- 3) The Property Owner will provide a list of properties, including fee simple, leasehold, or other property interest (including water or other natural resources), identified by detailed legal description, acreage, and state lease number (as applicable) to be enrolled in the CI (see Exhibit 1 of Appendix C).
- 4) Within 30 days of the date the Property Owner executes the CI, the Property Owner will remit to WAFWA Enrollment Fees as described in Section XIII(A), unless the Participant has previously enrolled in the RWP and coverage under the RWP is converted to the CI.
- 5) In the event the Property Owner has previously executed a WAFWA Certificate of Participation (WCP) to enroll in the RWP and wishes to transfer their enrolled lands and become a participant to the CCAA prior to the effective date of any decision to list the LEPC, the prior payment of enrollment fees in accordance with the WCP shall satisfy the obligation to pay those corresponding Enrollment Fees due under the CI.
- 6) WAFWA will review the CI executed by the Property Owner for completeness. If it is complete, then WAFWA will sign the CI.
- 7) Upon execution of the CI by both the Property Owner and WAFWA, the properties identified in the CI are enrolled in the CCAA and the Property Owner becomes a Participant in this Agreement.

E) Enrollment of Additional Properties through an Existing CI

- 1) Eligible Properties may also be transferred from one existing CI to another existing CI as a result of a change in property ownership at any time during the duration of this CCAA pursuant to the provisions in Section XXV (Succession and Transfer).



F) Termination of Property Enrollment or a CI

In the event of termination of a CI as described in this Section, any funds remaining in Participant's Habitat Conservation Fund Account at the time of termination, voluntary or for cause, will be donated to WAFWA for conservation efforts to support the LEPC, and will not be refunded. The Permit's assurances and incidental take coverage will no longer be in effect upon termination of the CI or for lands removed from the CI.

1) Participant Termination

Because this CCAA and associated CIs are voluntary agreements, the Participant may terminate enrollment of a specified Enrolled Property in an existing CI at any time so long as the Participant has paid three years of Enrollment Fees in full for the property to be removed. Similarly, the Participant may terminate a CI in its entirety if Participant has paid three years of Enrollment Fees in full for the all Enrolled Property.

Property removed pursuant to an amendment of the CI or termination of the CI is hereinafter referred to as "Terminated Property." The Participant must provide thirty (30) days written notice to WAFWA that it is voluntarily removing an Enrolled Property from the CI or that it is terminating the CI. Operations on the Terminated Property for which the Participant has not paid the Mitigation Fee at the time of property removal or CI termination may proceed as if the CI did not exist, but are not covered by the Permit and thus no longer receive take authorization or assurances under the Permit.

2) Participation in the WAFWA RWP Conservation Agreement

A Participant may, at any time, terminate its CI and execute a WCP to become a participant in the WAFWA RWP Conservation Agreement (WCA). The prior payment of fees in accordance with this CCAA and the associated CI shall satisfy the obligation to pay those corresponding fees due under the WCP.

3) WAFWA Termination

WAFWA may terminate lease(s) or parcel(s) enrolled in a CI or terminate a CI in its entirety as provided in Section XXX of this CCAA (Termination of a CI). All CIs will also automatically terminate if WAFWA voluntarily terminates this CCAA.

4) FWS Termination

In addition to the provisions in Section XXX (Termination of a CI), FWS may revoke the Permit for cause as provided in Section XXXI (Permit Suspension or Revocation). If the Permit is revoked, this CCAA and the CIs issued pursuant to it are terminated.

G) Documentation of Changes to Property Enrollment

The properties enrolled in a CI upon the CI's effective date are set out in Exhibit 1 to the CI. After the CI's effective date, Participants and WAFWA shall confer to revise Exhibit 1 to reflect approved additions to the Enrolled Property and removal of Enrolled Property from a CI as a

result of a transfer of ownership, voluntary removal by the Participant or termination of enrollment as a result of noncompliance as provided in Section XXX of the CCAA. WAFWA shall send the revised Exhibit 1 to the Participant by certified U.S. Mail, return receipt requested, for acknowledgement. The Participant will provide written acknowledgement of the revised Exhibit 1, or contact WAFWA regarding any concerns with the revised Exhibit 1, within 10 business days of its receipt of the revised Exhibit 1. A Participant's failure to provide written acknowledgement or failure to contact WAFWA within 10 business days will result in its acceptance of revised Exhibit 1. WAFWA shall notify FWS of the revised Exhibit 1; however, FWS's approval of the revised Exhibit 1 is not required so long as the revisions to Exhibit 1 are consistent with the terms of the CI and this CCAA.

## **IX. COVERED ACTIVITIES**

This CCAA and the associated Enhancement of Survival Permit cover oil and gas development activities and the Management Actions that will occur through the use of Mitigation Fees as described below (Covered Activities):

- A) Seismic and Land Surveying: Seismic activities involve surface or subsurface induced seismic pulses. Seismic activities are generally performed in the exploration mode of oil and gas development or in areas of development for refining knowledge of the geology and improving well siting. Seismic activities are conducted for periods of short duration (i.e., typically less than 30 days) in any given area. Activities may utilize large equipment to induce seismic pulses. Additionally, activities may include limited clearing of vegetation to allow equipment access for seismic work and consist of a small crew laying/stringing temporary cables and placing receivers on foot or possibly using off-highway vehicles (OHVs). A crew removes cables and receivers when the work is complete. Land surveying is a low-impact and temporary activity and may require some truck and/or foot traffic.
  
- B) Construction: Construction of facility sites and associated infrastructure, which includes but is not limited to access roads, well pads or locations, reserve pits and other facilities for the disposal of waste, tanks and storage facilities, treaters, separators, dehydrators, electric and other utility lines and pipelines (e.g., gathering lines, flow lines, and distribution lines), may include the use of heavy equipment and trucking activities in clearing vegetation, contouring, compacting, stabilizing soils, and installing erosion control (including silt fencing, earthen berms, etc. per Clean Water Act permitting requirements). Well site construction may also include erecting temporary fencing and netting around a location, or portions thereof, for livestock and wildlife protection. A water well, disposal well and/or injection well may be drilled near the location and possible trenching-related activities associated with installation of flow lines, pipelines, and utilities may occur. Associated infrastructure for compressor facilities and gathering/processing facilities may also be constructed on site or at adjacent sites. Where practical, equipment may be electrified (which greatly reduces noise and emissions from gas-driven equipment), which involves the installation of in-field electrical distribution systems (poles, transformers and overhead wires). Activities may be conducted to plug and abandon a well, which may involve workover rig mobilization, removal of facility equipment and associated infrastructure, access roads, abandonment in

place of subsurface lines, and surface remediation/restoration pursuant to lease and regulatory requirements.

- C) Drilling, Completion, and Workovers (Re-Completion): Related drilling, completion, recompletion, and workover activities include rig mobilization and can include heavy equipment and frequent traffic. Wellbore completion activities, such as hydraulic fracturing, will not directly impact the LEPC because they are contained and take place on the well site location. Well site fencing may be utilized after completion operations for security and to limit access.
- D) Routine Operations and Maintenance: Routine operations and maintenance can include stimulations, wellbore repair, daily inspections and maintenance, testing, pipeline, gathering line and flow line repairs, unloading of storage tanks, truck traffic for removal of product or waste, emergency activities, workovers, recompletions, flaring, weed control, pipeline pigging activities, and regulatory inspections.
- E) Oil and Gas Remediation and Restoration Activities: Remediation and restoration of surface impacts, including but not limited to removal and restoration of: access roads, well pads or locations, reserve pits and other facilities for the disposal of waste, tanks and storage facilities, treaters, separators, dehydrators, electric and other utility lines and pipelines (e.g., gathering lines, flow lines, and distribution lines), and associated infrastructure for compressor facilities and gathering/processing facilities. Participants will only earn remediation credit for remediation and restoration activities that occur within the Covered Area. Because remediation and restoration of existing impacts (such as abandoned infrastructure) may occur on lands not enrolled within the Covered Area, such lands need not be enrolled in a CI under this CCAA or in the RWP.

## **X. DURATION OF THE AGREEMENT AND ENHANCEMENT OF SURVIVAL PERMIT**

This CCAA will have a duration of 30 years from the date the FWS issues the Permit. It may be renewed upon application by WAFWA, provided the FWS determines that the CCAA continues to meet the CCAA standard or otherwise complies with the CCAA policy and permitting regulations in effect at the time of its renewal determination. The CCAA will cover a Participant's Enrolled Property from the effective date of the CI until the CCAA or CI terminates, whichever occurs first.

Should the LEPC become listed as threatened or endangered, and all other requirements are met, the Permit issued by FWS to WAFWA at the time they enter into this CCAA will become effective. This Permit shall remain in effect until the CCAA's expiration date, unless it is suspended or revoked by FWS as provided in its permitting regulations (see Section XXXI (Permit Suspension or Revocation)).

So long as they remain in compliance with the terms of their CI and this CCAA, all Participants and their Covered Activities on and/or associated with Enrolled Property will be covered by this Permit from its effective date until the CCAA's expiration date or the date on which a Participant terminates the CI for an Enrolled Property, whichever comes first. The duration of a

Participant's participation in the CCAA and Permit can be the full duration of the CCAA if the Participant wishes coverage by the Permit, but the Participant may terminate the CI if Participant has remitted enrollment fees in accordance with the terms of Section XIII(A).

Coverage under the Enhancement of Survival Permit will only apply to Covered Activities on and/or associated with properties enrolled in the CCAA through execution of a CI in compliance with Section VIII (Enrolled Property) or Section XXV (Succession and Transfer). The Permit provides the assurances described in Section XVI (Assurances Provided) and coverage for anticipated incidental take associated with the Participant's Covered Activities on and/or associated with Enrolled Property as long as the Participant is in compliance with the relevant CI.

## **XI. OBLIGATIONS OF THE PARTIES AND PARTICIPANTS**

### **A) Obligations of Participants:**

- 1) Enter into a CI (Appendix C) for Enrolled Property that contains the Conservation Measures outlined in Section XII, below.
- 2) Comply with the requirements of the CI and CCAA and implement the Conservation Measures identified therein.
- 3) Allow WAFWA access to the Enrolled Property for purposes of monitoring compliance with terms of the CI and this CCAA so long as WAFWA has complied with the requirements stated in Section XI(B)(15).
- 4) Unless the Participant contracts for surveys for the presence of LEPCs in accordance with Appendix H of the RWP or completion of habitat evaluations by Technical Service Providers ("TSPs"), allow WAFWA access to survey Enrolled Property for the presence of LEPCs and habitat suitability to the extent of the Participant's control as provided by applicable law, contracts, or leases, so long as WAFWA has complied with the requirements defined in Section XI(B)(15). Any access allowed by the Participant is limited to Enrolled Property. In order to access lands that are not enrolled by the Participant, WAFWA must independently obtain landowner permission.
- 5) Allow FWS to accompany WAFWA when WAFWA accesses Enrolled Property for purposes of monitoring compliance with terms of the CI and this CCAA so long as WAFWA and FWS have complied with the requirements defined in Section XI(B)(15) and Section XI(B)(16), respectively. Participants may accompany WAFWA and FWS during any visit to the Enrolled Property.
- 6) If Mitigation Fees are required, remit Mitigation Fees before Impact Activities occur. Impact Activities are the construction of oil and gas pads, compressor stations, private roads (e.g., lease roads), distribution lines, and industrial buildings.
- 7) Notify and educate all personnel, agents and contractors about the requirements of

the CI and this CCAA, and take steps necessary to ensure that such personnel, agents and contractors comply with these requirements in their activities on properties enrolled in the CI.

8) Report annually to WAFWA as required by this CCAA.

B) Obligations of WAFWA:

- 1) Hold the Permit issued to it by FWS pursuant to this CCAA.
- 2) Implement and administer this CCAA.
- 3) Enroll Participants in accordance with this CCAA via CIs.
- 4) Use funds contributed in accordance with Section XIII (Enrollment and Mitigation Fees) and Appendix A of this CCAA and Exhibit 2 of the CI to implement conservation activities to benefit the LEPC such as habitat restoration, habitat enhancement, and removal of threats.
- 5) Monitor conservation activities in order to determine success and adaptations needed, as defined in the monitoring section of the RWP (pgs. 122–25).
- 6) Secure permission to complete conservation activities on private, State, and Tribal lands, where appropriate.
- 7) Establish committees (“WAFWA Committees”) as described in the Business Plan in Appendix L of the RWP and in Section XI(B)(18), below.
- 8) Schedule WAFWA Committee meetings at least once per year. WAFWA may also hold meetings more often than annually at the request FWS and of others, if WAFWA deems it necessary. WAFWA shall coordinate the locations, dates and times of the WAFWA Committee meetings, as provided in the RWP (pages 110–116).
- 9) Track expenditure of funds and prepare and submit to FWS an annual report on implementation of this CCAA as required by Section XX (Monitoring and Reporting).
- 10) Maintain a digital photo database to document activities (i.e., conservation measure) performance.
- 11) Provide for an audit by an independent party annually to account for expenditures and accomplishments under this CCAA.
- 12) Maintain the confidentiality of certain information as described in Section XXI (Confidentiality).
- 13) Hold the CI for each Enrolled Property.

- 14) Administer the CIs for Participants in accordance with their terms.
- 15) Provide at least two weeks' advance written notice (the "Two Week Notice") to Participants prior to accessing Participants' Enrolled Property for purposes of surveying for the presence of LEPCs and habitat suitability or monitoring compliance with terms of the CI. The Two Week Notice to Participant shall identify the access date, estimated arrival time, and names and employers of the individuals accessing the Enrolled Property. WAFWA shall allow a Participant to accompany WAFWA during any visit to the Participant's Enrolled Property. In order to access lands that are not enrolled by the Participant, WAFWA must independently obtain landowner permission.
- 16) Allow FWS to accompany WAFWA when WAFWA accesses Participants' Enrolled Property for purposes of monitoring compliance with terms of the CI, as described in Section XI(B)(15), so long as FWS has first (a) provided to WAFWA the names of FWS personnel who are requesting authorization to accompany WAFWA; (b) submitted to WAFWA its request to accompany WAFWA with adequate time to enable WAFWA to inform Participant in the Two Week Notice of the names of any FWS personnel who will accompany WAFWA; and (c) agreed to comply with the confidentiality provisions in Section XXI (Confidentiality).
- 17) Employ or hire qualified personnel or utilize state wildlife agency staff to facilitate enrollment of property and distribution of funds for conservation efforts through coordination with other state and federal agency staff and outreach to property owners. WAFWA will employ or hire qualified personnel or utilize state wildlife agency staff to complete a habitat evaluation using the Habitat Evaluation Guide (as described in Section XIV (Development Procedures)) prior to development unless the Participant elects to contract for a TSP to complete the habitat evaluation. FFWW will use state wildlife agency personnel and/or employ personnel for accounting, administrative, and GIS support for the agreement. This structure is fully described in the RWP.
- 18) The WAFWA Committees may include representatives from the following entities within the LEPC five-state range: state wildlife agencies, FWS, Natural Resources Conservation Service, Farm Service Agency, BLM, universities with departments or faculty actively engaged in academic research related to the LEPC, state oil and gas regulatory agencies, oil and gas trade associations, wind energy associations, public utility commissions or association, state school and/or trust land administrators, Participants, and others as appropriate. The WAFWA Committees may facilitate communication among Participants and offer feedback and recommendations to WAFWA and FWS regarding various aspects of the implementation and administration of the CCAA, including, but not limited to, new scientific information through the Adaptive Management process, proposed amendments to the CCAA and CI, dispute resolution, prioritization and implementation of Conservation Measures, research activities, and other similar issues. The committee structure is fully described in the Business Plan located at

Appendix L of the RWP.

- 19) Hold Participants' Habitat Conservation Fund Accounts as described in Section XIII(D) (Enrollment and Mitigation Fees).
- 20) Monitor and enforce Participant compliance with the requirements of their CIs, this CCAA and the associated Enhancement of Survival Permit, and confer with FWS to resolve Participant compliance issues as provided in Section XXIX (Participant Compliance).
- 21) Use Mitigation Fees to ensure the availability of necessary offset units before Impact Activities can occur except as provided in Section XIII(B).

C) Obligations of the FWS:

- 1) Provide oversight of the implementation of the CCAA.
- 2) Upon execution of this CCAA, issue an Enhancement of Survival Permit to WAFWA in accordance with 50 CFR 17.22(d) or 17.32(d) and the terms of this CCAA. If the LEPC is listed under the ESA, this Permit shall provide Participants who are in compliance with the terms of their CI with authorization for anticipated incidental take of LEPC as a result of Covered Activities on and/or associated with their Enrolled Property and with the assurances described in Section XVI (Assurances Provided).
- 3) Comply with the requirements defined in Section XI(B)(16) prior to accompanying WAFWA during any visit by WAFWA to Participants' Enrolled Property for purposes of monitoring compliance with requirements of the CI and CCAA.
- 4) Monitor and enforce WAFWA's compliance with this CCAA and the associated Enhancement of Survival Permit. Prior to initiating Permit suspension and revocation pursuant to 50 C.F.R. §§13.27(b) and 13.28(b), as described in Section XXXI (Permit Suspension and Revocation), the FWS will exercise all possible measures to remedy the situation, including at least one in-person meeting with WAFWA and all Participants that wish to attend.
- 5) Monitor WAFWA's efforts to ensure and address Participant compliance with the requirements of its CI and this CCAA, and participate in and cooperate in WAFWA's Participant compliance activities as provided in Section XXIX (Participant Compliance).
- 6) Maintain the confidentiality of certain information as described in Section XXI (Confidentiality).

## **XII. CONSERVATION MEASURES**

This CCAA incorporates the conservation strategy in the RWP, which includes a series of Conservation Measures intended to avoid and minimize impacts on LEPCs and their habitat, as well as mitigate any remaining habitat impacts. As indicated by each Conservation Measure below, some of the avoidance and minimization measures are required, identified below as “Required,” and some may be applied at the discretion of the Participant, identified below as “Discretionary.” If a Participant chooses not to implement a discretionary conservation measure, the Participant will need to mitigate for resulting impacts. The required mitigation fees will be determined based on the amount of habitat that would be impacted after the application of those measures, the CHAT categories that the impacts are located within, and the habitat quality based on the habitat evaluation conducted using the Habitat Evaluation Guide (“HEG”), as described in Appendix A of this CCAA and Exhibit 2 of the CI.

A) Habitat Loss and Fragmentation. Habitat loss and fragmentation are primary threats to the LEPC. Impact Activities (construction of oil and gas pads, compressor stations, private roads (e.g., lease roads), distribution lines, and industrial buildings) may contribute to habitat loss and fragmentation. The following Conservation Measures apply to any action that could further negatively impact LEPC habitat or connectivity between blocks of LEPC habitat to receive coverage under the CCAA.

1) Avoidance

- a) Use available options to avoid focal areas, connectivity zones, or within 1.25 mi of known leks that have been active at least once within the previous five years, as well as sites dominated by tracts of native grass and shrublands (see the CHAT, state fish and wildlife agency staff, and Section XIV (Development Procedures) for more information). (Discretionary)
- b) Focus development on lands already altered or cultivated (such as row-crop agriculture or developed oilfields), and away from areas of undeveloped native grass or shrublands. Select fragmented or degraded habitats over relatively intact areas, and select sites with lower LEPC habitat potential over sites with greater habitat potential. The Natural Resources Conservation Service (NRCS) Ecological Site Descriptions, where available, are a good indicator to use (see Appendix C of the RWP). (Discretionary)

2) Minimization

- a) Use common rights of way for multiple types of infrastructure in locating new roads, fences, power lines, well pads, flow lines, compressors, and other associated oil and gas infrastructure. (Discretionary)



- b) Site Impact Activities to minimize new habitat disturbance by increasing the amount of overlap between existing fragmentation and associated Impact Buffers. (Discretionary)
  - c) Reduce impacts through the use of directional drilling and clustering where feasible or in locating facilities to reduce habitat loss and fragmentation of habitat. (Discretionary)
  - d) Minimize use of herbicide treatments and limit this use to the footprint or right of way. Where practical and applicable, utilize an herbicide that is targeted for specific use and spot treatments as opposed to a broadband herbicide and broadcast treatments. Apply in conditions that minimize drift. (Required)
- 3) Mitigation – Any impacts not offset by the avoidance or minimization measures above will be mitigated as follows:

Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees as described in Section XIII(B) of this CCAA, Appendix A of this CCAA, and Exhibit 2 of the CI. WAFWA will apply Mitigation Fees to generate offset units using the process described in Appendix I of the RWP. (Required)

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

1) Avoidance

a) Locate new roads, fences, power lines, well pads, flow lines, compressors, and other associated oil and gas infrastructure and their Impact Buffers outside focal areas, connectivity zones, or in other areas identified as high probability lek and nest habitat by CHAT categories 1-3. (Discretionary)

b) Bury new distribution lines within 1.25 mi of leks active within the previous 5 years. If new distribution lines cannot be buried, justification must be provided to and approval obtained from WAFWA prior to construction of such new distribution lines. (Required)

2) Minimization

a) Use common rights of way for multiple types of infrastructure. (Discretionary)

- b) To minimize transmission line footprint, utilize mono-pole construction for new electrical transmission lines within CHAT categories 1-3. (Required)
  - c) Utilize horizontal drilling, pad drilling (multiple wells per pad), and common tank batteries where feasible with regulatory approval to minimize new surface disturbance within CHAT categories 1-3. (Discretionary)
  - d) Install appropriate fence markings along new fences that are under the control of the enrolled Participant within one quarter (1/4) mile of a lek that has been recorded as active within the previous 5 years. (Required)
  - e) During the LEPC breeding season (March 1-July 15), minimize traffic volume, control vehicle speed, control access where feasible, and avoid off-road travel within focal areas and areas identified as high probability lek and nest habitat by the CHAT. (Required)
  - f) Within 1.25 mi of leks, it is recommended to install raptor deterrents on new electrical distribution and transmission poles as indicated by Avian Power Line Interaction Committee (APLIC) Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006, as amended. If further studies are completed that demonstrate significant benefits to the LEPC, this Conservation Measure may be amended for newly Enrolled Property and new enrollments by existing Participants. (Discretionary. Mitigation is not required.)
  - g) Provide escape ramps, rafts or ladders, depending on configuration, in exposed, human-made water containment sources on Enrolled Property under the control of the enrolled Participant. (Required)
- 3) Mitigation – Any impacts not offset by the avoidance or minimization measures above will be mitigated as follows:

Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees as described in Section XIII(B) of this CCAA, Appendix A of this CCAA, and Exhibit 2 of the CI. WAFWA will apply Mitigation Fees to generate offset units using the process described in Appendix I of the RWP. (Required)

C) Disturbance of Breeding, Nesting, and Brooding Activity. Disruption of courtship displays and nesting hens through construction and maintenance activities or equipment and infrastructure that emit loud noises may have direct impact on LEPC reproductive output.

- 1) Avoidance

- a) Avoid non-emergency operations, construction and maintenance activities, where humans are present, during lekking, nesting, and brooding season (March 1–July 15) within 1.25 mi of leks recorded active within the previous 5 years. (Discretionary, see Section XII(C)(2)(a))

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

(Required)

- b) Seismic surveys and similar activities that require extensive off road travel shall not be conducted in rangeland or planted grass cover during the lekking nesting and brooding season (March 1–July 15) within 1.25 mi of leks recorded active within the previous five years and lek surveys shall be required in CHAT categories 1-3 prior to any breeding season seismic surveys. (Required subject to exception in Section XII(C)(2)(c)).

## 2) Minimization

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

for lek disturbance (3:00 am-9:00 am) must be observed within 1.25 miles of leks recorded as active within the previous five years. (Required)

### **XIII. ENROLLMENT AND MITIGATION FEES**

#### **A) Enrollment Fees**

Participants shall be responsible for paying a total of \$2.25 per gross acre for each acre of Enrolled Property each year (the “Enrollment Fees”) for only the first three (3) years a CI is in effect, and no Enrollment Fees will be required after the initial three-year period. At a minimum, Participants shall make the first payment of Enrollment Fees in accordance with Section VIII(D). Participants shall pay the second and third Enrollment Fees on the first and second anniversaries of the effective date of their respective CIs or, if a Participant previously enrolled in a WCP, the effective date of the WCP, whichever is earlier. A Participant shall have the right, at its sole discretion, to prepay more than the minimum calculated Enrollment Fees in any given year, including the right to prepay all three years of Enrollment Fees. After the initial three-year period, the Participant must still pay Mitigation Fees in accordance with Section XIII(B) (Enrollment and Mitigation Fees), Appendix A of this CCAA, and Exhibit 2 of the CI.

Because Participants will remit these per-acre Enrollment Fees, they are not also obligated to remit additional enrollment fees as shown on page 274 of the RWP. Participants’ obligation to make payments as described above shall be suspended if any administrative or judicial challenge prevents the implementation of this CCAA or its CIs.

#### **B) Mitigation Fees**

The RWP and CCAA intend that Mitigation Fees will be paid in proportion to impacts to LEPC habitat. The following activities require payment of Mitigation Fees to offset impacts to the LEPC: construction of oil and gas pads, compressor stations, private roads (e.g., lease roads), distribution lines, and industrial buildings (collectively “Impact Activities”).

The Enrollment Fees will serve as prepayment of Mitigation Fees and will not be paid in addition to Mitigation Fees. The Enrollment Fees are intended to be used immediately to implement conservation activities to benefit the LEPC before Impact Activities are proposed.

WAFWA will maintain a Participant’s Enrollment Fees and Mitigation Fees in a Habitat Conservation Fund Account specific to the Participant’s CI, as described below.

Participants must pay Mitigation Fees, and WAFWA must ensure the availability of necessary offset units, before Impact Activities can occur. To avert the possibility of delays in development if the species is listed, Participants are strongly encouraged to maintain a prepayment balance in excess of Enrollment Fees and after the initial three-year prepayment period based on an estimate of future development impacts. Because WAFWA applies Mitigation Fees and contracts for the necessary offset units on an annual basis, Participants will need to submit Mitigation Fees based on anticipated development for the following calendar year before October 1 of each year (i.e., prior to the start of WAFWA annual sign-up period) to ensure sufficient offset units are available by January 1 of the following year to mitigate such anticipated development. Participants are encouraged to confer with WAFWA to estimate the Mitigation Fees necessary for future

anticipated development. Pre-paid Mitigation Fees will be maintained in the Habitat Conservation Fund Account of the Participant until they are needed. If a Participant expects development to occur among ecoregions that is not proportional to the Participant's enrolled acres in those ecoregions, the Participant should advise WAFWA upon enrollment or payment of Enrollment Fees so that WAFWA can attempt to acquire offset units in the appropriate ecoregion.

Participants will monitor their Habitat Conservation Fund Accounts and review the balances of pre-paid Enrollment and Mitigation Fees. If a Participant determines its pre-paid Enrollment and Mitigation Fees will be less than the amount of Mitigation Fees necessary for remaining Impact Activities anticipated in any given year, the Participant should contact WAFWA at least 60 days prior to depleting its Enrollment and/or Mitigation Fees in its Habitat Conservation Fund Account to (i) determine the amount of additional Mitigation Fees necessary; (ii) afford WAFWA sufficient opportunity to secure the additional necessary offset units; and (iii) limit the potential for any disruption to Participant's Impact Activities. WAFWA shall use good faith efforts to expedite securing the additional necessary offset units and agrees there is a substantial likelihood it will be able to secure the additional necessary offset units prior to any disruption to Participant's Impact Activities. If a Participant provides notice to WAFWA less than 60 days prior to depleting its Enrollment and Mitigation Fees available in its Habitat Conservation Fund Account, WAFWA shall still use good faith efforts to expedite securing the additional necessary offset units. The Participant acknowledges that WAFWA may not be able to secure the additional necessary offset units in time to prevent disruption to Participant's Impact Activities and therefore may assess an administration fee of 18.75% rather than 12.5% on the associated Mitigation Cost.

To allow WAFWA adequate time to generate offset units after the CCAA is approved, the requirement that offset units be secured prior to the commencement of Impact Activities is waived until March 30, 2015 ("Waiver Period"). However, Participants must pay Mitigation Fees prior to Impact Activities in accordance with the terms of this Section, Appendix A of this CCAA, and Exhibit 2 of the CI during the Waiver Period. During the Waiver Period, WAFWA will use best efforts to contemporaneously secure sufficient offset units to mitigate for Impact Activities in accordance with the CCAA; however, in no way shall commencement of a Participant's Impact Activities be delayed or prevented due to a shortage of offset units during the Waiver Period. WAFWA will identify whether additional offset units are necessary to mitigate the Impact Activities that occurred during the Waiver Period using the mitigation framework outlined in Appendix A of this CCAA and Exhibit 2 of the CI, and any temporary shortfalls in offset units must be fulfilled by March 30, 2015. The goal to achieve and maintain no more than 30% of area in impacted acres in focal areas (CHAT 1) and no more than 60% of connectivity areas in impacted acres (CHAT 2), as provided in page 105 of RWP, will remain in effect during the Waiver Period. If WAFWA determines that additional offset units are required to mitigate for Impact Activities that occurred during the Waiver Period, Participants, WAFWA and FWS shall confer to identify a mutually acceptable remedy to all Parties. One such remedy may be that additional offset units must be generated before Participants may proceed with new Impact Activities in a given ecoregion. In this event, because Participants' Impact Activities may be delayed while additional offset units are generated, Participants and WAFWA have a strong incentive to work cooperatively to ensure that sufficient offset units exist to mitigate for Impact Activities during the Waiver Period. After March 30, 2015, WAFWA will require that

sufficient offset units are available for mitigation prior to the commencement of Impact Activities. The mitigation framework used in the CCAA incentivizes avoidance of high quality habitat and provides conservation for the LEPC in perpetuity. Therefore the conservation benefit from initiating the long-term, landscape-scale conservation delivery program described in the RWP and utilized in the CCAA will outweigh temporary shortfalls in mitigation during this Waiver Period.

C) Remediation and Generation of Remediation Units

Participants may remediate impacts on all lands within the Covered Area of the CCAA and thereby generate Remediation Units for the remediated impacts. These Remediation Units will be valued, and the value of these Remediation Units will be credited to the respective Participant's Habitat Conservation Fund Account. Participants may generate Remediation Units by remediating impacts for any reason, including if required by law or regulation, and by remediating impacts created by Participants or a third party. Remediation Units will be quantified and valued using the methodology outlined in Appendix B of this CCAA and Exhibit 3 of the CI. Remediation Units generated through remediation may only be applied in the ecoregion in which the remediation occurred.

In order to have Remediation Units quantified and valued, Participants must contact WAFWA after the remediation has occurred. Participants must provide WAFWA with a digital map identifying the location of the infrastructure or disturbance to be remediated, if WAFWA does not already have this information. WAFWA or a TSP will assess the condition of the remediated site as described in Appendix I of the RWP, which will require an on-site habitat assessment. During this on-site assessment, WAFWA or the TSP will assess the habitat quality within the Impact Buffer but outside of the footprint of the remediated acres. Participants also must provide documentation to WAFWA demonstrating that the remediation has occurred and that the remediated area has been seeded with native vegetation, at least to the minimum standard defined by the NRCS's Conservation Practice Code 550 (Range Planting).

D) Habitat Conservation Fund Accounts

WAFWA will calculate the applicable Mitigation Fee associated with any Impact Activities using the methodology shown on Appendix A of this CCAA and Exhibit 2 of the CI. Upon receipt of Enrollment Fees and Mitigation Fees, WAFWA will credit the Enrollment Fees and Mitigation Fees to the appropriate Participant's Habitat Conservation Fund Account. The obligation to pay Mitigation Fees will be satisfied by the Enrollment Fees and pre-paid Mitigation Fees in a Participant's Habitat Conservation Fund until such fees are exhausted. Prepaid funds that are not used in a calendar year will be available to satisfy the obligation to pay Mitigation Fees in subsequent calendar years; however, Participants must continue to make annual prepayments of Enrollment Fees for the first three years as described above even if all prepaid funds are not used in the previous calendar year. The Mitigation Fees may be adjusted as described in Appendix A of this CCAA and Exhibit 2 of the CI (Appendix C). WAFWA will provide written or electronic notice of any adjustments to Mitigation Fees to the Participant at least 90 days before the adjustments take effect.

WAFWA will deduct the resulting Mitigation Fee from a Participant's Habitat Conservation Fund Account balance within 10 working days after receiving notification from the Participant. WAFWA will provide notice to the Participant within 30 days of:

- Deducting Mitigation Fees from the Participant's Habitat Conservation Fund Account, or
- Crediting funds to the Participant's Habitat Conservation Fund Account, or
- Crediting Remediation Units (as defined in Appendix B of this CCAA and Exhibit 3 of the CI) to the Habitat Conservation Fund Account.

Such notice shall detail:

- Amount of the Mitigation Fee deducted,
- Remaining Habitat Conservation Fund Account balance,
- Payment due prior to commencing Impact Activities and contingent on offset unit availability, and
- The number of Remediation Units held by the Participant.

In some circumstances, the Participant may elect not to develop Impact Activities or a portion of the Impact Activities after Mitigation Fees associated with that Impact Activities have been deducted from its Habitat Conservation Account. The Participant has the responsibility of notifying WAFWA that the Impact Activities will not be developed. Within 10 working days of receiving notification from the Participant that it will not develop Impact Activities, WAFWA will credit the Participant's Habitat Conservation Fund Account with the amount of the deducted Mitigation Fee so long as no Impact Activities have occurred.

#### **XIV. DEVELOPMENT PROCEDURES**

For oil and gas activities, a Project consists of the Participant's construction of a well pad, road, distribution line, compressor station (of any size), or industrial building. If a well pad is constructed together with a road and/or distribution line, the well pad and the associated road, and/or distribution line will be considered a Project. If a compressor station is constructed together with a road and/or distribution line, the compressor station and the associated road and/or distribution line will be considered a Project.

The Participant will consult the CHAT (<http://kars.ku.edu/geodata/maps/sgpchat/>) along with impact area maps, ecological site maps, land cover maps, and aggregated Conservation Reserve Program maps provided in the CHAT when the Participant evaluates the location of potential Impact Activities.

At the time the Participant confers with WAFWA to estimate the Mitigation Fees necessary for future anticipated development (i.e., prior to October 1 of each year), the Participant shall consult with WAFWA to assess the potential impacts to LEPC habitat associated with anticipated development in the following calendar year. It is in the Participant's interest to provide as much information listed below about future development as possible. WAFWA staff has access to additional data sources beyond those available in the CHAT, including lek data, and will assist in

making recommendations to reduce potential impacts to LEPC and their habitat and to reduce potential Mitigation Fees.

Prior to development, the Participant will provide WAFWA or a TSP (as described on pages 92–93 of the RWP) with the following Project Development Information:

- 1) Map(s) of the lease to be developed;
- 2) A shapefile or KML file describing the lease to be developed, including known existing impacts;
- 3) Centerline of linear features and/or the center point of a well (which may be reflected by a survey plat); and
- 4) Notification if the expected final reclamation size of a well pad will be greater than five acres in size.

WAFWA or the TSP, in cooperation with the Participant, will complete the following Site Information:

- 1) Map(s) of the lease to be developed, including existing impacts and buffers;
- 2) A shapefile or KML file describing the lease to be developed, including all existing impacts; and
- 3) A HEG (available on the WAFWA website) for property to be developed.

WAFWA shall complete the Site Information within 30 days of its initial consultation with the Participant on the Project. WAFWA shall notify the Participant of the amount of Mitigation Fees associated with the Project, if any, in accordance with Section XIII(B) (Enrollment and Mitigation Fees).

If the Site Information is completed by a TSP, the TSP will provide the Project Development Information and Site Information to WAFWA and the Site Information to the Participant. Within 10 days of receiving the Project Development Information and Site Information, WAFWA shall notify the Participant of the amount of Mitigation Fees associated with the Project, if any, in accordance with Section XIII(B) (Enrollment and Mitigation Fees).

If LEPC surveys of the proposed location of Impact Activities have not been conducted in accordance with the LEPC survey protocol (Appendix H of the RWP) within the previous 5 years, and the proposed location of Impact Activities is within the CHAT (categories 1-3), surveys may be necessary. A knowledge of lek presence is required for implementing avoidance measures. The Participant has the option of conducting surveys according to WAFWA protocols or allowing state or WAFWA affiliated personnel to conduct surveys of the site prior to commencement of Impact Activities. The Participant may also assume the location of Impact Activities is occupied with active leks without conducting a survey, proceed with the Impact Activities, and apply the related Conservation Measures to minimize disturbance impacts until a survey is conducted.



A) Development In Focal Areas and Connectivity Zones Where Impacts Exceed Habitat Goals

The habitat goals for focal areas and connectivity zones are no more than 30% development impacts in focal areas and 60% in connectivity zones. Where those development goals are surpassed for an individual reporting unit, as identified in Appendices D and E of the RWP (pgs. 80–83, 179–182), the habitat goals under the plan cannot be met. In that case, remediation of existing impacts will be required for further development. A portion of the necessary offset units must be acquired by remediation of existing impacts in proportion to the amount of newly impacted acreage exceeding the stated goals. For example, if 20% of the newly impacted acreage associated with a development were in excess of the impact goal for a reporting unit that proportion of the resulting offset units must be of the remediation variety. The remediation offset units should be generated from the same reporting unit as the new impact, but if that is not possible they can originate from a nearby reporting unit within the same ecoregion.

**XV. ADAPTIVE MANAGEMENT**

This CCAA incorporates adaptive management principles. The CCAA is intended to align with and complement implementation of the RWP. The RWP contemplates that elements of its conservation strategy will be evaluated periodically as described in Table 1. The process for identifying changes to the RWP conservation strategy resulting from adaptive management is outlined on pages 116 through 121 of the RWP.

Changes identified through evaluation of the elements described in Table 1 are considered changed circumstances as described in Section XVI of this CCAA (Assurances Provided) and affect implementation of the CCAA by adjusting Conservation Measures and/or Mitigation Fees. New or changed conservation measures may be applied to new CIs, additional lands to be enrolled under existing CIs prior to listing, and existing Enrolled Property in existing CIs; however, new or changed conservation measures may only be applied to existing Enrolled Property by amending CIs in accordance with the procedures described in Section XXII of this CCAA (Modification of the CCAA and Amendment of the Permit) and Section IX of the CI in Appendix C of this CCAA. Mitigation Fees may be adjusted in accordance with the provisions in Appendix A of this CCAA and Exhibit 2 to the CI.

Table 1. Identified activities or situations that will trigger the adaptive management process or a specific conservation action. This table is found on pages 118–121 of the October 2013 RWP.

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
Administrative Fee	Stability of administrative endowment using figures contained within the WAFWA financial report	Balance in the administrative endowment is not being sustained	Annually	Administrative fee is increased from 12.5%	Range-wide	Administrative fee is increased to ensure a non-wasting endowment for administrative services

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
Individual technical service provider compliance	Reports submitted by technical service providers	Provider is not in full compliance WAFWA reporting standards	Annually	Issue non-compliance warning with corrective measures, removal of certification	Range-wide	Provider corrects error and comes into full compliance
Population size	3-year average breeding population estimates derived from aerial survey and population reconstruction (pre-2012)	3-year moving average less than 50% of population goal	Annually	A discussion would be triggered with the science team to identify the cause of the low population. Potential corrective actions that could be taken starting in 2016 would include reprioritization of conservation actions when evaluating landowner offers and adjustment of mitigation multipliers and ratios	Ecoregion and range-wide	Populations recover above 50% of goal and trajectory is sufficient for bird numbers to reach or exceed goals after 10 years of plan implementation
Conservation practice costs	USDA estimated practice costs	WAFWA practice cost figures differ from USDA estimated costs	Annually	Fee structure working group reviews practice costs and recommends changes if necessary	Ecoregion	WAFWA payment rates adjusted to correlate with USDA practice cost estimates
Emerging science	Peer-reviewed literature	New peer-reviewed articles pertaining to aspects of the conservation strategy, the mitigation framework, or conservation practices become available	Annually	Science team reviews materials and recommends changes if necessary	Ecoregion and range-wide	Conservation strategy, mitigation framework, and/or conservation practices modified to conform with the best available science
Tangible mitigation unit offset ratio (not acreage)	Enrolled offset and impacts units presented in WAFWA affected acreage report	Observed offset and impact unit ratio differs from planned figure (initially 2:1)	Annually	Adjust offset ratios, increase landowner outreach efforts, adjust landowner sign-up schedule and associated allocation amounts	Ecoregion	Observed offset and impact unit ratio moves toward planned figure (initially 2:1)

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
Quality of offset acreage	HEG scores and affected acreages provided in WAFWA Affected Acreage Report	Average HEG score per acre of offset acreage < average HEG score of impacted acreage	Annually	Adjust offset ratios, adjust mitigation unit values, prioritize higher quality habitat when ranking landowner offers	Ecoregion	Quality on offset acreage is $\geq$ quality of impacted acreage
Habitat Restoration Goals	Restoration acreages presented in WAFWA affected acreage report	Did not achieve the annual acreage goals for total restoration and remediation (see appendices D and E)	Annually	Adjust mitigation multipliers and ratios, increase prioritization of restoration practices when ranking landowner offers, increase assumption of 25% restoration when valuing mitigation units	Focal Area and Connectivity Zone Reporting Areas	Factors preventing maintenance at habitat goal or progress toward it are reduced or eliminated
Habitat Quantity	Occupancy model results and restoration acreages presented in WAFWA affected acreage report	Occupancy model results indicate that the amount of good to high quality habitat is below the goal for focal areas (70%) or connectivity zones (40%) or restoration and remediation has not occurred on half the required acreage (see appendices D and E of the RWP)	5 Years	Shift reporting area locations, adjust mitigation multipliers and ratios, increase prioritization of restoration practices when ranking landowner offers, increase assumption of 25% restoration when valuing mitigation units	Focal Area and Connectivity Zone Reporting Areas	Factors preventing maintenance at habitat goal or progress toward it are reduced or eliminated
Sustainability of conservation offset endowment	Real rate of return on investments	The average real rate of return differs from 4%	5 Years	Multiplier adjusted	Range-wide	Endowment becomes non-wasting
Strongholds	Identified stronghold acreages provided in the WAFWA affected acreage report	Participation rate not on pace to achieve 10-year stronghold acreage goals	5 Years	Adjust percent of units going into permanent conservation, adjust offset ratios	Ecoregion	Participation in long-term conservation practices becomes sufficient to achieve 10-year acreage goals

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
Conservation practices	WAFWA vegetation monitoring data presented in WAFWA affected acreage report	Optimum habitat not maintained in 3 of 5 years when it existed at baseline and was the desired outcome or vegetation structure not >25% improved over baseline when it was anticipated in the associated management plan	5 Years	Change conservation practice prescriptions	Ecoregion	Management prescriptions will be more likely to create vegetative structure that maximizes a sites LEPC habitat potential
Avoidance of high priority CHAT categories	Enrolled acreage presented in WAFWA Affected Acreage Report	Proportion of CHAT acreage affected by new impacts does not differ across categories	5 Years	Adjust offset ratios	Ecoregion	Proportionally less development begins to occur in higher priority CHAT categories
Population goal	Aerial survey breeding population estimates	10-year average population size less than stated goal	10 Years	Reallocate dollars across ecoregions, shift priority area locations, adjust offset ratios	Ecoregion	Limiting factor(s) reduced or eliminated so that conservation actions are sufficient to achieve population goal

## XVI. ASSURANCES PROVIDED

The FWS provides regulatory assurances to Participants through this CCAA and the associated section 10(a)(1)(A) Enhancement of Survival Permit. Consistent with 50 CFR 17.22(d)(5) and 17.32(d)(5) and the FWS’s Candidate Conservation Agreement with Assurances Final Policy (64 FR 32,726 (June 17, 1999)), the FWS will not require additional conservation measures nor impose additional land, water, or resource use restrictions, beyond those voluntarily agreed to and described in Section XII (Conservation Measures) and this Section, as long as the CCAA and CIs are properly implemented. These assurances will be authorized through issuance of the Enhancement of Survival Permit, which will become effective if the LEPC is listed in the future. As described in more detail below, these assurances also apply in the event of unforeseen circumstances. The FWS may request additional conservation but because it is voluntary on the part of WAFWA and Participants, consent of WAFWA and the affected Participants must be in writing. The Permit, when it becomes effective, will also authorize the incidental take of LEPCs by Participants as long as the “take” is consistent with the terms of this CCAA and relevant CI.

## **Assurances Provided to Participant in Case of Changed or Unforeseen Circumstances**

The assurances listed below apply to Participants where the CCAA is being properly implemented.

“Changed circumstances” are those alterations in circumstances that can reasonably be anticipated and planned for in the CCAA. “Unforeseen circumstances” are changes in circumstances that could not reasonably have been anticipated by WAFWA and FWS at the time of the CCAA’s negotiation and development, and that result in a substantial and adverse change in the status of the species.

*Changed circumstances provided for in the CCAA.* If additional conservation measures are necessary to respond to changed circumstances and the measures were set forth in the CCAA’s operating conservation program, Participants will implement the measures specified herein.

Changed circumstances provided for in this CCAA are defined as any potential changes that are outlined in Table 1 of this CCAA, where those changes result in a maximum 3% annual change in Mitigation Fees related to inflation or deflation in practice costs and a maximum 4% annual change in Mitigation Fees resulting from the adaptive management adjustments (see Section XV (Adaptive Management)). These concepts are explained below.

A primary factor in the calculation of Mitigation Fees is per-acre habitat management costs (“Habitat Management Costs”). Habitat Management Costs are subject to inflation and deflation because they are developed using USDA practice costs and program rates. The USDA practice and programs used in the calculation of the Habitat Management Cost are described in Table 2.

Table 2: USDA Practices and Programs Used to Calculate Habitat Management Costs

<b>Conservation Practice or Program</b>	<b>NRCS Conservation Practice Number</b>	<b>Definition</b>
Prescribed Grazing	528	Managing the harvest of vegetation with grazing and/or browsing animals
Prescribed Burning	338	Controlled fire applied to a predetermined area
Brush Management	314	The management or removal of woody (non-herbaceous or succulent) plants including those that are invasive and noxious
Range Planting	550	Establishment of adapted perennial or self-sustaining vegetation such as grasses, forbs, legumes, shrubs and trees*
NRCS Fair Market Value Assessments	N/A	Regional land value averages used for assessing easement rates for the Grassland Reserve Program and other easement programs
FSA Conservation Reserve Program Soil Rental Rates	N/A	Payment rates calculated to encourage landowners to retire cropland from production and plant in a cover crop
FSA Conservation Reserve Program Mid-Contract Management Rates	N/A	Payment rates for prescribed fire, disking, for management of lands enrolled in CRP contracts

\* Although tree planting is one of the components of NRCS's range planting practice, WAFWA does not anticipate that tree planting will occur under the RWP, or CCAA.

Changes in Habitat Management Costs are not anticipated to result in increases or decreases in Mitigation Fees that are more than 3% in a given year, as explained in more detail in Appendix L of the RWP (WAFWA Business Plan for Implementing the LEPC RWP). Therefore, the maximum yearly increase in Mitigation Fees resulting from inflation attributable to changed circumstances as described in this Section is 3%. Appendix A of this CCAA and Exhibit 2 of the CI describes how adjustments to Mitigation Fees due to inflation will be calculated.

The 4% adaptive management figure represents WAFWA's best estimate of a reasonable maximum annual rate of change in the cost of implementing conservation for the species. The 4% rate also provides Participants with assurances that costs will be predictable from year to year. Appendix A of this CCAA and Exhibit 2 of the CI describes how adjustments to Mitigation Fees due to adaptive management will be calculated. In no event shall the total

annual change in Mitigation Fees required of Participants annually exceed 3% for inflation and 4% for adaptive management. WAFWA and FWS agree that in the event that increases in Mitigation Fees exceed 3% for inflation and 4% for adaptive management in any given year, the excess may be allocated to future years until accounted for fully; however, such allocations cannot cause Mitigation Fees to increase more than 3% for inflation and 4% for adaptive management annually.

The Conservation Measures included in this CCAA and the CI (Appendix C) are based on the conservation measures identified on pages 107–110 of the RWP. The Participant is responsible for implementing those Conservation Measures that are set forth in this CCAA as incorporated in the Participant's CI. WAFWA does not anticipate that these Conservation Measures will change through the adaptive management process in the RWP; however, if the Conservation Measures identified in the RWP change, any new lands enrolled in an existing CI prior to any listing decision may be subject to the conservation measures related to oil and gas development in the RWP at the time of enrollment.

In addition to the broader categories of potential changed circumstances outlined in Table 1, the following two paragraphs provide more specific examples of potential changed circumstances that are provided for in this CCAA. These two paragraphs are intended to supplement Table 1 and should in no way be construed to limit or restrict the table's application to identification of changed circumstances.

- A) Changed Circumstances - Changed Technology Associated with Oil and Gas Exploration and Production. Technology related to the exploration and production of oil and gas is not static. The techniques and technology used in the exploration and production of oil and gas may evolve over the duration of the CCAA. If WAFWA, in consultation with the Participants, determines that the technology associated with oil and gas exploration and production has changed such that the new technology results in impacts to the LEPC of a substantially different nature than the impacts that were included in the required analyses for the CCAA, WAFWA will notify the FWS within 30 days of that determination. WAFWA and FWS will consult with the Participants to determine the changes in impacts, positive or negative, to the LEPC. WAFWA will adjust the mitigation fees in response to any increase or decrease in impacts in accordance with the mitigation framework in the RWP within the maximum annual mitigation rate changes described above.
  
- B) Changed Circumstances – Emerging Science Relating to LEPC Ecology. Various components of LEPC ecology remain poorly documented by empirical data. Specific to oil and gas activities, there is uncertainty regarding the response of LEPC to infrastructure, especially at the population level, and the threshold for cumulative impacts. Uncertainty also remains regarding landscape scale habitat requirements and arrangements. Relating to reclamation activities, further research needs have been identified for improving techniques for restoring agricultural land to sand sagebrush and shinnery oak vegetation communities. If FWS and WAFWA determine that additional science on the ecology of the LEPC indicates that impacts resulting from oil and gas may be occurring in a manner different from those analyzed in the CCAA, WAFWA will notify the Participants within 30 days of the determination. WAFWA and FWS will

consult with the Participants to determine the changes in impacts, positive or negative, to the LEPC. WAFWA will adjust mitigation fees in response to any increase or decrease in impacts in accordance with the mitigation framework in the RWP within the maximum annual mitigation rate changes described above.

*Changed circumstances not provided for in the CCAA.* If additional conservation measures not provided for in the CCAA and associated CIs are necessary to respond to changed circumstances, neither FWS nor WAFWA will require any conservation measures for the LEPC on Enrolled Property in addition to those provided for in the CCAA or the associated CI without the consent of the Participant, provided the Participant is properly implementing the CI.

*Unforeseen circumstances.* If additional conservation measures are necessary to respond to unforeseen circumstances, FWS may require additional measures of the Participant, but only if such measures are limited to modifications within the CCAA's conservation strategy for the affected species, and only if those measures maintain the original terms of the CCAA and CIs to the maximum extent possible. These additional conservation measures will not involve the commitment of additional land, water, financial compensation, or additional restrictions on the use of land, water, or other natural resources available for development or use under the original terms of the CCAA and associated CI without the consent of the Participant.

The FWS will have the burden of demonstrating that unforeseen circumstances exist, using the best scientific and commercial data available. These findings must be clearly documented and based upon reliable technical information regarding the status and habitat requirements of the LEPC. The FWS will consider, but not be limited to, the following factors:

- 1) Size of the current range of the LEPC;
- 2) Percentage of range adversely affected by the CCAA;
- 3) Percentage of range conserved by the CCAA;
- 4) Ecological significance of that portion of the range affected by the CCAA;
- 5) Level of knowledge about the affected species and the degree of specificity of the species' conservation program under the CCAA; and
- 6) Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the LEPC in the wild.

## **XVII. LEVEL OF INCIDENTAL TAKE**

Under the ESA Sec. 3(18) "take" is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, collecting any species protected under that act or engaging in any such conduct. The Interior Secretary further defined "harm" as that "which actually injures or kills wildlife, including acts which annoy it to such an extent as to significantly disrupt essential behavioral patterns, which include, but are not limited to, breeding,



feeding, or sheltering; significant environmental modification or degradation which has such effects.” (Federal Register 44412, 44416: 1975).

In the event that LEPC becomes listed under the ESA, a variety of management and development actions have the potential to result in take of the species. In the case of the LEPC, direct mortality from development may occur from, for example, collisions with fencing or vehicles, but habitat loss due to the tendency of the species to avoid developments has a higher likelihood of a potential source of take. Several sources have documented avoidance of many types of infrastructure by nesting hens (Pitman et al. 2005, Hagen et al. 2011, Grisham et al. In Press). Beyond direct mortality, habitat loss and reduced reproduction, there are also actions that may result in further sources of take. Off-road travel, mineral exploration and construction activities may result in disturbance of lekking behavior, breeding, and nest and brood attendance. In addition, construction and maintenance activities related to development may result in increased travel on primary and secondary roads that lead to increased disturbance beyond what is expected from these roads. And finally, management activities for LEPC conservation purposes, such as common grazing management practices, prescribed burning, and tree removal, all have the potential to result in take.

This section is intended to analyze potential impacts or take of LEPCs as a result of the Covered Activities. However, there are several challenges related to estimating take that are unique to the LEPC. First and foremost, the scale of the analysis is large, covering parts of five states. In addition, like most birds, the extent of the range of the species is very much in flux from year to year. Detecting the birds in low density habitat around the periphery of the range is difficult and the species is highly mobile. And finally, LEPC is notoriously difficult to survey, and those surveys occur only when the birds come to leks in the spring. Until very recently, survey methodology and intensity varied widely between states, but recent range-wide aerial surveys have begun to solve that problem. As a result this analysis will focus on estimating the potential acreage impacted by those development and management activities and will estimate take based on estimates of LEPC density. In the case of energy and civil infrastructure development impacts, this analysis considers everything that is not within an Impact Buffer, including cropland, as potential habitat. Cropland ranks as low quality habitat under the habitat metrics in the RWP.

The intent of this analysis is to estimate potential take on 10, 20, and 30 year timeframes. Given the degree to which oil and gas development levels historically have varied from year to year, estimates of development at intervals shorter than 30 years (i.e., 10 and 20-year intervals) are not appropriate. The CCAA evaluates development levels based on 30-year projections. However, energy markets and technology, climatic conditions, land use patterns and practices, and ultimately LEPC populations vary over time.

It is important to recognize that although this analysis assumes that any development action that occurs outside of buffers from pre-existing impacts may result in incidental take of LEPC, such development will not necessarily result in incidental take of LEPC throughout all of EOR. The likelihood that development actions will result in incidental take is reflected through the use of LEPC densities.

## A) General Methodology

Analyzing the potential oil and gas development impacts for LEPCs requires three basic components:

- 1) A defined plan area.
- 2) An estimate of the rate and extent of habitat loss related to the development and management activities.
- 3) An estimate of population density to define the effects of those direct impacts on LEPCs.

The plan area for the RWP is defined by EOR+10 which encompasses 62,733 mi<sup>2</sup> or 40,149,404 acres across parts of Colorado, Kansas, New Mexico, Oklahoma, and Texas. The buffer around the range accounts for shifts in the estimated occupied range over time due to changes in habitat, movements of birds, and detectability of birds in areas of low population density. The EOR+10 is broken into four ecoregions. These ecoregions broadly reflect the different ecotypes across the LEPC range.

Existing infrastructure or developments were identified based on publicly available GIS data for Colorado, Kansas, New Mexico, Oklahoma and Texas. The sources and dates for these data sources are described in detail on ages 131–134 of the RWP. These datasets represent the best available data on developments within the region, but in many cases, the spatial and attribute error rates of these datasets are undefined. It is expected that the mitigation framework under the RWP and this CCAA will incentivize industry to provide better data on existing developments and will improve the assessment of impacts over time. In addition to the infrastructure data sources, this analysis uses data from the 2013 CHAT, which includes the focal areas (CHAT 1), connectivity zones (CHAT 2) and the remainder of the EOR+10.

The density estimate utilized in this analysis is based on a reconstruction of LEPC populations across the range by Garton (2012). This reconstruction used LEPC ground survey data and aerial survey data collected across all four ecoregions. Depending on the ecoregion, this collective long-term average population estimate represents a period of 13-22 years from 1990 to 2012. During this period, populations ranged from roughly 37,000 to 84,000 birds, and that population estimate is representative of past and future conditions, including the population goals within the RWP. The density estimate uses the Garton average population estimate divided by the area of suitable habitat as predicted by a Maximum Entropy lek habitat model developed by USGS (Jarnevich et al. unpublished data) (Table 3). It conservatively represents all potential take resulting from development or habitat and population management actions within that suitable habitat. The MaxEnt lek habitat model used estimates approximately 30% of the area within the EOR+10 is currently suitable habitat for LEPCs. This analysis assumes that take of LEPCs is a function of the average lifespan or generation time for the species. Mean lifespan is calculated based on Farner (1955) as  $0.4343/\log_{10}(S) = 1.95$  years (95% CIs = 0.99 to 5.6 years), where S represents the estimated yearling survival rate of 60%.

Table 3. This table represents the estimated density of LEPCs within suitable habitat identified in each ecoregion. The population estimates represent long-term averages based on Garton (2012) and the acreages of suitable habitat are based on the lek habitat model developed for the CHAT.

**LEPC Suitable Habitat Density per 640 acres**

	<b>MIXED GRASS (1990-2012)</b>	<b>SAND SAGE (1990-2012)</b>	<b>SHORTGRASS (1999-2012)</b>	<b>SHINNERY OAK (1999- 2012)</b>	<b>Suitable Habitat Avg</b>
<b>Population Estimate</b>	32117	6118	24271	4967	67473
<b>Suitable Habitat Acreage</b>	3,823,650.82	1,661,175.92	1,169,141.06	5,409,080.10	12063047.9
<b>Suitable Habitat Density</b>	5.38	2.36	13.29	0.59	3.58

The methods described above focus on estimating lost habitat and birds as a function of the Impact Buffers identified within the RWP. However, there is some potential for disturbance from development activities beyond those buffers. Departments of Transportation generally define roads as primary and secondary based on the amount of traffic using that road. Because traffic data is unavailable for most roads across the EOR+10, the RWP uses the entity responsible for maintenance to classify roads. However, oil and gas activities such as seismic and land surveying, drilling, completion, production, operations, maintenance, and workovers may result in increased traffic levels that are well beyond what is normally expected for the average private or county-maintained road and traffic has the potential to result in avoidance by LEPCs that is beyond the defined Impact Buffers for those roads. To address this issue, the conservation measures in the RWP include seasonal use restrictions that restrict normal, non-emergency construction within 1.25 miles of known active leks between the hours of 3 am and 9 am from March 1 to July 15. This distance roughly represents the area containing 85% of LEPC nests (Pitman et al. 2006). It is not possible to calculate potential take from these activities because their distribution on the landscape related to leks is unknown. However, with the application of this Conservation Measure, the amount of incidental take from traffic levels is not expected to materially alter the amount of take identified herein.

B) Data sources

The spatial and well permitting datasets used for this analysis are listed and described in detail within the RWP Impact Analysis section (pages 131-134).

### C) Current Level of Impacts

This analysis evaluated the current level of impacts by infrastructure type for all industries within each ecoregion within the EOR+10. All available spatial data for active oil and gas wells, wind turbines and cell towers, transmission and distribution lines and roads was used. Each type of development was buffered in ArcGIS 10 (ESRI 2011) using the appropriate Impact Buffer distanced defined within the RWP. All overlapping buffers were dissolved for each impact type and for all impacts together. The total acreage of impacted habitat for each impact type within focal areas (CHAT 1), connectivity zones (CHAT 2) and CHAT Categories 3 and 4 within each ecoregion and across ecoregions (Table 4) were summarized. The total number of acres impacted by all infrastructure types within each ecoregion and across all ecoregions (Table 5) also were summarized. The calculation of all infrastructure impacts includes any overlap of multiple infrastructure impacts counted only once. The total acres impacted by each infrastructure type and the proportion of acres of infrastructure within each ecoregion were calculated. There is little difference in the proportion of acres impacted by infrastructure between ecoregions.

Table 4. This table represents a summary of the total number of acres impacted by various types of development within each LEPC ecoregion. Impact acres are defined by the area within the Impact Buffer distances for each development location. The acreage of all infrastructure impacts is less than the sum of the categories due to the overlap of Impact Buffers between types of impacts.

<b>Infrastructure Type</b>	<b>CHAT Category</b>	<b>Mixed Grass</b>	<b>Sand Sage</b>	<b>Shortgrass</b>	<b>Shinnery Oak</b>	<b>Total Acres by Impact</b>
<b>Oil and Gas</b>	CHAT 1	113,548	107,721	34,387	30,230	<b>2,562,112</b>
	CHAT 2	76,132	6,221	4,989	7,444	
	CHAT 3 & 4	675,826	350,351	330,270	824,993	
<b>Wind and Vertical Structures</b>	CHAT 1	12,936	11,105	8,023	1,390	<b>503,270</b>
	CHAT 2	13,122	949	731	4,220	
	CHAT 3 & 4	187,738	72,767	90,918	99,371	
<b>Transmission</b>	CHAT 1	33,923	72,666	28,947	32,120	<b>1,819,096</b>
	CHAT 2	22,344	11,931	6,686	38,190	
	CHAT 3 & 4	388,513	269,359	261,079	653,339	
<b>Roads</b>	CHAT 1	284,871	154,472	171,646	98,717	<b>6,206,543</b>
	CHAT 2	174,047	39,608	26,893	120,865	
	CHAT 3 & 4	1,542,104	1,059,147	1,125,614	1,408,559	
<b>All Infrastructure</b>	CHAT 1	415,940.3	321,603	232,480	154,247	<b>9,874,839</b>
	CHAT 2	257,963.9	55,221	37,232	160,515	
	CHAT 3 & 4	2,477,513.5	1,585,759	1,642,870	2,533,494	
<b>Impact Acres</b>		<b>3,151,418</b>	<b>1,962,583</b>	<b>1,912,582</b>	<b>2,848,257</b>	
<b>Total Acres</b>		12,827,528	8,349,445	8,822,405	10,682,886	
<b>% Impacted</b>		<b>24.6</b>	<b>23.5</b>	<b>21.7</b>	<b>26.7</b>	

At the scale of the entire EOR+10, roads are the most common source of infrastructure impacts. When impact types are considered separately without overlap, roads account for 56%, oil and gas

development account for 23% and transmission and distribution lines account for about 16% of infrastructure impacts acres for this analysis. Spatial data for distribution lines are very sparse and this impact is probably underestimated. Distribution lines are generally sited along roads so the lack of data for this infrastructure type likely has little impact on the overall analysis. Wind turbines and other vertical structures such as cell and radio towers are the least common source of infrastructure impact on the landscape, accounting for less than 5%.

Collocation of infrastructure is a key strategy for the avoidance and minimization of impacts that is incentivized within the mitigation framework within the RWP. Siting new impacts partly or wholly within preexisting impacts or overlapping new Impact Buffers results in fewer new impacts to LEPC habitat and will result in lower mitigation costs under the RWP. Collocation is expected to increase with plan implementation. At the scale of the entire EOR+10, and when considering all impact types, there is an average 12% overlap of existing infrastructure based on the difference between the sum of all individual impact types and the total impacted acres summarized including overlap. This suggests that collocation of different types of infrastructure is relatively uncommon overall prior to the implementation of the RWP. Within some infrastructure types such as oil and gas, there is significant evidence that buffer overlap reduces the overall impact acres of development. When the acreage impacted by new oil and gas wells in the most recent year available (2012 for CO, KS, NM, TX, and 2009 for OK) was examined, preexisting and adjoining new impacts reduced the overall impact acreage by about 58%. Much of this overlap is related to in-field development in high-density crude oil fields. Although well spacing guidelines are not intended to regulate surface impacts, well spacing guidelines and setback requirements that site wells along section lines where roads and power lines are commonly located may indirectly benefit the LEPC.

There are significant differences for the distribution of impacts between focal areas (CHAT 1), connectivity zones (CHAT 2) and the remainder of the EOR+10 (CHAT 3 & 4) (Table 5). However, this reflects the fact that the best remaining habitat for LEPCs is the least impacted by infrastructure. It also reflects the fact that the selection of focal areas and connectivity zones used existing infrastructure as a factor for their delineation. Focal areas and connectivity zones have slightly more than half the amount of infrastructure impacts than the remainder of the EOR+10.

Table 5. The total acres impacted by each infrastructure type by CHAT category, where acreage is defined by Impact Buffer distances in the Range-wide Plan around each impact type. The acreage of all infrastructure impacts is less than the sum of the categories due to the overlap of Impact Buffers between types of impacts.

<b>Infrastructure Type</b>	<b>CHAT 1</b>	<b>CHAT 2</b>	<b>CHAT 3&amp;4</b>
Oil and Gas	285,886	94,786	2,181,441
Wind and Vertical Structures	33,454	19,022	450,794
Transmission	167,656	79,151	1,572,289
Roads	709,706	361,413	5,135,424
All Infrastructure Impacts	1,124,270	510,933	8,239,636
Acres per CHAT category	7,104,000	3,107,840	30,939,520
<b>% Impacted Acres</b>	<b>15.8</b>	<b>16.4</b>	<b>26.6</b>

D) Estimates of Future Oil & Gas Related Impacts

Oil and gas development has the potential to result in take in the form of direct mortality, harm or harassment of LEPC resulting from activities such as seismic and land surveying, construction, drilling, completion, routine operations, maintenance, and workovers. Seasonal use restrictions within the plan are designed to minimize the take related to those actions and any other Covered Activities during key breeding, nesting and brooding periods. Those seasonal use restrictions are focused within 1.25 miles of known leks that have been recorded as active at least once within the previous five years. A perfect census of all leks across the plan area is not possible due to survey effort limitations and the fact that, by their nature, leks are not permanent fixtures on the landscape. The requirement to avoid leks recorded as active at least once in the previous five years is an attempt to minimize take on leks. Levels of take are related to the frequency and scale of these activities. A variety of impacts have been identified that may directly affect LEPC populations through habitat loss or as a result of habitat avoidance by LEPC related to development.

Oil and gas remediation and restoration is also included in this CCAA as a Covered Activity. These activities as defined in Section IX(E) are not expected to result in take of LEPC because they occur within existing Impact Buffers where the habitat has been impacted from prior development; however, in the remote chance that take would occur, take authorization will be provided. In addition, the Conservation Measures such as the seasonal timing restrictions around leks still apply to these activities such that any harassment of breeding lekking or brooding will be minimized.

Oil and gas development also has the potential to result in take in the form of direct habitat loss from construction of well pads, roads, reserve pits and other infrastructure and avoidance of

wells and other vertical structures. Additionally, oil and gas development has the potential to result in take in the form of direct mortality, harm or harassment resulting from activities such as seismic and land surveying, drilling, completion, production, operations, maintenance, and workovers. Well permitting data from each state was utilized to define the number of active wells within the EOR+10 as a starting point for forecasting future development. Wells are the most common type of oil and gas impact on the landscape and are the basis for the calculations below. Oil and gas development does include other types of infrastructure. Some of the infrastructure included with oil and gas development has very small Impact Buffers, such as privately maintained roads and distribution lines that are often covered by the larger well Impact Buffers. In the case of downstream infrastructure, such as pipelines and compressors, any buried infrastructure does not constitute a source of habitat loss for LEPCs. However, there is sufficient scientific data suggesting that compressor stations result in nesting habitat loss through avoidance. Smaller compressors that may be muffled to 75dB are given the same Impact Buffer as a well, but large compressors that are louder and much less common on the landscape have a correspondingly larger Impact Buffer.

The U.S. Energy Information Administration produced the Annual Energy Outlook 2013 (AEO2013), which includes long-term projections of energy supply, demand and prices out to 2040. These projections include forecast of both US natural gas production (AEO2013:78) and the production of petroleum and other liquids (AEO2013:81). These projections are based on both high and low price scenarios for each resource. The highest price scenario was used to reflect a maximum projected development scenario. The estimated annual growth rates for oil production and gas production were calculated by first summing the year 2040 estimates for oil production and gas production. This sum was then divided by the sum of the current estimates to determine the overall combined growth rate for oil and gas production for the 30-year period. The overall combined growth rate was then divided by 30 to determine the average annual combined growth rate for oil and gas production. This result was then divided by two to determine the average annual growth rates for oil production and gas production independently. The annual growth rate for the high oil and high gas price scenario is 0.0549. Production growth rate was assumed to result in a corresponding increase in wells drilled.

The number of wells were forecasted for 10, 20 and 30 year durations across the EOR+10 as:  $\text{projected wells} = \text{existing wells} + (\text{existing wells} \times \text{annual growth rate} \times \text{years})$ . Because of the lack of data to forecast where future development will occur within the region, well numbers were forecasted across the entire EOR+10 and not individual ecoregions or CHAT categories.



Table 6. The projected number of new wells across the LEPC EOR+10 over 10, 20, and 30 year periods based on the high oil and gas price scenario projected from the Annual Energy Outlook 2013.

<b>Projected New Wells Drilled Across the EOR+10 under the EIA High Price Scenario</b>		
<b>10 Year</b>	<b>20 Year</b>	<b>30 Year</b>
<b>59,804</b>	<b>119,608</b>	<b>179,416</b>

To estimate the number of acres impacted by each well:

- 1) The new wells drilled within each ecoregion were identified for the most recent year available;
- 2) Each well was buffered by 200 m, and the total number of acres within those buffers was calculated;
- 3) Any existing or overlapping new impacts were removed from the total number of acres within the buffers; and
- 4) This total was divided by the number of new wells.

Each well impacted an average of 17.94 acres of previously unimpacted habitat. This average level of impact was utilized to calculate the acres of habitat. The density of LEPCs in suitable habitat was used to calculate the numbers of LEPCs taken by projected oil and gas development in each ecoregion using the high cost oil and gas scenario from the AEO2013. An average lifespan of 1.95 years was included in the calculation to adjust the density calculations for the projection duration. The results of this analysis are listed in Table 7, which include the estimation of the acres impacted by new wells and the potential number of LEPCs that may be taken by that development across the EOR+10

This approach for estimating take of habitat and birds includes several conservative assumptions that suggest that actual levels of take will be significantly less than represented above. This analysis assumes that any development action that occurs outside of pre-existing Impact Buffers may result in incidental take. However, much of the habitat within the EOR is not suitable habitat, and development within those areas would not constitute incidental take. This analysis does not attempt to project where development might occur within the EOR+10 in relation to suitable habitat or otherwise. This analysis does not attempt to identify areas where development would not occur either due to geological or administrative limitations. This approach also assumes a single well for each surface location. However, where the geology allows, oil and gas producers may drill multiple wells per pad, and this practice is incentivized under the mitigation framework of the CCAA because it reduces the total impacts. The CCAA also incentivizes siting new well pads within prior impacts. Horizontal drill techniques increase siting flexibility which may decrease the average number of acres of habitat impacted by a well or pad. This framework

incentivizes siting in unsuitable or low quality habitat by imposing higher mitigation fees for siting wells in higher quality habitat. And finally, as drilling and production technology improves, oil and gas producers will continue to increase production per surface location, which results in meeting future demands for energy with fewer surface and habitat impacts.

Table 7. This table includes the estimation of the acres impacted by new wells based on an average 17.94 acre impact, and the potential number of LEPCs that may be taken by that development across the EOR+10, given an average lifespan of 1.95 years. These estimates represent the high oil and gas price scenario from AEO2013.

<b>Acres of Potential LEPC Habitat Impacted Across the EOR+10 under the EIA High Price Scenario</b>		
<b>10 Year</b>	<b>20 Year</b>	<b>30 Year</b>
<b>1,072,883</b>	<b>2,145,767</b>	<b>3,218,716</b>

<b>Number of LEPCs Potentially Taken Across the EOR+10 under the EIA High Price Scenario</b>		
<b>10 Year</b>	<b>20 Year</b>	<b>30 Year</b>
<b>3,593</b>	<b>7,185</b>	<b>10,778</b>

E) Impacts from Management Actions (Mitigation Activities and Conservation Measures)

Incidental take in the form of harm or harassment may result from disturbance incidental to habitat improvement activities (i.e., mitigation activities) required to benefit the LEPC. Direct take, in the form of incidental killing of adults, juveniles, chicks, or eggs, also may result from the implementation of Conservation Measures and mitigation activities such as brush management practices, prescribed fire and grazing, and fencing. Some negligible disturbance is also possible from habitat monitoring activities. Incidental take likely will occur sporadically, and is not expected to nullify the high conservation benefit anticipated to accrue from implementation of the Conservation Measures in the CCAA. The Parties contemplate that incidental take for these activities will be provided by a separate permit or rule through the RWP.

**XVIII. NOTIFICATION OF INCIDENTAL TAKE**

For purposes of this CCAA, the FWS does not believe that a pre-take notification requirement is practicable or appropriate. Because the Conservation Measures place restrictions on activities during the LEPC breeding season (March 1-July 15), with the exception of emergency operations, the FWS expects that incidental take in the form of mortality resulting from impacts

from construction activities would be minimized. Furthermore, locating LEPC when they are not on leks or locating their nests prior to impact is not practicable. Nest searching methods that are commonly used for other species of ground-nesting birds, such as walking the area to flush birds or using rope drags, are not effective for this species. Peer reviewed research efforts on the LEPC will capture birds when they are on leks using funnel traps or drop nets and use radio telemetry to find birds after the lekking season and to find nests (see Grisham et al. 2013, Hagen et al. 2009, Hagen et al. 2011, Pitman et al. 2005, Pruett et al. 2009 and others). These approaches are not a feasible for avoiding or minimizing incidental take of nesting birds related to impact activities. In addition, even if locating and capturing birds was a viable option, translocation of those birds to other locations has not proven successful in the past (Giesen 2000).

## **XIX. EXPECTED CONSERVATION BENEFITS**

### **A) Overview and Relationship to the Range-Wide Plan**

This CCAA implements the conservation strategy set forth in the RWP for oil and gas operators. The RWP describes a conservation strategy which, when implemented, is intended to provide the populations and habitat needed to expand and sustain LEPC. The strategy identifies a desired population goal to be achieved within a 10 year period. The goal of the RWP is for a LEPC population of 67,000 birds distributed throughout four ecoregions. The RWP's strategy for achieving the population goal utilizes habitat goals (i.e. desired habitat amounts and conditions) to achieve the population goal within the first ten years of the RWP.

A key component of the RWP conservation strategy is its focus on habitat enhancement, maintenance, conservation, and protection in the areas of greatest importance to the LEPC. This is intended to accomplish two things:

- 1) Concentrate limited resources for species conservation in the most important areas, allowing for the restoration, enhancement, and maintenance of large blocks of habitat needed by LEPCs.
- 2) Identify areas where development should be avoided, which also helps identify areas where development is of less concern for LEPC. This provides oil and gas operators with the guidance they typically seek for their development planning purposes, and helps avoid conflicts over impacts to the species.

This CCAA is intended to align with and complement the RWP and provide operators with certainty as to how oil and gas exploration and development may continue in the event the LEPC is listed. The CCAA provides incentives for oil and gas operators to avoid, minimize, and mitigate impacts to LEPCs from their actions while providing oil and gas operators assurances regarding the effect, if any, that listing would have on their operations and development. Where avoidance and minimization of such impacts is not possible, the framework described in Appendix A of this CCAA and Exhibit 2 of the CI quantifies the impacts of development, quantifies the amount of mitigation necessary to offset the impacts, and then values these offsets.

Participants contribute funds to WAFWA for the value of offsets, and WAFWA uses these funds to improve LEPC habitat on private and state-owned lands.

B) Conservation Benefits from Avoidance, Minimization, and Mitigation

To achieve the habitat goals and the ultimate population goal, the CCAA promotes the avoidance, minimization, and mitigation of impacts of land by oil and gas development within habitat for the LEPC, with an emphasis on focal areas, connectivity zones, and high quality habitat. By creating incentives to locate new developments outside of focal areas, connectivity zones, and high quality habitat, direct and indirect impacts to LEPCs and their habitat will be greatly reduced. The CCAA encourages avoidance of focal areas, connectivity zones, and other high-quality habitat by assigning higher mitigation fees to these areas. Additionally, the CCAA encourages collocation of new oil and gas development near existing development by allowing participants to reduce mitigation fees by siting development within the impacted area associated with existing infrastructure. Similarly, Conservation Measures encourage the use of common rights-of-way for infrastructure and the use of directional drilling techniques and clustering of facilities where feasible to minimize impacts of new development to LEPC habitat. The CCAA also requires Conservation Measures that minimize impacts from development to the LEPC when complete avoidance of impacts is not possible. For example, the CCAA includes a seasonal timing restriction limiting oil and gas construction and maintenance activities in areas within 1.25 miles of leks to avoid potential disturbance of LEPCs and, where such activities cannot be avoided, the CCAA includes a daily timing restriction to benefit LEPCs by reducing indirect disturbance during the lekking, nesting and brooding seasons. Additional measures, such as the burying of distribution lines, will further minimize indirect impacts of new oil and gas development to LEPC.

In situations when impacts occur which cannot be fully addressed through avoidance and minimization procedures, this CCAA employs a mitigation framework that is based on the RWP and described in Appendix A. The RWP mitigation framework is a biologically based system that incorporates space, time and habitat quality to quantify both the impacts to habitat (impact units) and improvements to habitat (offset and remediation units). The mitigation framework does not evaluate impacts based merely on the amount of surface disturbance that results from development; the mitigation framework identifies a buffer surrounding infrastructure, the size of which varies by infrastructure type. The mitigation framework further assumes that the habitat within such buffers is 100% impacted and unusable by the LEPC. As a result, a Participant that constructs a new five-acre oil and gas well pad will mitigate approximately 31 acres (although this area may be reduced if the well pad is constructed within the impacted area associated with existing infrastructure). Yet, a Participant is not required to simply mitigate 31 acres. The mitigation framework requires that impacts will be offset with greater amounts of mitigation. The mitigation framework assigns an impact multiplier depending on CHAT category that range between 2.5 for CHAT category 1 and 1.6 for CHAT category 4 that, when averaged across the CHAT categories, produces an average 2:1 mitigation ratio. This 2:1 ratio ensures that mitigation efforts are greater than impacts, resulting in a conservation benefit for the LEPC habitat, and ultimately populations. Thus, to construct a five-acre well pad in unimpacted habitat, a Participant will be required to provide funds to allow for the mitigation of between 50 and 78 acres (31 acres multiplied by 1.6 and 2.5, respectively). To

account for variations in the quality of on-site vegetation, the number of impacted acres is adjusted by site condition scores to create “impact units.”

Impact units are then valued based on the cost of implementing NRCS practices that benefit the LEPC, and an administrative cost of approximately 12.5% of this value is also assessed. Operators then remit the value of the impact units to WAFWA. WAFWA utilizes these funds to generate habitat offset units, which are quantified using a similar methodology as the process for quantifying impact units. All offset units generated with these funds must be of the same or higher habitat quality than impacted acreage, as determined through the use of the CHAT and on-site vegetation monitoring, further ensuring a significant conservation benefit for LEPC when impacts do occur.

The CCAA and mitigation framework further provide a conservation benefit to the LEPC by providing WAFWA with an early and substantial commitment of funds by Participants, in two respects. First, upon enrollment in the CCAA, Participants will remit enrollment fees of \$2.25 per year for every enrolled acre for the first three years of enrollment (for a total of \$6.75 per acre). Operators may elect to remit three years’ of enrollments up front to allow immediate use of these funds and further provide conservation benefits. Although these enrollment fees serve as pre-payments of mitigation fees that would be required for future development, the commitment of these funds upon enrollment provides WAFWA with substantial resources to begin securing landowner contracts and generating offset units. Second, when a Participant is assessed a mitigation fee once development is proposed, the value of the mitigation fees assumes that all impacts will be permanent. Thus, fees are calculated by multiplying the number of offset units by 25, which provides sufficient funds to create a non-wasting endowment to provide permanent conservation offsets as described in the Business Plan that is attached as Appendix L to the RWP. Therefore, in the example above, a Participant developing a five-acre well pad must remit funds based on the value of between 1,250 and 1,950 impacted acres (50 and 78 acres respectively multiplied by 25), as adjusted by site condition scores.

One quarter of the habitat offset units generated through the mitigation framework will be targeted toward permanent easements to support long-term conservation and population strongholds. The remaining three-quarters of the offset units are targeted towards term contracts (5-10 years); notably, the aggregate amount of term contracts allow for permanent conservation as described on page 269, Appendix I, of the RWP, but term contracts allow conservation to be shifted around on the landscape within the targeting goals of the RWP and the CHAT. Conservation practices to be implemented for offset unit generation are specifically designed to provide conservation benefits for LEPC (e.g., prescribed grazing, prescribed burning, brush management, range planting, etc.) and are described in full in Appendix J of the RWP. The WAFWA mitigation framework utilized in this CCAA and described in Appendix A of this CCAA and Exhibit 2 of the CI incentivizes the timely remediation of impacts. In addition, the RWP and this CCAA adopt goals for the number of unimpacted acres in focal areas and connectivity zones. If these goals cannot be maintained, remediation is required prior to the implementation of new impacts thus ensuring sufficient unimpacted acres to reach habitat and population goals.

C) Summary

The implementation of this CCAA will result in a variety of conservation benefits to the LEPC in the form of avoidance, minimization and mitigation of impacts and provides enhancement and restoration of habitat intended to contribute to establishing, augmenting and maintaining LEPC populations. Conservation measures that minimize new surface disturbance also minimize habitat fragmentation and preserve contiguous expanses of LEPC habitat. LEPC reproductive behavior is promoted by Conservation Measures that limit activities and operations during lekking, nesting, and brooding seasons. Furthermore, the conservation offsets implemented with funds contributed by Participants are expected to further enhance LEPC habitat through the removal of infrastructure and remediation of impacts to restore LEPC habitat. When considered together, the Conservation Measures and provisions of the CCAA are expected to preserve, enhance, and restore LEPC habitat and remove threats to the LEPC, and are expected to yield increases to LEPC populations. In addition, conservation of LEPCs would be enhanced by improving and encouraging cooperative management efforts between WAFWA, FWS, and Participants.

**XX. MONITORING AND REPORTING**

WAFWA will be responsible for annual monitoring and reporting related to the CCAA.

A) Monitoring – WAFWA will perform monitoring as described on pages 122–124 of the RWP and will also conduct compliance monitoring.

B) Reporting

- 1) WAFWA shall provide FWS with an annual report regarding implementation of this CCAA by March 31. To the extent consistent with applicable state law, information in this annual report will include, but is not limited to:
  - a) Participants enrolled under the CCAA over the past year, including copies of the executed CI, excluding Exhibit 1;
  - b) A summary of habitat management and habitat conditions in the Covered Area and on all Enrolled Property over the past year with any identifying information related to Participants removed;
  - c) Summary of the effectiveness of the conservation activities implemented in previous years at meeting the intended conservation benefits;
  - d) Population surveys and studies conducted over the past year with any identifying information related to Participants removed;
  - e) Any mortality or injury that are observed of the species over the previous year;
  - f) Compliance issues as provided in Section XXIX (Participant Compliance) or any other issues with implementation of the CCAA. Compliance

reporting will be provided on the password-protected website in accordance with Section XXI (Confidentiality); and

- g) A discussion on the funds used for habitat conservation on private/state lands.
- 2) For the first three years of implementation of the CCAA, WAFWA will provide the FWS with a mid-term report following the breeding season-monitoring that provides information regarding enrollment and implementation of conservation practices.
- 3) Within 30 days of an emergency operation, the Participant shall provide a report to WAFWA of any emergency operations within 1.25 miles of leks active within the previous 5 years that occurred between March 1 and July 15, between the hours of 3 a.m. and 9 a.m. The report shall provide the following information: nature and dates of the emergency; the response action by the Participant; description of impacts to LEPC and habitat; and a description of what actions, if any, will be taken to offset impacts resulting from the emergency operation. Reports will be posted to the secure database and within 30 days of that posting WAFWA will notify FWS of the emergency operation.
- 4) By February 15 of each year of enrollment, Participants will provide WAFWA with the dates, duration and purpose of non-emergency construction and maintenance activities that occurred on undisturbed areas in rangeland or planted grass cover (e.g., off of a well pad, road, or facility) between March 1 and July 15 of the previous calendar year that are within 1.25 miles of leks active within the previous 5 years. WAFWA will review information provided by the Participants and if necessary will consult with Participant(s) to avoid or minimize disturbance during the breeding season.
- 5) In the annual report, WAFWA shall provide the number of enrolled acres as well as the number of Impact Units and Offset Units for each ecoregion.

## **XXI. CONFIDENTIALITY**

The Parties recognize that fee leasehold and mineral ownership information is confidential and sensitive business information held and not routinely disclosed and may be exempt from disclosure under the Freedom of Information Act (FOIA). Such confidential and sensitive business information includes but is not limited to the following:

- A) any maps depicting lands enrolled by an individual Participant that specifically identify the Participant;
- B) identifying information about an individual Participant's acreage position; or
- C) the location of any individual Participant's Enrolled Property that references the Participant individually.

Accordingly, WAFWA shall allow access to the foregoing information to only the relevant State fish and wildlife agency, the FWS, employees or agents of WAFWA, and the Participant that provided the information, unless otherwise authorized in writing by the Participant. WAFWA shall only allow such access to the information via a password protected database maintained by WAFWA and solely for the purpose of allowing the relevant State fish and wildlife agency, the FWS, employees or agents of WAFWA, or the Participant to view the particular information for monitoring and reporting, as described herein. WAFWA will not authorize anyone to download, possess, or distribute the information, unless otherwise authorized in writing by the Participant. FWS and WAFWA shall take all reasonable steps to maintain the confidentiality of such information under the relevant public information laws, including instructing the State fish and wildlife agency and WAFWA's employees and/or agents accordingly, but shall not be responsible to the extent any information is ultimately subject to disclosure under the relevant public record laws.

If FWS receives a request under the FOIA for information identified as potentially confidential in this section, and has responsive documents in its possession containing such information, it will consult with the Participant that submitted the information and provide it with an opportunity to object to the information's disclosure before determining whether the information must be disclosed or is exempt from disclosure pursuant to FOIA, including, but not limited to Exemption 4. Additional information regarding the FWS' process for responding to FOIA requests for possibly confidential information is set out at 43 CFR 2.26-2.36 (2013).

## **XXII. MODIFICATION OF THE CCAA AND AMENDMENT OF THE PERMIT**

Any Party may propose modifications or amendments to this CCAA by providing written notice to the other Party and all Participants. If WAFWA is the recipient of this notice, it will forward copies to the Participants within 10 days of receipt of the notice. If WAFWA provided written notice to the other Party, it will provide such written notice to the Participants at the same time notice is provided to the other Party. Such notice shall include a description of the proposed amendment, the justification for it, and its expected results. Upon issuance of the notice, the Party proposing the amendment will coordinate a meeting or conference call between the other Party and Participants to discuss and explain the proposal. The Parties will respond in writing or electronic mail to proposed amendments within 60 days of receipt of such notice. Proposed amendments will become effective upon the Parties' written concurrence. Approved amendments shall be dated and attached to the original CCAA.

A major amendment of the CCAA is likely to be subject to the procedural requirements of Federal laws and regulations, such as the National Environmental Policy Act (NEPA), and to require additional analysis by the FWS, public notification in the Federal Register, and a formal



CCAA amendment process. A major amendment of the CCAA is one that would result in (1) a different level or type of take than was analyzed in association with the original CCAA or (2) a change to the cumulative conservation benefits to the LEPC such that the CCAA standard might not be met.

In addition to amending the CCAA itself, FWS may amend the Enhancement of Survival Permit associated with this CCAA in accordance with all applicable legal requirements, including but not limited to the ESA, NEPA, and the FWS' general permitting regulations at 50 CFR parts 13 and 17, and formal FWS policy. The amendment procedure cannot be used to impose Conservation Measures that are not provided for in the CCAA or to propose additional use restrictions without Participant consent.

Participants enrolled in the CCAA prior to an amendment of the CCAA and/or the Permit will not be required to amend their CIs to accommodate an amendment that requires the commitment of additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon in the CCAA prior to the amendment. Participants, however, may voluntarily choose to adopt such amendments by amending their CIs.

### **XXIII. REMEDIES**

Each Party to this CCAA shall have all remedies otherwise available to enforce the terms of this CCAA and the Permit, except that no Party shall be liable in monetary damages for any breach of this CCAA, any performance or failure to perform an obligation under this CCAA or any other cause of action arising from this CCAA.

### **XXIV. DISPUTE RESOLUTION**

The FWS and WAFWA agree to work together and with Participants in good faith to resolve any disputes, using dispute resolution procedures agreed upon by the Parties, and when appropriate, the Participants.

### **XXV. SUCCESSION AND TRANSFER**

This CCAA shall be binding on and is to the benefit of the Participants enrolled via CIs and their successors and transferees (i.e., new owners). The rights and obligations under CIs shall run with the Enrolled Property and are transferable to subsequent non-Federal property owners. Participant shall notify WAFWA of any transfer of the Enrolled Property, so that WAFWA can attempt to contact the new property owner, explain the responsibilities applicable to the property, and seek to interest the new property owner in continuing enrollment of the property in the CCAA by entering into a new CI or adding the property to an existing CI to which the new property owner is a Participant. If the new owner(s) elects to enter into a CI for the transferred lands, the Enhancement of Survival Permit issued to WAFWA shall extend to the new owner(s), including the incidental take authorization and assurances it provides. The new owner(s) would, upon entering into a CI, have the same rights and obligations with respect to the Enrolled Property as the original owner.

Ownership interest in the Enrolled Property can be transferred before or after any decision to list the LEPC occurs. Notification of the transfer of any Enrolled Property shall be transmitted to WAFWA for approval within 30 days after the closing of such transfer. The notification shall include the detailed legal description(s), acreage of the Enrolled Property involved, state lease numbers (as applicable), and contact information for the new property owner.

If the LEPC is listed, an interested person or entity may become a Participant if it acquires a property interest in the Enrolled Property and wishes to continue enrollment of the property. The new property owner must sign a new CI (if the new property owner is not a Participant) or an amended CI (if the new property owner is an existing Participant) within 30 days after notice is provided to WAFWA and prior to conducting any Impact Activities on the transferred Enrolled Property. Upon becoming a Participant, all terms and conditions of the CCAA and CI, and the payment schedule shall be assumed by the receiving Participant.

Any funds that were prepaid into the Habitat Conservation Fund Account prior to the transfer of Enrolled Property will not be refunded. Upon mutual agreement of the transferor and new property owner, WAFWA will transfer funds that were prepaid into the transferor's Habitat Conservation Fund Account into the new property owner's Habitat Conservation Fund Account for the new property owner's use if the new property owner is or becomes a Participant. The transferor and new property owner will identify to WAFWA the amount of funds to be transferred. Subsequent prepayments for the transferred Enrolled Property will be the responsibility of the new property owner.

A Participant may, at any time, transfer the Enrolled property to a WCP in the WCA. The prior payment of fees in accordance with this CCAA and the associated CI shall satisfy the obligation to pay those corresponding fees due under the WCP.

## **XXVI. AVAILABILITY OF FUNDS**

The FWS is subject to the requirements of the Anti-Deficiency Act and the availability of appropriated funds. Nothing in this CCAA will be construed by the Parties to require the obligation, appropriation, or expenditure of any money from the U.S. Treasury. The Parties acknowledge that the FWS will not be required under this CCAA to expend any Federal agency's appropriated funds unless and until an authorized official of that agency affirmatively acts to commit to such expenditures in writing.

## **XXVII. NO THIRD-PARTY BENEFICIARIES**

This CCAA does not create any new right or interest in any member of the public as a third-party beneficiary, nor shall it authorize anyone not a Party to this CCAA to maintain a suit for personal injuries or damages pursuant to the provisions of this CCAA. The duties, obligations, and responsibilities of the Parties to this CCAA with respect to third parties shall remain as imposed under existing law.

## **XXVIII. NATIONAL HISTORIC PRESERVATION ACT**

Compliance with Section 106 of the National Historic Preservation Act (NHPA) shall be addressed on a case-by-case basis by the Participants or WAFWA, as appropriate, and will be

completed prior to implementation of Conservation Measures with the potential to affect historic properties. A Participant's action that may require NHPA compliance is the burying of new distribution lines within 1.25 miles of leks that have been active within the previous 5 years. Compliance will be required for a) ground disturbance in areas that have not been previously disturbed, such as in native grassland and shrubland, or b) where a new disturbance would exceed the level of a previous disturbance (i.e., a trench for burying distribution line in a cultivated field, would still need NHPA compliance since the trench would likely exceed the depth of disturbance previously caused by the crop cultivation).

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

The process for NHPA compliance includes a step-wise approach of identifying and evaluating potential impacts to historic properties resulting from the implementation of Conservation Measures. The Participant or WAFWA, as applicable, shall start this process as early as feasible in the planning process so that options for siting to avoid or minimize impacts to cultural resources are not precluded. To comply with the NHPA prior to taking action that may affect historic property, the Participant or WAFWA, as applicable, must adhere to the following process:

- A) During early planning, the Participant or WAFWA will determine if the planned Conservation Measures has the potential to affect historic properties. Generally, implementing Conservation Measures in previously disturbed areas does not have the potential to affect historic properties. If the planned Conservation Measure does not have the potential to affect historic properties, the Participant or WAFWA will receive FWS concurrence and the compliance process is complete.
- B) If the planned Conservation Measure has potential to affect historic properties, FWS will consult to identify historic properties in accordance with 36 C.F.R. § 800.4. FWS or consultant will then conduct records file search in coordination with the State Historic Preservation Officer (SHPO) and/or the Tribal Historic Preservation Officer (THPO).
- C) If a records search does not reveal the presence of historic properties (i.e., no resources identified) and past surveys are considered sufficient, then FWS will request concurrence of No Effect from SHPO/THPO in accordance with 36 C.F.R. § 800.4(d). If FWS receives concurrence from SHPO, the compliance process is complete.
- D) If the records file search determines that historic properties are potentially present, or determines that further investigations are appropriate, then the following factors will be evaluated:
  - 1) Whether or not there are historic properties, as defined by the National Register criteria (36 C.F.R. part 63), in the area of potential effect;
  - 2) Whether or not the Conservation Measures can avoid effects to historic properties; and
  - 3) Whether or not the Conservation Measures would adversely affect historic properties.
- E) If no historic properties are present and/or no adverse effects are anticipated, then FWS will request a concurrence of No Effect or No Adverse Effect from SHPO and any other consulting parties, in accordance with 36 C.F.R. § 800.4(d) or 36 C.F.R. § 800.5(d), respectively. If FWS receives concurrence from SHPO and other consulting parties, the compliance process is complete.
- F) If FWS, in consultation with the SHPO and other consulting parties, determines that historic properties will be adversely affected, then the FWS and the Participant or WAFWA will develop a Memorandum of Agreement (MOA) in accordance with 36 C.F.R. § 800.6.

## **XXIX. PARTICIPANT COMPLIANCE**

### **A) Unpaid Enrollment Fees**

If a Participant fails to remit an Enrollment Fee in accordance with the terms of Section XIII (Enrollment and Mitigation Fees), WAFWA may suspend the Participant's CI as to the Enrolled Property for which the Enrollment Fee is due until such Enrollment Fee is paid. WAFWA will

Issue a Notice of Non-Payment to the Participant 10 business days after the due date of the Enrollment Fee. If the Enrollment Fee is not paid within 10 business days of receipt of the Notice of Non-Payment, WAFWA will issue a Notice of Suspension to the Participant. Upon receipt of the Enrollment Fee, WAFWA will issue a Notice of Reinstatement to the Participant.

B) Compliance

1) Compliance Notice

In response to an alleged failure to implement a mandatory avoidance or minimization Conservation Measure or to pay Mitigation Fees, WAFWA may either directly contact or provide written notice to a Participant (“Compliance Notice”). A Compliance Notice shall meet the requirements of Section XXIX(C) and shall require the Participant to submit, within 20 business days of the date of the Compliance Notice or other specified time, a written explanation or statement in response that includes: (a) corrective steps taken by the Participant and results achieved; (b) a schedule and description of corrective steps that will be taken and results expected; or (c) a statement denying that the alleged failure has occurred and additional information supporting the statement.

WAFWA shall notify the relevant FWS Ecological Services field office of the potential compliance issue at the time they send a written Compliance Notice to the Participant, using established procedures for protecting confidential information (Section XXI). WAFWA will confer with FWS to determine if further FWS coordination is required for resolution.

WAFWA shall respond in writing to the Participant’s response and either: (a) accept the Participant’s response and state that the notice is resolved (“Notice of Resolution”); or (b) not accept the Participant’s response.

2) Deficiency Notice

If a Participant fails to respond to a Compliance Notice or WAFWA disagrees with the Participant’s response, WAFWA may issue a written Deficiency Notice. A Deficiency Notice shall meet the requirements of Section XXIX(C), below and shall require the Participant to submit, within 20 business days of the date of the Deficiency Notice or other specified time, a written explanation or statement in response that includes: (a) corrective steps taken by the Participant and results achieved; (b) a schedule and description of corrective steps that will be taken and results expected; or (c) a statement denying that the alleged failure has occurred, additional information supporting the statement and a request for discussions.

After coordination with FWS, WAFWA shall respond in writing to a Participant’s response and either: (a) accept the Participant’s response and provide a Notice of Resolution; or (b) not accept the Participant’s response.

3) Notice of Noncompliance

If a Participant fails to respond to Deficiency Notice or if WAFWA and the Participant cannot resolve the issue through discussions, WAFWA shall issue a Notice of Noncompliance. Notices of Noncompliance shall meet the requirements of Section XXIX(C), below and shall require the

Participant to submit, within 20 business days of receipt of the Notice of Noncompliance or other specified time, a written explanation or statement in response that includes: (a) corrective steps taken by the Participant and results achieved; (b) a schedule and description of corrective steps that will be taken and results expected; or (c) a statement denying that the alleged failure has occurred, additional information supporting the statement and a request for discussions.

The Advisory Committee, which includes FWS representation, will make a recommendation to the LPC Initiative Council regarding whether to accept or not accept the Participant's response. LPC Initiative Council will make a determination on whether to accept or not accept the Participant's response. The LPC Initiative Council shall respond in writing to the Participant's response and either: (a) accept the Participant's response and state that the notice is resolved ("Notice of Resolution"); or (b) not accept the Participant's response. If the LPC Initiative Council does not accept the Participant's response, the Notice of Noncompliance will be considered unresolved and the Participant may be subject to the provisions of Section XXX.

#### 4) Advisory Committee and LPC Initiative Council Review

At any time before a response is due to WAFWA, a Participant may seek review of any Compliance Notice, Deficiency Notice, Notice of Noncompliance or proposed termination by submitting a written request to the Advisory Committee. WAFWA and the Participant each may prepare a statement of position for review by the Advisory Committee or request a face-to-face review. The Advisory Committee shall review statements, information provided in a face-to-face and other information available to it and issue a recommendation to the LEPC Initiative Council, including any recommended corrective action.

The LPC Initiative Council shall review the recommendation of the Advisory Committee, confer with the relevant Regional Director(s) of the FWS, or its designee, and issue its finding and any required corrective action in writing ("Findings").

The Participant and WAFWA shall comply with the Findings, and the LPC Initiative Council will issue a written Notice of Resolution once the Participant complies with its Findings. If the Participant fails to implement the required corrective action within 20-business days of its receipt of the Findings, the LPC Initiative Council shall notify the Participant in writing that the Notice of Noncompliance has not been addressed and, at the same time, upload a copy of the notification to the password protected database described in Section XXI of this CCAA for FWS's review. WAFWA shall notify the relevant Regional Director(s) of the FWS, or its designee of the notification by electronic mail.

#### C) Content and Service of Notices, and Management of Notices and Responses

All Compliance Notices, Deficiency Notices, and Notices of Noncompliance shall be sent by U.S. mail, return receipt, to the company representative designated in a Participant's CI.

All Compliance Notices, Deficiency Notices, and Notices of Noncompliance shall concisely identify the Conservation Measure for the relevant CI that WAFWA believes the Participant has not implemented.

At the time WAFWA issues any notice described in this Section, WAFWA will upload a copy to the password protected database described in Section XXI of this CCAA for FWS's review. WAFWA shall also timely upload copies of all Participants' written explanations or response statements to the password protected database described in Section XXI of this CCAA for FWS's review. WAFWA shall notify the relevant FWS Ecological Services field office of issuance of notices and the receipt of responses by electronic mail.

D) Incidental Take

If the LEPC is listed, any incidental take of the LEPC that results from the Participant's failure to implement a mandatory avoidance or minimization Conservation Measures will remain authorized by the Permit so long as a Notice of Resolution relating to the Conservation Measure at issue is resolved in accordance with the procedures above.

**XXX. TERMINATION OF A CI**

Lands enrolled under a given CI may include tens or hundreds of thousands of acres. WAFWA and FWS expect that when one Notice of Noncompliance is not resolved, an appropriate action may be to terminate a CI as it relates to the lease(s) or parcel(s) of land on which the noncompliance occurred. Depending on the scale or scope of the violations, the failure to resolve three Notices of Noncompliance within a three-year period for lands enrolled in a CI within an ecoregion can result in termination of some or all the CI. WAFWA and FWS, however, recognize that termination of an entire CI is a severe and dramatic action limited to unusual circumstances after all efforts to address noncompliance have been exhausted.

A Participant shall be notified in writing by the LPC Initiative Council of the proposed termination by certified or registered mail addressed to the contact name in Section IV(B)(5) of the CI. This notice shall identify the lands for which a CI will be terminated, the reason(s) for the termination, and inform the Participant of the right to object to the proposed termination. Upon receipt of a notice of proposed termination, the Participant may file with the Advisory Committee a written objection to the proposed action within 45 calendar days of the date the Participant received the notice of proposed termination. The objection must state the reasons why the Participant objects to the proposed termination and may include supporting documentation. The Advisory Committee will review the written objection and all documentation, and will issue a recommendation to the LPC Initiative Council on the proposed termination.

The LPC Initiative Council will confer with the relevant FWS Regional Director. FWS shall have 20 calendar days from its receipt of notification that the proposed Notice was uploaded to the password protected database in accordance with Section XXI to complete its review or such other time period as agreed to by the LPC Initiative Council and FWS.

The LPC Initiative Council will make a decision on the proposed termination within 45 calendar days after the end of the objection period and notify the Participant in writing of its decision and the reasons thereto. A Participant may pursue any and all legal remedies, whether at law or in equity, arising from a decision to terminate some or all of a CI.

**XXXI. PERMIT SUSPENSION OR REVOCATION**

The FWS may suspend or revoke the Permit for cause in accordance with the laws and regulations in force at the time of such suspension or revocation (50 CFR 13.28(a)). The FWS may also, as a last resort, revoke the Permit if continuation of permitted activities would likely result in jeopardy to covered species (50 CFR 17.22/32(d)(7)). The FWS will revoke because of jeopardy concerns only after first implementing all practicable measures to remedy the situation.

**XXXII. RELATIONSHIP TO AUTHORITIES**

The terms of this CCAA shall be governed by and construed in accordance with applicable Federal law. Nothing in this CCAA is intended to limit the authority of the FWS to fulfill its responsibilities under Federal laws. All activities undertaken pursuant to this CCAA or its associated Permit must be in compliance with all applicable local, state, and Federal laws and regulations.

**XXXIII. NOTICES AND REPORTS**

Any notices or reports required by this CCAA may be delivered in writing or electronically to the Lesser Prairie-Chicken Program Manager for WAFWA unless the form of delivery for a particular notice is specifically identified.

**XXXIV. SIGNATURES**

IN WITNESS WHEREOF, THE PARTIES HERETO have, as of the last signature below, executed this CCAA to be in effect as of the date the FWS issues the Permit.

\_\_\_\_\_  
Director  
Western Association of Fish and Wildlife Agencies

Date: \_\_\_\_\_

\_\_\_\_\_  
Mountain Prairie Regional Director  
U.S. Fish and Wildlife Service

Date: \_\_\_\_\_

\_\_\_\_\_



## **APPENDIX A: Mitigation Fees**

The Mitigation Fees for Impact Activities associated with oil and gas development activities will be calculated using the following fee structure. These Mitigation Fees will apply to Impact Activities conducted on the Enrolled Property, as well as those Impact Activities conducted off Enrolled Property that are associated with activities on the Enrolled Property (such as construction of power lines and roads not located on the Participant's Enrolled Property but across properties serving Participant's activities on the Enrolled Property). The structure shall also apply to third parties doing work for the Participant, regardless of who constructs or operates the associated facilities. The Participant must comply with the procedures outlined in Section XIV of the CCAA (Development Procedures) before it or its third-party subcontractors conduct any Impact Activities on Enrolled Property.

The Mitigation Fees reflect the conservation strategy for the LEPC set forth in the Range-wide Conservation Plan for the LEPC ("RWP"). The RWP identifies numerous "focal areas" for the LEPC, which the RWP defines as the areas of greatest importance to the LEPC and where habitat enhancement, maintenance, and protection should be focused. The RWP also calls for the establishment of "connectivity zones" to allow linkage among focal areas.

### **A. COMPONENTS OF MITIGATION FEES**

Mitigation Fees are a function of four factors:

1. The cost of implementation of various U.S. Department of Agriculture (USDA) restoration and improvement practices in a given ecoregion.
2. The crucial habitat index (CHI) for the LEPC as defined by the Southern Great Plains Crucial Habitat Assessment Tool (CHAT).
3. The site condition score as defined by the HEG.
4. The Impact Buffers associated with the Impact Activities, which reflect that area surrounding Impact Activities that affect or were believed to potentially affect LEPC habitat suitability.

#### **1. U.S. Department of Agriculture Practice Costs**

The USDA defines the costs of LEPC habitat maintenance and restoration practices identified in the NRCS LEPC Conference Report, NRCS Fair Market Value Estimates for property values for the Grassland Reserve Program, Conservation Reserve Program Soil Rental Rates, and the Conservation Reserve Program Mid-contract Management Practices. An explanation of these costs is provided on pages 259–260 of the RWP.

#### **2. Southern Great Plains Crucial Habitat Assessment Tool**

The Crucial Habitat Assessment Tool (CHAT) is a spatial model put together to designate and prioritize areas for LEPC conservation activities and industry development. As such, it plays a

dual role in that it is used to encourage development activities to occur outside of high priority areas as well as monitor activities that occur in each of the categories. Another purpose of this dataset is to create an online tool usable by conservation managers, industry, and the public that identifies priority habitat, including connecting corridors that can be used in the early stages of development or conservation planning. By providing a consistent layer, used by all, we help target both conservation and development in areas that provide the greatest overall benefits to LEPC.

- a) CHAT 1- This category is comprised of the focal areas for LEPC conservation. The focal areas were designated by teams in each state that prioritized and identified intact LEPC habitat. This category was defined using GIS layers such as landscape integrity models, aerial photos, soil maps, anthropogenic disturbances, land cover and expert opinion.
- b) CHAT 2- This category is comprised of the corridors/connectivity zones for LEPC conservation. The corridors/connectivity zones were designated by teams in each state that prioritized and identified intact LEPC habitat. This category was defined using GIS layers such as landscape integrity models, aerial photos, soil maps, anthropogenic disturbances, land cover, and expert opinion.
- c) CHAT 3- This category is comprised of predicted high-quality habitat from the lek Maxent models. Maxent is an abbreviation for maximum entropy classifier and is an ecological niche model used for describing available and potential habitat. The model uses base layers (e.g., leks, nests, CRP, land cover, abiotic site condition) to characterize that habitat on the landscape.
- d) CHAT 4- This category is comprised of all additional lands in the estimated occupied range (EOR) for the LEPC plus 10 miles which are not contained in CHAT 1, CHAT 2, or CHAT 3. The EOR is an expert derived delineation that has had 10 miles added to it for range expansion and planning.

For further information on the CHAT and further definitions of the four different CHI visit [http://kars.ku.edu/media/uploads/maps/sgpchat/SGPCHAT\\_Summary.pdf](http://kars.ku.edu/media/uploads/maps/sgpchat/SGPCHAT_Summary.pdf). To view the CHAT visit <http://kars.ku.edu/maps/sgpchat/>.

### **3. Habitat Evaluation Guide**

The Habitat Evaluation Guide (HEG) is a rapid assessment method to assess site condition or LEPC habitat quality (0 to 1) based on four variables:

- a) Vegetation Cover - Non-overlapping canopy cover of herbaceous plants and woody shrubs within evaluation unit.
- b) Vegetative composition—Relative vegetative cover of preferred grasses and shrubs including little bluestem, sideoats grama, big bluestem, Indian grass, sand bluestem, switchgrass, sand sagebrush, and sand shinnery oak.
- c) Presence of Tall Woody Plants - Greater than 3 feet in height.

- d) Availability of potential habitat – Proportion of area within a 1 mile radius in grass cover with <1% canopy cover of trees >3 ft. in height.

The site conditions within a one (1) mile radius of the Impact Activities are assessed using these variables and a score is associated for this area (“HEG Score”).

#### 4. Impact Buffers

The Impact Buffers for Impact Activities are defined as:

Impact Activity	Buffer feet (meters)
Oil and gas pads	656 (200)
Distribution lines <69 kV	33 (10)
Private roads (well field roads, etc.)	33 (10)
Small compressor stations	656 (200)
Other compressor stations	2188 (667)
Industrial buildings	2188 (667)

- a) Oil and gas pads – Represents the site where vegetation is removed for oil and gas operations for well pads, in-field tank batteries, or small compressor stations with a pad ≤5 acres in size and a noise limitation of 75dB or less at the property line or at a point greater than 30 feet from the Facility Boundary. For pads ≤5 acres in size after completion, consider the well site or centroid to establish the Impact Buffer. For pads >5 acres in size, apply the oil and gas pad buffer out from the Facility Boundary.
- b) Distribution lines <69 kV – Use the centerline of the right-of-way as a basis for the Impact Buffer. If the line is sited along a private road, no farther than the outer edge of road ditch, utilize a single Impact Buffer for both the road and line.
- c) Small compressor stations – Represents pipeline compressor stations with an area of 5 acres and a maximum noise level of 75dB or less at the property line or a point greater than 30 feet from the Facility Boundary. If the noise restrictions are met, but the compressor station is > 5 acres in size, apply the oil and gas pad buffer out from the Facility Boundary.
- d) Other compressor stations – Represents all pipeline compressor stations with a noise level that exceeds 75 dB at the property line or a point greater than 30 feet from the Facility Boundary. If the compressor station is ≤5 acres in size, apply the buffer to the centroid of the Facility Boundary. If >5 acres, apply the oil and gas pad buffer out from the Facility Boundary.
- e) Private roads – Non-public, privately-maintained roads, including farm and ranch roads, well-field roads, etc. Utilize the centerline as a basis for the Impact Buffer.
- f) Industrial buildings - Includes infrastructure such as office buildings, commercial garages, distribution centers, and electrical substations. For sites ≤10 acres in size

utilize the centroid as a basis for the Impact Buffer. Use the perimeter of the building as the basis for the buffer if the Facility Boundary is >10 acres.

## **B. CALCULATION OF MITIGATION FEES**

Mitigation Fees are the result of the Base Impact Unit Cost multiplied by the number of Impact Units, the Impact Multiplier, and the Endowment Multiplier:

$$\text{Mitigation Fees} = \text{Base Impact Unit Cost} \times \text{Impact Units} \times \text{Impact Multiplier} \times \text{Endowment Multiplier}$$

### **1. Base Impact Unit Costs**

Base Impact Unit Costs are the product of a Habitat Management Cost and an administration cost:

$$\text{Base Impact Unit Cost} = (\text{Habitat Management Cost} \times \text{Administration Cost}) + \text{Habitat Management Cost}$$

In October 2013, the administration cost is 12.5% of the Habitat Management Cost.

The Habitat Management Costs vary by ecoregion. In October 2013, these costs are:

Sand Sagebrush:	\$19.13
Mixed Grass:	\$47.47
Shinnery Oak:	\$31.70
Short Grass:	\$28.77

### **2. Impact Units**

Impact Units are the product of the number of New Impacted Acres and the HEG Score:

$$\text{Impact Units} = \text{HEG Score} \times \text{New Impacted Acres}$$

New Impact Acres are the difference between the number of acres within the area of impact associated with the New Impact Activity (“New Impact Area”) and the number of acres within Impact Buffers associated with pre-existing infrastructure that overlap with the New Impact Area (“Area of Overlap”):

$$\text{New Impact Acres} = \text{New Impact Area} - \text{Area of Overlap}$$

The New Impact Area is calculated as:

$$\text{New Impact Area} = (\text{Impact Buffer}^2 \times \pi) / 43,560$$

Costs will be assessed based on only New Impact Acres, not the New Impact Area. The Impact Buffer distances for pre-existing infrastructure are identified in Table 7 on page 95 of the RWP. If the New Impact Area can be located entirely within a buffer associated with pre-existing

infrastructure (*i.e.*, the New Impact Acres are zero), no cost will be assessed for the new Impact Activities. Impact Buffers are defined in feet, which must be converted to acres.

### **3. Impact Multiplier**

Impact multipliers vary by CHAT category. Together with the offset multipliers identified in Table 8, page 100, of the RWP, they produce a 2:1 mitigation ratio within each CHAT category. The impact multipliers are:

CHAT 1	2.5
CHAT 2	2.1
CHAT 3	1.8
CHAT 4	1.6

### **4. Endowment Multiplier**

The Endowment Multiplier is 25, which provides sufficient resources to fund an endowment managed by WAFWA that will provide for in-perpetuity conservation, as described on pages 99, 260, and 261 of the RWP.

### **5. Inflation and Adaptive Management**

The variables outlined in this Section B of this Appendix may be adjusted due to changes in inflation or adaptive management consistent with the terms of Section D of this Appendix (Adjustment of Fees).

### **6. Miscellaneous**

Construction of roads and other linear features on the Enrolled Property may also disturb the surface of other property not enrolled in the CI. The Mitigation Fee calculated for new road construction or new linear features includes disturbances occurring on both Enrolled and non-Enrolled Property.

Mitigation Fees will not be charged for any buried infrastructure.

## **C. RANGE OF MAXIMUM MITIGATION FEES ASSOCIATED WITH IMPACT ACTIVITIES**

Using the calculations outlined above and the Base Impact Unit Costs as of October 2013, a range of potential Mitigation Fees associated with Impact Activities are set forth in Table 1. The range of potential Mitigation Fees reflects a range of HEG scores (0.05 to 0.5 to 1); however, a HEG score can be assessed for any value between 0.05 and 1. The range of potential Mitigation Fees then reflects the range of HEG scores within the CHAT layers within each ecoregion. These Mitigation Fees assume that the buffers associated with the Impact Activities do not overlap with the Impact Buffers of any pre-existing infrastructure (*i.e.*, the Area of Overlap is zero). Thus, these Mitigation Fees are the maximum that could be assessed for Impact Activities within a given area.

After December 31, 2014, the costs identified in Table 1 may be adjusted due to changes in inflation or adaptive management as described in Section D of this Appendix.

Table 1: Range of Maximum Mitigation Fees Associated with Impact Activities by Ecoregion

**Sand Sagebrush**

Category*	Cost Range in Focal Areas (CHAT 1)			Cost Range in Connectivity Zones (CHAT 2)		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$41,764.78	\$20,882.39	\$2,088.24	\$35,082.42	\$17,541.21	\$1,754.12
Distribution Line (<67 kV) (per mile)	\$10,697.40	\$5,348.70	\$534.87	\$8,985.81	\$4,492.91	\$449.29
Privately-Maintained Roads (per mile)	\$10,697.40	\$5,348.70	\$534.87	\$8,985.81	\$4,492.91	\$449.29
Industrial Buildings and Large Compressors	\$464,517.29	\$232,258.65	\$23,225.86	\$390,194.53	\$195,097.26	\$19,509.73

Category*	Cost Range in CHAT 3			Cost Range in CHAT 4		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$30,070.64	\$15,035.32	\$1,503.53	\$26,729.46	\$13,364.73	\$1,336.47
Distribution Line (<67 kV) (per mile)	\$7,702.13	\$3,851.06	\$385.11	\$6,846.33	\$3,423.17	\$342.32
Privately-Maintained Roads (per mile)	\$7,702.13	\$3,851.06	\$385.11	\$6,846.33	\$3,423.17	\$342.32
Industrial Buildings and Large Compressors	\$334,452.45	\$167,226.23	\$16,722.62	\$297,291.07	\$148,645.53	\$14,864.55

\*The categories are defined in Section A(4) of this Appendix.

The tables above reflect Mitigation Fees associated with high quality vegetation (HEG Score 1), low quality vegetation (HEG Score 0.05), and medium quality vegetation (HEG Score 0.5). However, HEG Scores ranging anywhere between 0.05 and 1 can be assigned depending on site conditions. Mitigation Fees will vary with HEG Scores.

### Mixed Grass

Category*	Cost Range in Focal Areas (CHAT 1)			Cost Range in Connectivity Zones (CHAT 2)		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$103,640.81	\$51,820.40	\$5,182.04	\$87,058.28	\$43,529.14	\$4,352.91
Distribution Line (<67 kV) (per mile)	\$26,545.98	\$13,272.99	\$1,327.30	\$22,298.62	\$11,149.31	\$1,114.93
Privately-Maintained Roads (per mile)	\$26,545.98	\$13,272.99	\$1,327.30	\$22,298.62	\$11,149.31	\$1,114.93
Industrial Buildings and Large Compressors	\$1,152,716.40	\$576,358.20	\$57,635.82	\$968,281.77	\$484,140.89	\$48,414.09

Category*	Cost Range in CHAT 3			Cost Range in CHAT 4		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$74,621.38	\$37,310.69	\$3,731.07	\$66,330.12	\$33,165.06	\$3,316.51
Distribution Line (<67 kV) (per mile)	\$19,113.10	\$9,556.55	\$955.66	\$16,989.43	\$8,494.71	\$849.47
Privately-Maintained Roads (per mile)	\$19,113.10	\$9,556.55	\$955.66	\$16,989.43	\$8,494.71	\$849.47
Industrial Buildings and Large Compressors	\$829,955.80	\$414,977.90	\$41,497.79	\$737,738.49	\$368,869.25	\$36,886.92

\*The categories are defined in Section A(4) of this Appendix.

The tables above reflect Mitigation Fees associated with high quality vegetation (HEG Score 1), low quality vegetation (HEG Score 0.05), and medium quality vegetation (HEG Score 0.5). However, HEG Scores ranging anywhere between 0.05 and 1 can be assigned depending on site conditions. Mitigation Fees will vary with HEG Scores.



## Shinnery Oak

Category*	Cost Range in Focal Areas (CHAT 1)			Cost Range in Connectivity Zones (CHAT 2)		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$69,216.66	\$34,608.33	\$3,460.83	\$58,141.99	\$29,071.00	\$2,907.10
Distribution Line (<67 kV) (per mile)	\$17,728.77	\$8,864.38	\$886.44	\$14,892.17	\$7,446.08	\$744.61
Privately-Maintained Roads (per mile)	\$17,728.77	\$8,864.38	\$886.44	\$14,892.17	\$7,446.08	\$744.61
Industrial Buildings and Large Compressors	\$769,843.25	\$384,921.63	\$38,492.16	\$646,668.33	\$323,334.17	\$32,333.42

Category*	Cost Range in CHAT 3			Cost Range in CHAT 4		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$49,835.99	\$24,918.00	\$2,491.80	\$44,298.66	\$22,149.33	\$2,214.93
Distribution Line (<67 kV) (per mile)	\$12,764.71	\$6,382.36	\$638.24	\$11,346.41	\$5,673.21	\$567.32
Privately-Maintained Roads (per mile)	\$12,764.71	\$6,382.36	\$638.24	\$11,346.41	\$5,673.21	\$567.32
Industrial Buildings and Large Compressors	\$554,287.14	\$277,143.57	\$27,714.36	\$492,699.68	\$246,349.84	\$24,634.98

\*The categories are defined in Section A(4) of this Appendix

The tables above reflect Mitigation Fees associated with high quality vegetation (HEG Score 1), low quality vegetation (HEG Score 0.05), and medium quality vegetation (HEG Score 0.5). However, HEG Scores ranging anywhere between 0.05 and 1 can be assigned depending on site conditions. Mitigation Fees will vary with HEG Scores.

### Short Grass

Category*	Cost Range in Focal Areas			Cost Range in Connectivity Zones		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$62,821.27	\$31,410.63	\$3,141.06	\$52,769.86	\$26,384.93	\$2,638.49
Distribution Line (<67 kV) (per mile)	\$16,090.69	\$8,045.34	\$804.53	\$13,516.18	\$6,758.09	\$675.81
Privately-Maintained Roads (per mile)	\$16,090.69	\$8,045.34	\$804.53	\$13,516.18	\$6,758.09	\$675.81
Industrial Buildings and Large Compressors	\$698,712.26	\$349,356.13	\$34,935.61	\$586,918.30	\$293,459.15	\$29,345.92

Category*	Cost Range in CHAT 3			Cost Range in CHAT 4		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$45,231.31	\$22,615.66	\$2,261.57	\$40,205.61	\$20,102.81	\$2,010.28
Distribution Line (<67 kV) (per mile)	\$11,585.30	\$5,792.65	\$579.26	\$10,298.04	\$5,149.02	\$514.90
Privately-Maintained Roads (per mile)	\$11,585.30	\$5,792.65	\$579.26	\$10,298.04	\$5,149.02	\$514.90
Industrial Buildings and Large Compressors	\$503,072.83	\$251,536.41	\$25,153.64	\$447,175.85	\$223,587.92	\$22,358.79

\*The categories are defined in Section A(4) of this Appendix.

The tables above reflect Mitigation Fees associated with high quality vegetation (HEG Score 1), low quality vegetation (HEG Score 0.05), and medium quality vegetation (HEG Score 0.5). However, HEG Scores ranging anywhere between 0.05 and 1 can be assigned depending on site conditions. Mitigation Fees will vary with HEG Scores.

## **D. ADJUSTMENT OF FEES**

The Mitigation Fees described in this Appendix may be adjusted annually to reflect inflation based on USDA practice costs and adaptive management changes, as described in Sections XV and XVI of the CCAA.

### **1. Changes in Mitigation Fees Due to Inflation**

Changes in inflation may affect USDA practice costs, which will require changes to Habitat Management Costs. However, annual increases attributable to changes to Habitat Management Costs will not result in increases or decreases to the Mitigation Fees of more than 3% in any given year from the Mitigation Fees as they existed on December 31 of the previous year.

### **2. Changes in Mitigation Fees Due to Adaptive Management**

In the event the RWP or elements of its conservation strategy are adjusted through adaptive management, the Mitigation Fees assessed on the Participant will not increase or decrease more than 4% in any given year from the Mitigation Fees for the prior calendar year.

The 3% limit on inflation adjustments and 4% limit on adaptive management adjustments apply to all Mitigation Fees. Thus, annual increases to Mitigation Fees associated with development in a particular ecoregion, within a particular CHAT category, focal or connectivity area, and in an area with a particular site condition score, will not exceed 3% due to inflation and 4% due to adaptive management of the Mitigation Fees for development in areas with the same variables. Put otherwise, inflation adjustments will not cause the Mitigation Fee to develop a specific parcel of land in Year N+1 (e.g., year 2) to increase more than 3% beyond the Mitigation Fee to develop that same parcel of land in Year N (e.g., year 1) (assuming habitat quality on the parcel remains the same from year to year). Similarly, adaptive management adjustments will not cause the Mitigation Fee to develop a specific parcel of land in Year N+1 (e.g., year 2) to increase more than 4% of the Mitigation Fee to develop that same parcel of land in Year N (e.g., year 1) (assuming habitat quality on the parcel remains the same from year to year).

The following formula mathematically reflects the maximum annual increase to Mitigation Fees:

$$\begin{aligned} \text{Maximum Mitigation Fee for } Y_{n+1} = \\ (\text{Mitigation for } Y_n \times 0.04) + (\text{Mitigation for } Y_n \times 0.03) + \text{Mitigation Fee for } Y_n \end{aligned}$$

The Mitigation Fees for Year “Y1” are those reflected on the version of the HEG in effect when the Participant executes the CI. Prior to October 1, 2014, the HEG in effect is available at [www.wafwa.org](http://www.wafwa.org); the range of Mitigation Fees associated with this HEG is identified in Section C of this Appendix. Mitigation Fees for subsequent years are those in effect on December 31.

The RWP contemplates that some evaluations and adjustments will occur less frequently than annually (i.e., on a five- or ten-year basis). The 4% annual maximum adjustment resulting from adaptive management applies to all adjustments under the adaptive management provisions of the RWP, regardless of frequency. In other words, an adjustment that only occurs every five

years cannot cause Mitigation Fees in any given year to increase more than 4% of the prior year's Mitigation Fees.

**APPENDIX B:  
Process for Generating Units from Remediation**

The Participant may remediate impacts and generate remediation units (“Remediation Units”) for the remediated impacts. Remediation Units can be generated by performing remediation activities throughout the Covered Area of the CCAA (EOR + 10); remediation activities need not be performed on lands enrolled either in a CI or in the RWP, as long as the Participant can provide WAFWA or a WAFWA-approved Service Provider the access necessary to perform site evaluations. Remediation Units will be credited to the Participant’s Habitat Conservation Fund Account; however, Remediation Units may only be applied in the ecoregion in which the remediation occurred. Remediation Units will be reserved for the Participant that performed the remediation; however, the Participant may elect to transfer the Remediation Units. The process for quantifying units is described in this Appendix.

The Participant may generate Remediation Units for the remediation of impacts from Impact Activities for which Mitigation Fees have been paid. The Participant may also generate Remediation Units for the remediation of impacts for which Mitigation Fees have not been paid (i.e., existing impacts). Different processes will be used for quantifying offset units depending on whether the impacts to be remediated result from Impact Activities for which Mitigation Fees have been paid.

In order to demonstrate that impacts will be remediated, the Participant must provide WAFWA with documentation demonstrating that the remediation activities have occurred and that the remediated area has been seeded with native vegetation, at least to the minimum standard defined by the Natural Resources Conservation Service’s Conservation Practice Code 550 (Range Planting).

**A. THE REMEDIATED IMPACTS RESULT FROM IMPACT ACTIVITIES FOR WHICH MITIGATION FEES WERE PAID**

The number of Remediation Units generated is the product of the HEG Score multiplied by the Remediation Acres, the Impact Multiplier, and the Endowment Multiplier:

$$\textit{Remediation Units} = \textit{HEG Score} \times \textit{Remediation Acres} \times \textit{Impact Multiplier} \times \textit{Endowment Multiplier}$$

WAFWA or TSP will conduct a site assessment after the remediation activities have been completed and determine the HEG Score using the process outlined in Appendix I of the RWP.

Remediation Acres are the difference between the number of acres within the remediated area (“Remediated Area”) and the number of acres within Impact Buffers associated with pre-existing infrastructure that overlap with the Remediated Area (“Area of Overlap”):

$$\textit{Remediation Acres} = \textit{Remediated Area} - \textit{Area of Overlap}$$

The Remediated Area is calculated as:

$$\textit{Remediated Area} = (\textit{Impact Buffer}^2 \times \pi) / 43,560$$

To account for adaptive management changes and changes in surrounding infrastructure over time, the Impact Buffer, Impact Multiplier, and Endowment Multiplier as defined when the remediation activities occur will be used to calculate the Remediation Acres. Impact Buffers are defined in feet, which must be converted to acres.

**B. REMEDIATION OF IMPACTS FOR WHICH MITIGATION FEES WERE NOT PAID (PREVIOUSLY EXISTING IMPACTS)**

The difference between the calculation of Remediation Units for impacts for which Mitigation Fees were paid and those impacts for which Mitigation Fees were not paid (i.e., existing impacts) is that an offset multiplier will be used to calculate Remediation Units for which Mitigation Fees were not paid (rather than an impact multiplier). The offset multiplier is based on the CHAT category where the treatment is occurring and is provided on page 100 of the RWP. An administration cost of 6.25% will be assessed on the value of Remediation Units associated with the previously existing impacts. In order to calculate Remediation Units for which Mitigation Fees were not paid, the Participant may be required to supply WAFWA with maps of existing impacts where the remediation activities will occur.

**1. Quantifying the Number of Remediation Units**

The number of Remediation Units generated is the product of the HEG Score multiplied by the Remediation Acres, the Offset Multiplier, and the Endowment Multiplier:

$$\text{Remediation Units} = \text{HEG Score} \times \text{Remediation Acres} \times \text{Offset Multiplier} \times \text{Endowment Multiplier}$$

WAFWA or TSP will conduct a site assessment after the remediation activities have been completed and determine the HEG Score using the process outlined in Appendix I of the RWP.

Offset Multipliers vary by CHAT category. Together with the impact multipliers identified in Appendix A, they produce an average 2:1 mitigation ratio within each CHAT category.

Remediation Acres are the difference between the number of acres within the remediated area (“Remediated Area”) and the number of acres within Impact Buffers associated with pre-existing infrastructure that overlap with the Remediated Area (“Area of Overlap”):

$$\text{Remediation Acres} = \text{Remediated Area} - \text{Area of Overlap}$$

The Remediated Area is calculated as:

$$\text{Remediated Area} = (\text{Impact Buffer}^2 \times \pi) / 43,560$$

The Impact Buffer, Offset Multiplier, and Endowment Multiplier to be used to calculate the Remediation Acres will be the Impact Buffer, Offset Multiplier and Endowment Multiplier as defined when the remediation activities occur. Impact Buffers are defined in feet, which must be converted to acres.

## 2. Calculating the Administration Cost for Remediation Units

An administration cost of 6.25% will be assessed on the value of Remediation Units associated with impacts for which no Mitigation Fees were paid. The value of Remediation Units is the product of the number of Remediation Units generated, the Habitat Management Cost, and an administration cost of 6.25%.

$$\text{Administration Cost} = \text{Remediation Units} \times \text{Habitat Management Cost} \times 0.0625$$

Remediation Units are valued using the Habitat Management Cost that is current at the time the Participant seeks credit of the value of the remediation performed. Habitat Management Costs vary by ecoregion. In October 2013, these costs are:

Sand Sagebrush:	\$19.13
Mixed Grass:	\$47.47
Shinnery Oak:	\$31.70
Short Grass:	\$28.77

**APPENDIX C:**

**CERTIFICATE OF INCLUSION**  
**in the**  
**Range-wide Oil and Gas**  
**Candidate Conservation Agreement with Assurances for the**  
**Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*)**

**CI Tracking Number DOI-FWS-2-2013-XXXX-YYYY**

This Certificate of Inclusion (CI) certifies that \_\_\_\_\_ (Participant), as the owner of the property(s) identified in Exhibit 1 (Enrolled Property) to this CI, is included within the scope of the attached Enhancement of Survival Permit, Permit No. **[insert Permit No.]** issued on **[insert date]** by the U.S. Fish and Wildlife Service (FWS) to the Western Association of Fish and Wildlife Agencies/Foundation for Western Fish and Wildlife (WAFWA) under the authority of Section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (ESA), 16 U.S.C. 1531-1544 (Exhibit 4). This Permit was issued through the above-named Candidate Conservation Agreement with Assurances (CCAA) for the lesser prairie-chicken (LEPC) between FWS and WAFWA (attached as Exhibit 5), the purpose of which is to support WAFWA's ongoing and future efforts to manage, conserve and recover LEPC. The definitions and acronyms set forth in the CCAA that is attached hereto as Exhibit 5 shall apply to this CI, unless otherwise specified.

This CI documents the Participant's voluntary agreement to enroll specified property in the CCAA. Through this CI, the Participant voluntarily commits to implement or fund specific conservation actions that will reduce and/or eliminate threats to the LEPC as provided in this CI, the CCAA and the Permit. Pursuant to this CI and the Permit, the Participant is authorized for incidental take of LEPC as a result of the Covered Activities identified in Section IX of the CCAA on or associated with Enrolled Property, in the event the LEPC is listed as endangered or threatened. The Permit further provides the Participant with assurances regarding the imposition of additional conservation measures and land use restrictions on Enrolled Property, as specified in the Permit and the CCAA, in the event the LEPC is listed. The incidental take authorization and assurances provided by the Permit are conditioned on the Participant's compliance with the terms and conditions of this CI, the CCAA and the Permit.

This CI is effective upon execution of this CI by the Participant and WAFWA. Unless terminated as provided in Section I below, this CI shall continue from its effective date through the duration of the CCAA and Permit as defined in Section X of the CCAA. In the event of a conflict between the terms and conditions of this CI and the CCAA or Permit, the terms and conditions of the CCAA or Permit in effect at the time of enrollment shall govern.

By signing below, the Participant acknowledges that it has read and understands this CI and the CCAA in effect on the date of the Participant's signature. The Participant further commits to comply with the terms and conditions of the CCAA and the Permit attached as Exhibits 4 and 5



to this CI. Finally, the Participant acknowledges that this CI and the CCAA may not be sufficient to prevent the listing of the LEPC.

## **I. ENROLLED PROPERTY.**

### **A. Participant Affirmation.**

By executing this CI, the Participant affirms that it is a Property Owner of the Enrolled Property as defined by 50 CFR §17.3, which provides that a Property Owner for these purposes is a person or entity with a fee simple, leasehold, or property interest (including owners of water or other natural resources), sufficient to carry out the Conservation Measures and any other management activities contemplated by this CI, the CCAA and the Permit, subject to applicable State law, on enrolled, non-Federal land.

### **B. Additions to Enrolled Property.**

The Participant may seek to enroll additional Eligible Properties in this CI during the Enrollment Period as set out in Section VIII (Enrolled Property) of the CCAA attached as Exhibit 5.

### **C. Transfer of Enrolled Property.**

If the Participant transfers its property interest in an Enrolled Property, it shall notify WAFWA as described in Section XXV (Succession and Transfer) of the CCAA. Coverage under the Permit for such property will be transferred to the new Property Owner as described in Section XXV (Succession and Transfer) of the CCAA attached as Exhibit 5.

### **D. Termination of Enrolled Property or this CI.**

A Participant may terminate enrollment of a property in this CI, or terminate this CI in its entirety, in accordance with Section VIII(F) (Enrolled Property) of the CCAA attached as Exhibit 5. WAFWA may also terminate enrollment of a property or this CI as provided in Section XXX (Termination of a CI) of the CCAA. The process and effect of termination of this CI is described in Sections VIII and XXX of the CCAA.

### **E. Revisions to Exhibit 1.**

Exhibit 1 may be revised in accordance with the procedures outlined in Section VIII(G) of the CCAA (Enrolled Property).

### **F. Potential for Future Enrollment of Additional Property.**

If the FWS in the future develops a policy allowing enrollment of properties in a CCAA after listing, it will consider whether to propose an amendment to this CCAA that would allow a CI to be amended to enroll New Property after listing, consistent with any potential criteria that may be developed if the FWS allows post-listing enrollments in the future.

## **II. PARTICIPANT AGREEMENT TO IMPLEMENT CONSERVATION MEASURES.**

The Participant agrees to comply with the requirements of this CI, the CCAA attached as Exhibit 5, and the Permit. This agreement includes the Participant's commitment to implement Conservation Measures on Enrolled Property as provided in Sections XII (Conservation Measures) and XIII (Mitigation Fees) of the CCAA attached as Exhibit 5, which are duplicated below for ease of reference.

The Participant shall also notify and educate all personnel, agents, and contractors about the requirements of this CI and the CCAA, and take steps necessary to ensure that such personnel, agents, and contractors comply with these requirements in their activities on the Enrolled Property.

A. Habitat Loss and Fragmentation. Habitat loss and fragmentation are primary threats to the LEPC. Construction of oil and gas pads, compressor stations, private roads (e.g., lease roads), distribution lines, and industrial buildings ("Impact Activities") may contribute to habitat loss and fragmentation. The following Conservation Measures apply to any action that could further negatively impact LEPC habitat or connectivity between blocks of LEPC habitat to receive coverage under the CCAA.

### 1) Avoidance

- a) Use available options to avoid focal areas, connectivity zones, or within 1.25 mi of known leks that have been active at least once within the previous five years, as well as sites dominated by tracts of native grass and shrublands (see the 2013 Crucial Habitat Assessment Tool (CHAT), state fish and wildlife agency staff, and Section XIV of the CCAA (Development Procedures) for more information). (Discretionary)
- b) Focus development on lands already altered or cultivated (such as row-crop agriculture or developed oilfields), and away from areas of undeveloped native grass or shrublands. Select fragmented or degraded habitats over relatively intact areas, and select sites with lower LEPC habitat potential over sites with greater habitat potential. The Natural Resources Conservation Service (NRCS) Ecological Site Descriptions, where available, are a good indicator to use (see Appendix C of the Range-wide Plan (RWP)). (Discretionary)

### 2) Minimization

- a) Use common rights of way for multiple types of infrastructure in locating new roads, fences, power lines, well pads, flow lines, compressors, and other associated oil and gas infrastructure. (Discretionary)
- b) Site Impact Activities to minimize new habitat disturbance by increasing the amount of overlap between existing fragmentation and associated Impact Buffers. (Discretionary)

- c) Reduce impacts through the use of directional drilling and clustering where feasible or in locating facilities to reduce habitat loss and fragmentation of habitat. (Discretionary)
  - d) Minimize use of herbicide treatments and limit this use to the footprint or right of way. Where practical and applicable, utilize an herbicide that is targeted for specific use and spot treatments as opposed to a broadband herbicide and broadcast treatments. Apply in conditions that minimize drift. (Required)
- 3) Mitigation – Any impacts not offset by the avoidance or minimization measures above will be mitigated as follows:

Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees as described in Section XIII(B) (Enrollment and Mitigation Fees) and Appendix A of the CCAA and Exhibit 2 of this CI. WAFWA will apply Mitigation Fees to generate offset units using the process described in Appendix I of the RWP. (Required)

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

1) Avoidance

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

2) Minimization

- a) Use common rights of way for multiple types of infrastructure. (Discretionary)
- b) To minimize transmission line footprint, utilize mono-pole construction for new electrical transmission lines within 2013 CHAT categories 1-3. (Required)
- c) Utilize horizontal drilling, pad drilling (multiple wells per pad), and common tank batteries where feasible with regulatory approval to minimize new surface disturbance within 2013 CHAT categories 1-3. (Discretionary)

- d) Install appropriate fence markings along new fences that are under the control of the enrolled Participant within one quarter (1/4) mile of a lek that has been recorded as active within the previous 5 years. (Required)
  - e) During the LEPC breeding season (March 1-July 15), minimize traffic volume, control vehicle speed, control access where feasible, and avoid off-road travel within focal areas and areas identified as high probability lek and nest habitat by the 2013 CHAT. (Required)
  - f) Within 1.25 mi of leks, it is recommended to install raptor deterrents on new electrical distribution and transmission poles as indicated by Avian Power Line Interaction Committee (APLIC) Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006, as amended. If further studies are completed that demonstrate significant benefits to the LEPC, this Conservation Measure may be amended for newly Enrolled Property and new enrollments by existing Participants. (Discretionary. Mitigation is not required.)
  - g) Provide escape ramps, rafts or ladders, depending on configuration, in exposed, human-made water containment sources on Enrolled Property under the control of the enrolled Participant. (Required)
- 3) Mitigation – Any impacts not offset by the avoidance or minimization measures above will be mitigated as follows:

Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees as described in Section XIII(B) (Enrollment and Mitigation Fees) and Appendix A of the CCAA and Exhibit 2 of this CI. WAFWA will apply Mitigation Fees to generate offset units using the process described in Appendix I of the RWP. (Required)

C. Disturbance of Breeding, Nesting, and Brooding Activity. Disruption of courtship displays and nesting hens through construction and maintenance activities or equipment and infrastructure that emit loud noises may have direct impact on LEPC reproductive output.

1) Avoidance

- a) Avoid non-emergency operations, construction and maintenance activities, where humans are present, during lekking, nesting, and brooding season (March 1–July 15) within 1.25 mi of leks recorded active within the previous 5 years. (Required)

Emergency operations that are meant to address direct human or environmental safety concerns or emergency operations that relate directly to operational continuity are allowed. Such emergency operations may include, but are not limited to, spill response and cleanup, response to well control incidents (i.e., incidents related to down hole pressures during drilling, completion, recompletion, or production operations), equipment repairs, flow line/pipeline repairs, unloading of one or more tanks to prevent the tank(s) from overflowing, security-related activities (e.g., activities to prevent theft and vandalism), well problems requiring a workover to

- make a well productive again), regulatory requirements, and unplanned construction and maintenance activities. Participants must also record the dates, duration and purpose of any emergency operations, construction and maintenance activities that occurred between March 1 and July 15 within 1.25 miles of leks recorded as active within the previous 5 years and must provide that documentation with their annual reporting. (Required)
- b) Seismic surveys and similar activities that require extensive off road travel shall not be conducted in rangeland or planted grass cover during the lekking nesting and brooding season (March 1–July 15) within 1.25 mi of leks recorded active within the previous five years and lek surveys shall be required in CHAT categories 1-3 prior to any breeding season Seismic surveys. (Required subject to exception in Section II(C)(2)(c).)
- 2) Minimization
- a) For non-emergency operations, construction and maintenance activities, where humans are present, that cannot be avoided and must occur during March 1-July 15, restrict activities between the hours of 3:00 am and 9:00 am in areas within 1.25 mi of leks that have been recorded as active within the previous 5 years. (Discretionary, see Section II(C)(2)(a))
- b) Institute noise abatement year-round for new facility operations (post-construction, post-drilling, post-completion, and post-recompletion) located within 1.25 mi of a lek recorded as active within the previous 5 years. Noise from these new facilities shall not exceed 75 dB when measured at Participant’s property line or any point greater than 30 feet from the Facility Boundary. This minimization measure is required unless other regulations require lower noise levels. If new scientific information becomes available supporting lower or higher decibel limits through the adaptive management process, this Conservation Measure may be amended for both new and existing Participants as provided in Section XXII of the CCAA (Modification of the CCAA and Amendment of the Permit). In the event of changes in noise limits for existing Participants, WAFWA and the Participants will agree upon a timeline for implementing those changes. (Required)
- c) If a complete lek survey is conducted for the proposed seismic activity area, WAFWA shall consider, on a case by case basis, the application of seismic methodologies that minimize LEPC disturbance off road travel during the lekking, nesting and brooding season (March 1-July 15) within 1.25 miles of leks recorded as active within the previous 5 years. Daily timing restrictions for lek disturbance (3:00 am-9:00 am) must be observed within 1.25 miles of leks recorded as active within the previous five years. (Required)

### **III. NATIONAL HISTORIC PRESERVATION ACT.**

The Participant must comply with the National Historic Preservation Act as described in Section XXVIII of the CCAA.

#### **IV. PARTICIPANT COMPLIANCE.**

##### **A. Unpaid Enrollment Fees**

If the Participant fails to remit an Enrollment Fee in accordance with Section XIII of the CCAA (Enrollment and Mitigation Fees), WAFWA may suspend this CI as to the Enrolled Property for which the Enrollment Fee is due until such Enrollment Fee is paid. WAFWA will Issue a Notice of Non-Payment to the Participant 10 business days after the due date of the Enrollment Fee. If the Enrollment Fee is not paid within 10 business days of receipt of the Notice of Non-Payment, WAFWA will issue a Notice of Suspension to the Participant. Upon receipt of the Enrollment Fee, WAFWA will issue a Notice of Reinstatement to the Participant.

##### **B. Compliance**

###### **1. Compliance Notice**

In response to an alleged failure to implement a mandatory avoidance or minimization Conservation Measure or to pay Mitigation Fees, WAFWA may either directly contact or provide written notice to the Participant (“Compliance Notice”). A Compliance Notice shall meet the requirements of Section IV(B)(5) and shall require the Participant to submit, within 20 business days of the date of the Compliance Notice or other specified time, a written explanation or statement in response that includes: (a) corrective steps taken by the Participant and results achieved; (b) a schedule and description of corrective steps that will be taken and results expected; or (c) a statement denying that the alleged failure has occurred and additional information supporting the statement.

WAFWA shall notify the relevant FWS Ecological Services field office of the potential compliance issue at the time they send a written Compliance Notice to the Participant, using established procedures for protecting confidential information (Section XII of this CI). WAFWA will confer with FWS to determine if further FWS coordination is required for resolution.

WAFWA shall respond in writing to the Participant’s response and either: (a) accept the Participant’s response and state that the notice is resolved (“Notice of Resolution”); or (b) not accept the Participant’s response.

###### **2. Deficiency Notice**

If the Participant fails to respond to a Compliance Notice or WAFWA disagrees with the Participant’s response, WAFWA may issue a written Deficiency Notice. A Deficiency Notice shall meet the requirements of Section IV(B)(5), below and shall require the Participant to submit, within 20 business days of the date of the Deficiency Notice or other specified time, a written explanation or statement in response that includes: (a) corrective steps taken by the Participant and results achieved; (b) a schedule and description of corrective steps that will be taken and results expected; or (c) a statement denying that the alleged failure has occurred, additional information supporting the statement and a request for resolution discussions.

After coordination with FWS, WAFWA shall respond in writing to a Participant's response and either: (a) accept the Participant's response and provide a Notice of Resolution; or (b) not accept the Participant's response.

### 3. Notice of Noncompliance

If the Participant fails to respond to Deficiency Notice or if WAFWA and the Participant cannot resolve the issue through resolution discussions, WAFWA shall issue a Notice of Noncompliance. Notices of Noncompliance shall meet the requirements of Section IV(B)(5), below and shall require the Participant to submit, within 20 business days of receipt of the Notice of Noncompliance or other specified time, a written explanation or statement in response that includes: (a) corrective steps taken by the Participant and results achieved; (b) a schedule and description of corrective steps that will be taken and results expected; or (c) a statement denying that the alleged failure has occurred, additional information supporting the statement and a request for resolution discussions.

The Advisory Committee, which includes FWS representation, will make a recommendation to the LPC Initiative Council regarding whether to accept or not accept the Participant's response. LPC Initiative Council will make a determination on whether to accept or not accept the Participant's response. The LPC Initiative Council shall respond in writing to the Participant's response and either: (a) accept the Participant's response and state that the notice is resolved ("Notice of Resolution"); or (b) not accept the Participant's response. If the LPC Initiative Council does not accept the Participant's response, the Notice of Noncompliance will be considered "unresolved."

### 4. Advisory Committee and LPC Initiative Council Review

At any time before a response is due to WAFWA, the Participant may seek review of any Compliance Notice, Deficiency Notice, Notice of Noncompliance or proposed termination by submitting a written request to the Advisory Committee. WAFWA and the Participant each may prepare a statement of position for review by the Advisory Committee or request a face-to-face review. The Advisory Committee shall review statements, information provided in a face-to-face and other information available to it and issue a recommendation to the LEPC Initiative Council, including any recommended corrective action.

The LPC Initiative Council shall review the recommendation of the Advisory Committee, confer with the relevant Regional Director(s) of the FWS, or its designee, and issue its finding and any required corrective action in writing ("Findings").

The Participant and WAFWA shall comply with the Findings, and the LPC Initiative Council will issue a written Notice of Resolution once the Participant complies with its Findings. If the Participant fails to implement the required corrective action within 20-business days of its receipt of the Findings, the LPC Initiative Council shall notify the Participant in writing that the Notice of Noncompliance has not been addressed and, at the same time, upload a copy the notification to the password protected database described in Section XII of this CI for FWS's review. WAFWA shall notify the relevant Regional Director(s) of the FWS, or its designee of the notification by electronic mail.

5. Content and Service of Notices, and Management of Notices and Responses

All Compliance Notices, Deficiency Notices, and Notices of Noncompliance shall be sent by U.S. mail, return receipt, to the following company representative:

Contact Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

All Compliance Notices, Deficiency Notices, and Notices of Noncompliance shall concisely identify the Conservation Measure for the relevant CI that WAFWA believes the Participant has not implemented.

At the time WAFWA issues any notice described in this Section, WAFWA will upload a copy to the password protected database described in Section XII of this CI for FWS’s review. WAFWA shall also timely upload copies of all Participants’ written explanations or response statements to the password protected database described in Section XII of this CI for FWS’s review. WAFWA shall notify the relevant FWS Ecological Services field office of issuance of notices and the receipt of responses by electronic mail.

6. Incidental Take

If the LEPC is listed, any incidental take of the LEPC that results from the Participant’s failure to implement a mandatory avoidance or minimization Conservation Measures will remain authorized by the Permit so long as a Notice of Resolution relating to the Conservation Measure at issue is resolved in accordance with the procedures above.

**V. TERMINATION.**

Lands enrolled under this CI may include tens or hundreds of thousands of acres. WAFWA and FWS expect that when one Notice of Noncompliance on lands enrolled under this CI is not resolved, an appropriate action may be to terminate this CI as it relates to the lease(s) or parcel(s) of land on which the noncompliance occurred. Depending on the scale or scope of the violations, the failure to resolve three Notices of Noncompliance within a three-year period for lands enrolled in this CI within an ecoregion can result in termination of some or all this CI. WAFWA and FWS, however, recognize that termination of this entire CI is a severe and dramatic action limited to unusual circumstances after all efforts to address noncompliance have been exhausted.

The Participant shall be notified in writing by the LPC Initiative Council of the proposed termination by certified or registered mail addressed to the contact name in Section IV(B)(5). This notice shall identify the lands for which this CI will be terminated, the reason(s) for the termination, and inform the Participant of the right to object to the proposed termination. Upon receipt of a notice of proposed termination, the Participant may file with the Advisory



Committee a written objection to the proposed action within 45 calendar days of the date the Participant received the notice of proposed termination. The objection must state the reasons why the Participant objects to the proposed termination and may include supporting documentation. The Advisory Committee will review the written objection and all documentation, and will issue a recommendation to the LPC Initiative Council on the proposed termination.

The LPC Initiative Council will confer with the relevant FWS Regional Director. FWS shall have 20 calendar days from its receipt of notification that the proposed Notice was uploaded to the password protected database in accordance with Section XII of this CI to complete its review or such other time period as agreed to by the LPC Initiative Council and FWS. The LPC Initiative Council will make a decision on the proposed termination within 45 calendar days after the end of the objection period and notify the Participant in writing of its decision and the reasons thereto. The Participant reserves the right to any and all legal remedies, whether at law or in equity, arising from a decision to terminate some or all of this CI.

#### **VI. PROPERTY ACCESS.**

The Participant agrees to provide access to Enrolled Property as provided in the CCAA attached as Exhibit 5.

#### **VII. NO WAIVER.**

The Participant, by entering into this CI, does not concede its agreement with, or endorsement of, any or all of the underlying studies and conclusions in the CCAA and/or RWP. Further, the Participant does not waive any legal rights or remedies that may exist outside of this CI. The Participant is also not responsible for work being accomplished by the FWS, WAFWA or any third parties using the Participants' contributed funds.

#### **VIII. RELEASE.**

If at any time any administrative or legal challenge to the CCAA prevents the implementation of this CI, the Participant shall be excused from its performance and shall release the signatories of the CCAA and CI from any legal claims related to this CI and CCAA. If at any time any administrative or legal challenge to the CCAA prevents the implementation of this CI, WAFWA agrees to release the Participant from any legal claims related to this CI and CCAA. Participants' obligation to make payments of Enrollment Fees as described in Section XIII of the CCAA (Enrollment and Mitigation Fees) shall be suspended if any administrative or judicial challenge prevents the implementation of this CCAA or its CIs. All funds remaining in the Habitat Conservation Fund Account will be retained by WAFWA and be used for conservation of the LEPC.

#### **IX. AMENDMENT.**

As described in Section XV of the CCAA (Adaptive Management), the effectiveness of the Conservation Measures in the CCAA will be reviewed by WAFWA, FWS, and Participants periodically over the life of the CCAA. However, changes to the CCAA in effect at the time the Participant executes this CI may only be applied to the Participant upon its written consent.

This CI, except for Exhibit 1 (Enrolled Property) and Exhibit 5 (CCAA), may be amended with the written consent of each of the Parties hereto. Exhibit 1 may be revised in accordance with the procedures outlined in Section VIII(G) of the CCAA (Enrolled Property). The Parties agree to process requests for amendments in a timely manner. This CI will only be amended upon written agreement of both WAFWA and the Participant. This CI may also be amended to accommodate changes to applicable legal requirements, including but not limited to the Endangered Species Act, the National Environmental Policy Act, and the FWS's permit regulations at 50 CFR 13 and 50 CFR 17. The proposer of the amendment shall provide a statement describing the proposed amendment and the reasons for it.

**X. MULTIPLE ORIGINALS.**

This CI may be executed in any number of multiple originals. A complete original of this CI shall be maintained in the records of each of the Parties hereto.

**XI. REPORTING REQUIREMENTS.**

The Participant will comply with the reporting requirements outlined in Section XX of the CCAA (Monitoring and Reporting).

**XII. CONFIDENTIALITY.**

The Parties recognize that fee leasehold and mineral ownership information is confidential and sensitive business information held and not routinely disclosed and may be exempt from disclosure under the Freedom of Information Act (FOIA). Such confidential and sensitive business information includes but is not limited to the following:

- 1) any maps depicting lands enrolled by an individual Participant that specifically identify the Participant;
- 2) identifying information about an individual Participant's acreage position; or
- 3) the location of any individual Participant's Enrolled Property that references the Participant individually.

Accordingly, WAFWA shall allow access to the foregoing information to only the relevant State fish and wildlife agency, the FWS, employees or agents of WAFWA, and the Participant that provided the information; provided, however, unless otherwise authorized in writing by the Participant, WAFWA shall only allow such access to the information via a password protected database maintained by WAFWA and solely for the purpose of allowing the relevant State fish and wildlife agency, the FWS, employees or agents of WAFWA, or the Participant to view the particular information for monitoring and reporting, as described herein. WAFWA will not authorize anyone to download, possess, or distribute the information unless otherwise authorized in writing by the Participant. FWS and WAFWA shall take all reasonable steps to maintain the confidentiality of such information under the relevant public information laws, including instructing the State fish and wildlife agency and WAFWA's employees and/or agents

accordingly, but shall not be responsible to the extent any information is ultimately subject to disclosure under the relevant public record laws.

If FWS receives a request under the FOIA for information identified as potentially confidential in this section, and has responsive documents in its possession containing such information, it will consult with the Participant that submitted the information and provide it with an opportunity to object to the information's disclosure before determining whether the information must be disclosed or is exempt from disclosure pursuant to FOIA, including, but not limited to Exemption 4. Additional information regarding the FWS' process for responding to FOIA requests for possibly confidential information is set out at 43 CFR 2.26-2.36 (2013).

**XIII. CONTACTS**

Except for the notices identified in Section IV(B)(5) of this CI, any notice permitted or required by this CI, the CCAA or the Permit shall be transmitted within any time limits described in this CI, the CCAA or the Permit to the persons set forth below. Notice may be provided electronically or in writing unless the form of notice is otherwise identified in this CI, the CCAA or the Permit. Any notice provided by electronic mail is deemed given upon the sender's receipt of an electronic mail from the intended recipient confirming delivery. Notice in writing shall be deemed given five (5) days after deposit in the United States mail, certified and postage prepaid, return receipt requested, and addressed as follows or at such other address as WAFWA or the Participant may from time to time specify to the other in writing:

**Participant:** \_\_\_\_\_

Contact Name \_\_\_\_\_

Title \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

**WAFWA/Permit Holder Representative:**

Contact Name \_\_\_\_\_

Title \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

**XIV. SIGNATURES**

IN WITNESS WHEREOF THE PARTIES HERETO have executed this Certificate of Inclusion to be in effect on the date of the last signature below.

Number \_\_\_\_\_

\_\_\_\_\_  
Participant and Affiliation

Date \_\_\_\_\_

\_\_\_\_\_  
WAFWA/Permit Holder Representative

Date \_\_\_\_\_

**EXHIBIT 1**

**Property Description for Enrolled Property**

Number \_\_\_\_\_

## **EXHIBIT 2**

### **Mitigation Fees**

The Mitigation Fees for Impact Activities associated with oil and gas development activities will be calculated using the following fee structure. These Mitigation Fees will apply to Impact Activities conducted on the Enrolled Property, as well as those Impact Activities conducted off Enrolled Property that are associated with activities on the Enrolled Property (such as construction of power lines and roads not located on the Participant's Enrolled Property but across properties serving Participant's activities on the Enrolled Property). The structure shall also apply to third parties doing work for the Participant, regardless of who constructs or operates the associated facilities. The Participant must comply with the procedures outlined in Section XIV of the CCAA (Development Procedures) before it or its third-party subcontractors conduct any Impact Activities.

The Mitigation Fees reflect the conservation strategy for the LEPC set forth in the Range-wide Conservation Plan for the LEPC ("RWP"). The RWP identifies numerous "focal areas" for the LEPC, which the RWP defines as the areas of greatest importance to the LEPC and where habitat enhancement, maintenance, and protection should be focused. The RWP also calls for the establishment of "connectivity zones" to allow linkage among focal areas.

#### **A. COMPONENTS OF MITIGATION FEES**

Mitigation Fees are a function of four factors:

1. The cost of implementation of various U.S. Department of Agriculture (USDA) restoration and improvement practices in a given ecoregion.
2. The crucial habitat index (CHI) for the LEPC as defined by the 2013 Southern Great Plains Crucial Habitat Assessment Tool (CHAT).
3. The site condition score as defined by the Habitat Evaluation Guide (HEG).
4. The Impact Buffers associated with the Impact Activities, which reflect that area surrounding Impact Activities that affect or were believed to potentially affect LEPC habitat suitability.

##### **1. U.S. Department of Agriculture Practice Costs**

The USDA defines the costs of LEPC habitat maintenance and restoration practices identified in the NRCS LEPC Conference Report, NRCS Fair Market Value Estimates for property values for the Grassland Reserve Program, Conservation Reserve Program Soil Rental Rates, and the Conservation Reserve Program Mid-contract Management Practices. An explanation of these costs is provided on pages 259–260 of the RWP.

##### **2. Southern Great Plains Crucial Habitat Assessment Tool**

The Crucial Habitat Assessment Tool (CHAT) is a spatial model put together to designate and prioritize areas for LEPC conservation activities and industry development. As such, it plays a dual role in that it is used to encourage development activities to occur outside of high priority areas as well as monitor activities that occur in each of the categories. Another purpose of this

dataset is to create an online tool usable by conservation managers, industry, and the public that identifies priority habitat, including connecting corridors that can be used in the early stages of development or conservation planning. Providing a consistent layer, used by all, helps target both conservation and development in areas that provide the greatest overall benefits to LEPC.

- a) CHAT 1- This category is comprised of the focal areas for LEPC conservation. The focal areas were designated by teams in each state that prioritized and identified intact LEPC habitat. This category was defined using GIS layers such as landscape integrity models, aerial photos, soil maps, anthropogenic disturbances, land cover and expert opinion.
- b) CHAT 2- This category is comprised of the corridors/connectivity zones for LEPC conservation. The corridors/connectivity zones were designated by teams in each state that prioritized and identified intact LEPC habitat. This category was defined using GIS layers such as landscape integrity models, aerial photos, soil maps, anthropogenic disturbances, land cover, and expert opinion.
- c) CHAT 3- This category is comprised of predicted high-quality habitat from the lek Maxent models. Maxent is an abbreviation for maximum entropy classifier and is an ecological niche model used for describing available and potential habitat. The model uses base layers (e.g., leks, nests, CRP, land cover, abiotic site condition) to characterize that habitat on the landscape.
- d) CHAT 4- This category is comprised of all additional lands in the estimated occupied range (EOR) for the LEPC plus 10 miles which are not contained in CHAT 1, CHAT 2, or CHAT 3. The EOR is an expert derived delineation that has had 10 miles added to it for range expansion and planning.

For further information on the CHAT and further definitions of the four different CHI visit [http://kars.ku.edu/media/uploads/maps/sgpchat/SGPCHAT\\_Summary.pdf](http://kars.ku.edu/media/uploads/maps/sgpchat/SGPCHAT_Summary.pdf). To view the CHAT visit <http://kars.ku.edu/maps/sgpchat/>.

### 3. Habitat Evaluation Guide

The HEG is a rapid assessment method to assess site condition or LEPC habitat quality (0 to 1) based on four variables:

- a) Vegetation Cover - Non-overlapping canopy cover of herbaceous plants and woody shrubs within evaluation unit.
- b) Vegetative composition—Relative vegetative cover of preferred grasses and shrubs including little bluestem, sideoats grama, big bluestem, Indian grass, sand bluestem, switchgrass, sand sagebrush, and sand shinnery oak.
- c) Presence of Tall Woody Plants - Greater than 3 feet in height.
- d) Availability of potential habitat – Proportion of area within a 1 mile radius in grass cover with <1% canopy cover of trees >3 ft. in height.



The site conditions within a one (1) mile radius of the Impact Activities are assessed using these variables and a score is associated for this area (“HEG Score”).

#### 4. Impact Buffers

The Impact Buffers for Impact Activities are defined as:

Impact Activity	Buffer feet (meters)
Oil and gas pads	656 (200)
Distribution lines <69 kV	33 (10)
Private roads (well field roads, etc.)	33 (10)
Small compressor stations	656 (200)
Other compressor stations	2188 (667)
Industrial buildings	2188 (667)

- a) Oil and gas pads – Represents the site where vegetation is removed for oil and gas operations for well pads, in-field tank batteries, or small compressor stations with a pad foot print of  $\leq 5$  acres and a noise limitation of 75dB or less at the property line or at a point greater than 30 feet from the Facility Boundary. For pads  $\leq 5$  acres in size after completion, consider the well site or centroid to establish the Impact Buffer. For pads  $> 5$  acres in size, apply the oil and gas pad buffer out from the Facility Boundary.
- b) Distribution lines <69 kV – Use the centerline of the right-of-way as a basis for the Impact Buffer. If the line is sited along a private road, no farther than the outer edge of road ditch, utilize a single Impact Buffer for both the road and line.
- c) Small compressor stations – Represents pipeline compressor stations 5 acres in size and a maximum noise level of 75dB or less at the property line or a point greater than 30 feet from the Facility Boundary. If the noise restrictions are met, but the compressor station is  $> 5$  acres in size, apply the oil and gas pad buffer out from the Facility Boundary.
- d) Other compressor stations – Represents all pipeline compressor stations with a noise level that exceeds 75 dB at the property line or a point greater than 30 feet from the Facility Boundary. If the compressor station is  $\leq 5$  acres in size, apply the buffer to the centroid of the Facility Boundary. If  $> 5$  acres, apply the oil and gas pad buffer out from the Facility Boundary.
- e) Private roads – Non-public, privately-maintained roads, including farm and ranch roads, well-field roads, etc. Utilize the centerline as a basis for the Impact Buffer.
- a) Industrial buildings - Includes infrastructure such as office buildings, commercial garages, distribution centers, and electrical substations. For sites  $\leq 10$  acres in size utilize the centroid as a basis for the Impact Buffer. Use the perimeter of the building as the basis for the buffer if the site is  $> 10$  acres in size.

## B. CALCULATION OF MITIGATION FEES

Mitigation Fees are the result of the Base Impact Unit Cost multiplied by the number of Impact Units, the Impact Multiplier, and the Endowment Multiplier:

$$\text{Mitigation Fees} = \text{Base Impact Unit Cost} \times \text{Impact Units} \times \text{Impact Multiplier} \times \text{Endowment Multiplier}$$

### 1. Base Impact Unit Costs

Base Impact Unit Costs are the product of a Habitat Management Cost and an administration cost:

$$\text{Base Impact Unit Cost} = (\text{Habitat Management Cost} \times \text{Administration Cost}) + \text{Habitat Management Cost}$$

In October 2013, the administration cost is 12.5% of the Habitat Management Cost.

The Habitat Management Costs vary by ecoregion. In October 2013, these costs are:

Sand Sagebrush:	\$19.13
Mixed Grass:	\$47.47
Shinnery Oak:	\$31.70
Short Grass:	\$28.77

### 2. Impact Units

Impact Units are the product of the number of New Impacted Acres and the HEG Score:

$$\text{Impact Units} = \text{HEG Score} \times \text{New Impacted Acres}$$

New Impact Acres are the difference between the number of acres within the area of impact associated with the New Impact Activity (“New Impact Area”) and the number of acres within Impact Buffers associated with pre-existing infrastructure that overlap with the New Impact Area (“Area of Overlap”):

$$\text{New Impact Acres} = \text{New Impact Area} - \text{Area of Overlap}$$

The New Impact Area is calculated as:

$$\text{New Impact Area} = (\text{Impact Buffer}^2 \times \pi) / 43,560$$

Costs will be assessed based on only New Impact Acres, not the New Impact Area. The Impact Buffer distances for pre-existing infrastructure are identified in Table 7 on page 95 of the RWP. If the New Impact Area can be located entirely within a buffer associated with pre-existing infrastructure (*i.e.*, the New Impact Acres are zero), no cost will be assessed for the new Impact Activities. Impact Buffers are defined in feet, which must be converted to acres.

**3. Impact Multiplier**

Impact multipliers vary by CHAT category. Together with the offset multipliers identified in Table 8, page 100, of the RWP, they produce a 2:1 mitigation ratio within each CHAT category. The impact multipliers are:

CHAT 1	2.5
CHAT 2	2.1
CHAT 3	1.8
CHAT 4	1.6

**4. Endowment Multiplier**

The Endowment Multiplier is 25, which provides sufficient resources to fund an endowment managed by WAFWA that will provide for in-perpetuity conservation, as described on pages 99, 260, and 261 of the RWP.

**5. Inflation and Adaptive Management**

The variables outlined in this Section B of this Exhibit may be adjusted due to changes in inflation or adaptive management consistent with the terms of Section D of this Exhibit (Adjustment of Fees).

**6. Miscellaneous**

Construction of roads and other linear features on the Enrolled Property may also disturb the surface of other property not enrolled in the CI. The Mitigation Fee calculated for new road construction or new linear features includes disturbances occurring on both Enrolled and non-Enrolled Property.

Mitigation Fees will not be charged for any buried infrastructure.

**C. RANGE OF MAXIMUM MITIGATION FEES ASSOCIATED WITH IMPACT ACTIVITIES**

Using the calculations outlined above and the Base Impact Unit Costs as of October 2013, a range of potential Mitigation Fees associated with Impact Activities are set forth in Table 1. The range of potential Mitigation Fees reflects a range of HEG scores (0.05 to 0.5 to 1); however, a HEG score can be assessed for any value between 0.05 and 1. The range of potential Mitigation Fees then reflects the range of HEG scores within the CHAT layers within each ecoregion. These Mitigation Fees assume that the buffers associated with the Impact Activities do not overlap with the Impact Buffers of any pre-existing infrastructure (*i.e.*, the Area of Overlap is zero). Thus, these Mitigation Fees are the maximum that could be assessed for Impact Activities within a given area.

After December 31, 2014, the costs identified in Table 1 may be adjusted due to changes in inflation or adaptive management as described in Section D of this Exhibit.

Table 1: Range of Maximum Mitigation Fees Associated with Impact Activities by Ecoregion

**Sand Sagebrush**

Category*	Cost Range in Focal Areas (CHAT 1)			Cost Range in Connectivity Zones (CHAT 2)		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$41,764.78	\$20,882.39	\$2,088.24	\$35,082.42	\$17,541.21	\$1,754.12
Distribution Line (<67 kV) (per mile)	\$10,697.40	\$5,348.70	\$534.87	\$8,985.81	\$4,492.91	\$449.29
Privately-Maintained Roads (per mile)	\$10,697.40	\$5,348.70	\$534.87	\$8,985.81	\$4,492.91	\$449.29
Industrial Buildings and Large Compressors	\$464,517.29	\$232,258.65	\$23,225.86	\$390,194.53	\$195,097.26	\$19,509.73

Category*	Cost Range in CHAT 3			Cost Range in CHAT 4		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$30,070.64	\$15,035.32	\$1,503.53	\$26,729.46	\$13,364.73	\$1,336.47
Distribution Line (<67 kV) (per mile)	\$7,702.13	\$3,851.06	\$385.11	\$6,846.33	\$3,423.17	\$342.32
Privately-Maintained Roads (per mile)	\$7,702.13	\$3,851.06	\$385.11	\$6,846.33	\$3,423.17	\$342.32
Industrial Buildings and Large Compressors	\$334,452.45	\$167,226.23	\$16,722.62	\$297,291.07	\$148,645.53	\$14,864.55

\*The categories are defined in Section A(4) of this Exhibit. The tables above reflect Mitigation Fees associated with high quality vegetation (HEG Score 1), low quality vegetation (HEG Score 0.05), and medium quality vegetation (HEG Score 0.5). However, HEG Scores ranging anywhere between 0.05 and 1 can be assigned depending on site conditions. Mitigation Fees will vary with HEG Scores.

**Mixed Grass**

<b>Category*</b>	<b>Cost Range in Focal Areas (CHAT 1)</b>			<b>Cost Range in Connectivity Zones (CHAT 2)</b>		
	<b>High Quality Vegetation (Score 1)</b>	<b>Med Quality Vegetation (Score 0.5)</b>	<b>Low Quality Vegetation (Score 0.05)</b>	<b>High Quality Vegetation (Score 1)</b>	<b>Med Quality Vegetation (Score 0.5)</b>	<b>Low Quality Vegetation (Score 0.05)</b>
Oil & Gas Pad and Small Compressor	\$103,640.81	\$51,820.40	\$5,182.04	\$87,058.28	\$43,529.14	\$4,352.91
Distribution Line (<67 kV) (per mile)	\$26,545.98	\$13,272.99	\$1,327.30	\$22,298.62	\$11,149.31	\$1,114.93
Privately-Maintained Roads (per mile)	\$26,545.98	\$13,272.99	\$1,327.30	\$22,298.62	\$11,149.31	\$1,114.93
Industrial Buildings and Large Compressors	\$1,152,716.40	\$576,358.20	\$57,635.82	\$968,281.77	\$484,140.89	\$48,414.09

<b>Category*</b>	<b>Cost Range in CHAT 3</b>			<b>Cost Range in CHAT 4</b>		
	<b>High Quality Vegetation (Score 1)</b>	<b>Med Quality Vegetation (Score 0.5)</b>	<b>Low Quality Vegetation (Score 0.05)</b>	<b>High Quality Vegetation (Score 1)</b>	<b>Med Quality Vegetation (Score 0.5)</b>	<b>Low Quality Vegetation (Score 0.05)</b>
Oil & Gas Pad and Small Compressor	\$74,621.38	\$37,310.69	\$3,731.07	\$66,330.12	\$33,165.06	\$3,316.51
Distribution Line (<67 kV) (per mile)	\$19,113.10	\$9,556.55	\$955.66	\$16,989.43	\$8,494.71	\$849.47
Privately-Maintained Roads (per mile)	\$19,113.10	\$9,556.55	\$955.66	\$16,989.43	\$8,494.71	\$849.47
Industrial Buildings and Large Compressors	\$829,955.80	\$414,977.90	\$41,497.79	\$737,738.49	\$368,869.25	\$36,886.92

\*The categories are defined in Section A(4) of this Exhibit.

The tables above reflect Mitigation Fees associated with high quality vegetation (HEG Score 1), low quality vegetation (HEG Score 0.05), and medium quality vegetation (HEG Score 0.5). However, HEG Scores ranging anywhere between 0.05 and 1 can be assigned depending on site conditions. Mitigation Fees will vary with HEG Scores.

**Shinnery Oak**

<b>Category*</b>	<b>Cost Range in Focal Areas (CHAT 1)</b>			<b>Cost Range in Connectivity Zones (CHAT 2)</b>		
	<b>High Quality Vegetation (Score 1)</b>	<b>Med Quality Vegetation (Score 0.5)</b>	<b>Low Quality Vegetation (Score 0.05)</b>	<b>High Quality Vegetation (Score 1)</b>	<b>Med Quality Vegetation (Score 0.5)</b>	<b>Low Quality Vegetation (Score 0.05)</b>
Oil & Gas Pad and Small Compressor	\$69,216.66	\$34,608.33	\$3,460.83	\$58,141.99	\$29,071.00	\$2,907.10
Distribution Line (<67 kV) (per mile)	\$17,728.77	\$8,864.38	\$886.44	\$14,892.17	\$7,446.08	\$744.61
Privately-Maintained Roads (per mile)	\$17,728.77	\$8,864.38	\$886.44	\$14,892.17	\$7,446.08	\$744.61
Industrial Buildings and Large Compressors	\$769,843.25	\$384,921.63	\$38,492.16	\$646,668.33	\$323,334.17	\$32,333.42

<b>Category*</b>	<b>Cost Range in CHAT 3</b>			<b>Cost Range in CHAT 4</b>		
	<b>High Quality Vegetation (Score 1)</b>	<b>Med Quality Vegetation (Score 0.5)</b>	<b>Low Quality Vegetation (Score 0.05)</b>	<b>High Quality Vegetation (Score 1)</b>	<b>Med Quality Vegetation (Score 0.5)</b>	<b>Low Quality Vegetation (Score 0.05)</b>
Oil & Gas Pad and Small Compressor	\$49,835.99	\$24,918.00	\$2,491.80	\$44,298.66	\$22,149.33	\$2,214.93
Distribution Line (<67 kV) (per mile)	\$12,764.71	\$6,382.36	\$638.24	\$11,346.41	\$5,673.21	\$567.32
Privately-Maintained Roads (per mile)	\$12,764.71	\$6,382.36	\$638.24	\$11,346.41	\$5,673.21	\$567.32
Industrial Buildings and Large Compressors	\$554,287.14	\$277,143.57	\$27,714.36	\$492,699.68	\$246,349.84	\$24,634.98

\*The categories are defined in Section A(4) of this Exhibit.

The tables above reflect Mitigation Fees associated with high quality vegetation (HEG Score 1), low quality vegetation (HEG Score 0.05), and medium quality vegetation (HEG Score 0.5). However, HEG Scores ranging anywhere between 0.05 and 1 can be assigned depending on site conditions. Mitigation Fees will vary with HEG Scores.

### Short Grass

Category*	Cost Range in Focal Areas			Cost Range in Connectivity Zones		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$62,821.27	\$31,410.63	\$3,141.06	\$52,769.86	\$26,384.93	\$2,638.49
Distribution Line (<67 kV) (per mile)	\$16,090.69	\$8,045.34	\$804.53	\$13,516.18	\$6,758.09	\$675.81
Privately-Maintained Roads (per mile)	\$16,090.69	\$8,045.34	\$804.53	\$13,516.18	\$6,758.09	\$675.81
Industrial Buildings and Large Compressors	\$698,712.26	\$349,356.13	\$34,935.61	\$586,918.30	\$293,459.15	\$29,345.92

Category*	Cost Range in CHAT 3			Cost Range in CHAT 4		
	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)	High Quality Vegetation (Score 1)	Med Quality Vegetation (Score 0.5)	Low Quality Vegetation (Score 0.05)
Oil & Gas Pad and Small Compressor	\$45,231.31	\$22,615.66	\$2,261.57	\$40,205.61	\$20,102.81	\$2,010.28
Distribution Line (<67 kV) (per mile)	\$11,585.30	\$5,792.65	\$579.26	\$10,298.04	\$5,149.02	\$514.90
Privately-Maintained Roads (per mile)	\$11,585.30	\$5,792.65	\$579.26	\$10,298.04	\$5,149.02	\$514.90
Industrial Buildings and Large Compressors	\$503,072.83	\$251,536.41	\$25,153.64	\$447,175.85	\$223,587.92	\$22,358.79

\*The categories are defined in Section A(4) of this Exhibit.

The tables above reflect Mitigation Fees associated with high quality vegetation (HEG Score 1), low quality vegetation (HEG Score 0.05), and medium quality vegetation (HEG Score 0.5). However, HEG Scores ranging anywhere between 0.05 and 1 can be assigned depending on site conditions. Mitigation Fees will vary with HEG Scores.

## D. ADJUSTMENT OF FEES

The Mitigation Fees described in this Exhibit may be adjusted annually to reflect inflation based on USDA practice costs and adaptive management changes, as described in Sections XV (Adaptive Management) and XVI (Assurances Provided) of the CCAA.

### 1. Changes in Mitigation Fees Due to Inflation

Changes in inflation may affect USDA practice costs, which will require changes to Habitat Management Costs. However, annual increases attributable to changes to Habitat Management Costs will not result in increases or decreases to the Mitigation Fees of more than 3% in any given year from the Mitigation Fees as they existed on December 31 of the previous year.

### 2. Changes in Mitigation Fees Due to Adaptive Management

In the event the RWP or elements of its conservation strategy are adjusted through adaptive management, the Mitigation Fees assessed on the Participant will not increase or decrease more than 4% in any given year from the Mitigation Fees for the prior calendar year.

The 3% limit on inflation adjustments and 4% limit on adaptive management adjustments apply to all Mitigation Fees. Thus, annual increases to Mitigation Fees associated with development in a particular ecoregion, within a particular CHAT category, focal or connectivity area, and in an area with a particular site condition score, will not exceed 3% due to inflation and 4% due to adaptive management of the Mitigation Fees for development in areas with the same variables. Put otherwise, inflation adjustments will not cause the Mitigation Fee to develop a specific parcel of land in Year N+1 (e.g., year 2) to increase more than 3% beyond the Mitigation Fee to develop that same parcel of land in Year N (e.g., year 1) (assuming habitat quality on the parcel remains the same from year to year). Similarly, adaptive management adjustments will not cause the Mitigation Fee to develop a specific parcel of land in Year N+1 (e.g., year 2) to increase more than 4% of the Mitigation Fee to develop that same parcel of land in Year N (e.g., year 1) (assuming habitat quality on the parcel remains the same from year to year).

The following formula mathematically reflects the maximum annual increase to Mitigation Fees:

$$\text{Maximum Mitigation Fee for } Y_{n+1} = (\text{Mitigation for } Y_n \times 0.04) + (\text{Mitigation for } Y_n \times 0.03) + \text{Mitigation Fee for } Y_n$$

The Mitigation Fees for Year “Y1” are those reflected on the version of the HEG in effect when the Participant executes the CI. Prior to October 1, 2014, the HEG in effect is available at [www.wafwa.org](http://www.wafwa.org); the range of Mitigation Fees associated with this HEG is identified in Section C of this Exhibit. Mitigation Fees for subsequent years are those in effect on December 31.

The RWP contemplates that some evaluations and adjustments will occur less frequently than annually (i.e., on a five- or ten-year basis). The 4% annual maximum adjustment resulting from adaptive management applies to all adjustments under the adaptive management provisions of the RWP, regardless of frequency. In other words, an adjustment that only occurs every five



years cannot cause Mitigation Fees in any given year to increase more than 4% of the prior year's Mitigation Fees.

### **Exhibit 3**

#### **Process for Generating Units from Remediation**

The Participant may remediate impacts and generate remediation units (“Remediation Units”) for the remediated impacts. Remediation Units can be generated by performing remediation activities throughout the Covered Area of the CCAA (EOR + 10); remediation activities need not be performed on lands enrolled either in a CI or in the RWP, as long as the Participant can provide WAFWA or a WAFWA-approved Service Provider the access necessary to perform site evaluations. Remediation Units will be credited to the Participant’s Habitat Conservation Fund Account; however, Remediation Units may only be applied in the ecoregion in which the remediation occurred. Remediation Units will be reserved for the Participant that performed the remediation; however, the Participant may elect to transfer the Remediation Units. The process for quantifying units is described in this Exhibit.

The Participant may generate Remediation Units for the remediation of impacts from Impact Activities for which Mitigation Fees have been paid. The Participant may also generate Remediation Units for the remediation of impacts for which Mitigation Fees have not been paid (i.e., existing impacts). Different processes will be used for quantifying offset units depending on whether the impacts to be remediated result from Impact Activities for which Mitigation Fees have been paid.

In order to demonstrate that impacts will be remediated, the Participant must provide WAFWA with documentation demonstrating that the remediation activities have occurred and that the remediated area has been seeded with native vegetation, at least to the minimum standard defined by the Natural Resources Conservation Service’s Conservation Practice Code 550 (Range Planting).

#### **A. THE REMEDIATED IMPACTS RESULT FROM IMPACT ACTIVITIES FOR WHICH MITIGATION FEES WERE PAID**

The number of Remediation Units generated is the product of the HEG Score multiplied by the Remediation Acres, the Impact Multiplier, and the Endowment Multiplier:

$$\text{Remediation Units} = \text{HEG Score} \times \text{Remediation Acres} \times \text{Impact Multiplier} \times \text{Endowment Multiplier}$$

WAFWA or Technical Service Provider (TSP) will conduct a site assessment after the remediation activities have been completed and determine the HEG Score using the process outlined in Appendix I of the RWP.

Remediation Acres are the difference between the number of acres within the remediated area (“Remediated Area”) and the number of acres within Impact Buffers associated with pre-existing infrastructure that overlap with the Remediated Area (“Area of Overlap”):

$$\text{Remediation Acres} = \text{Remediated Area} - \text{Area of Overlap}$$

The Remediated Area is calculated as:

$$\text{Remediated Area} = (\text{Impact Buffer}^2 \times \pi) / 43,560$$

To account for adaptive management changes and changes in surrounding infrastructure over time, the Impact Buffer, Impact Multiplier, and Endowment Multiplier as defined when the remediation activities occur will be used to calculate the Remediation Acres. Impact Buffers are defined in feet, which must be converted to acres.

## **B. REMEDIATION OF IMPACTS FOR WHICH MITIGATION FEES WERE NOT PAID (PREVIOUSLY EXISTING IMPACTS)**

The difference between the calculation of Remediation Units for impacts for which Mitigation Fees were paid and those impacts for which Mitigation Fees were not paid (i.e., existing impacts) is that an offset multiplier will be used to calculate Remediation Units for which Mitigation Fees were not paid (rather than an impact multiplier). The offset multiplier is based on the CHAT category where the treatment is occurring and is provided on page 100 of the RWP. An administration cost of 6.25% will be assessed on the value of Remediation Units associated with the previously existing impacts. In order to calculate Remediation Units for which Mitigation Fees were not paid, the Participant may be required to supply WAFWA with maps of existing impacts where the remediation activities will occur.

### **1. Quantifying the Number of Remediation Units**

The number of Remediation Units generated is the product of the HEG Score multiplied by the Remediation Acres, the Offset Multiplier, and the Endowment Multiplier:

$$\text{Remediation Units} = \text{HEG Score} \times \text{Remediation Acres} \times \text{Offset Multiplier} \times \text{Endowment Multiplier}$$

WAFWA or a TSP will conduct a site assessment after the remediation activities have been completed and determine the HEG Score using the process outlined in Appendix I of the RWP.

Offset Multipliers vary by CHAT category. Together with the impact multipliers identified in Appendix B, they produce an average 2:1 mitigation ratio within each CHAT category.

Remediation Acres are the difference between the number of acres within the remediated area (“Remediated Area”) and the number of acres within Impact Buffers associated with pre-existing infrastructure that overlap with the Remediated Area (“Area of Overlap”):

$$\text{Remediation Acres} = \text{Remediated Area} - \text{Area of Overlap}$$

The Remediated Area is calculated as:

$$\text{Remediated Area} = (\text{Impact Buffer}^2 \times \pi) / 43,560$$

The Impact Buffer, Offset Multiplier, and Endowment Multiplier to be used to calculate the Remediation Acres will be the Impact Buffer, Offset Multiplier and Endowment Multiplier as

defined when the remediation activities occur. Impact Buffers are defined in feet, which must be converted to acres.

## 2. Calculating the Administration Cost for Remediation Units

An administration cost of 6.25% will be assessed on the value of Remediation Units associated with impacts for which no Mitigation Fees were paid. The value of Remediation Units is the product of the number of Remediation Units generated, the Habitat Management Cost, and an administration cost of 6.25%.

$$\text{Administration Cost} = \text{Remediation Units} \times \text{Habitat Management Cost} \times 0.0625$$

Remediation Units are valued using the Habitat Management Cost that is current at the time the Participant seeks credit of the value of the remediation performed. Habitat Management Costs vary by ecoregion. In October 2013, these costs are:

Sand Sagebrush:	\$19.13
Mixed Grass:	\$47.47
Shinnery Oak:	\$31.70
Short Grass:	\$28.77

**Exhibit 4  
Permit**

Number \_\_\_\_\_

**Exhibit 5**  
**Candidate Conservation Agreement with Assurances**

Number \_\_\_\_\_