The Lesser Prairie-Chicken Range-wide Conservation Plan

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INTRODUCTION

This document is a comprehensive range-wide conservation plan (RWP) for the lesser prairie-chicken (*Tympanuchus pallidicinctus*; hereafter LPC), and if implemented in a timely manner, is intended to preclude the need to list the LPC under the Endangered Species Act of 1973, as amended (ESA). The goal of the RWP is to conserve the LPC for future generations while facilitating continued and uninterrupted economic activity throughout the entire five-state LPC range. The RWP identifies a two-pronged strategy for LPC conservation: (1) the coordinated implementation of incentive-based landowner programs, and (2) the implementation of a mitigation framework which reduces threats and provides resources for off-site conservation.

The five LPC states appreciate the USFWS's willingness to consider the maximum flexibility possible under the application of the ESA by contemplating the use of a 4(d) rule if the LPC becomes listed as a threatened species. As part of the 4(d) rule evaluation, the USFWS will be looking at the substantive provisions of the RWP to provide a net conservation benefit to LPC and the administrative and financial mechanisms for implementation. If the RWP meets the net conservation standard and other criteria established in the proposed rule by the USFWS, and the USFWS determines the LPC is warranted for listing under the ESA, the 4(d) rule would exempt take incidental to implementing the RWP from the otherwise applicable take prohibitions of the ESA. The 4(d) rule would provide the regulatory relief otherwise obtainable only through permits. This approach would allow for a seamless transition from a prelisting voluntary document to a post-listing framework for industry activities and LPC conservation. While WAFWA disagrees with the proposed rule, and believes there is significant evidence to support a not warranted listing decision for the LPC, we recognize and respect the authority of the USFWS to analyze all relevant information in making their decision, including the RWP as a component of the 4(d) rule.

This voluntary RWP is to be administered by the wildlife agencies within LPC range through the Western Association of Fish and Wildlife Agencies and the Foundation for Western Fish and Wildlife (WAFWA). Participants will be required to document their commitment by signing a WAFWA Certificate of Participation (WCP) and entering into the accompanying WAFWA Conservation Agreement (WCA) or signing onto other permitting mechanisms held by WAFWA through the RWP. This effort will encourage non-Federal participants to proactively manage property while obtaining coverage under the RWP and other permitting mechanisms and regulatory authorities held by WAFWA. As required by the ESA, the RWP describes, among

other things, how the impacts caused by take under the RWP will be avoided and minimized, and if this cannot occur, mitigated to provide conservation benefit to LPC.

While public lands contribute to the needs of the species in a limited number of locations, the bulk of the habitat needs must be provided on private lands. The RWP recognizes this challenge and is designed to engage landowners in existing and proposed programs that will improve habitat conditions for LPC, increase populations, and provide for long-term persistence into the future (30 years).

The LPC Interstate Working Group (IWG) was charged in April 2012 to design, develop, and describe through a RWP the management activities necessary for implementation that would result in enough conservation for LPC to potentially influence the final listing decision. Funding for this effort was awarded through a competitive grant process administered by the Great Plains Landscape Conservation Cooperative. The IWG worked through WAFWA's Grassland Initiative and contracted the Ecosystem Management Research Institute (EMRI, www.emri.org) to coordinate the RWP development. The IWG convened three committees which consisted of various stakeholders that were divided into a Science Committee, a Voluntary Offset/Mitigation Committee, and a Credit Trading/Conservation Banking Work Group. Decisions were made through consensus or by vote. The Science Committee included biologists from the five wildlife agencies: U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), Texas Tech and Oklahoma State Universities, U. S. Fish and Wildlife Service (USFWS), U.S. Geological Survey, Sutton Avian Research Center and Playa Lake Joint Venture. The Voluntary Offset/Mitigation Committee and Credit trading/Conservation Banking Workgroup included various stakeholders from the above agencies and participation from Theodore Roosevelt Conservation Partnership, Environmental Defense Fund, Common Ground Capital, Wildlands Inc., Oklahoma Independent Petroleum Association, Westar Energy, The Nature Conservancy, and Permian Basin Petroleum Association. In addition, stakeholder and outreach meetings describing the RWP were held by individual states or collectively through WAFWA throughout the range (see Appendix A).

This RWP describes a locally controlled and innovative approach for maintaining state authority to conserve the LPC, and if implemented in a timely manner, could influence a decision to preclude the need to list under the ESA. Should the LPC be listed, any RWP authorization granted or permits issued to the states and WAFWA from the USFWS would provide assurances and authorize incidental take of LPC to participants who voluntarily enrolled and fully implement their conservation commitments under the RWP.

NEED

It is estimated LPC historically occupied a range of approximately 182,843 sq. mi. However, boundaries of this estimated range include many areas in shortgrass prairies that are unlikely to support LPC.

Figure 1. Estimated historical range and current occupied range of lesser prairie-chickens.

Since the 19th century, LPC and the habitat upon which they depend have diminished across their historical range (Crawford and Bolen 1976a, Taylor and Guthery 1980a), with recent estimates of current occupied range totaling approximately 30,900 sq. mi, or about 17% of the estimated area of their historical range (Figure 1). Causes for this reduction in occupied range are primarily attributed to habitat loss and fragmentation (USFWS 2012a).

Habitat losses have been caused by conversion of native prairie to cropland (Bent 1932, Copelin 1963, Jackson and DeArment 1963, Crawford and Bolen 1976a, Taylor and Guthery 1980b) and

long term fire suppression (Woodward et al. 2001) leading to tree invasion (Fuhlendorf et al. 2002). Habitat degradation has occurred due to long term fire suppression (Woodward et al. 2001, Jones 2009) grazing management practices that reduce LPC habitat quality (Jackson and DeArment 1963, Taylor and Guthery 1980a, Riley et al. 1992), and herbicide spraying that reduces LPC habitat quality (Jackson and DeArment 1963, Peterson and Boyd 1998, Thacker et al. 2012). Habitat fragmentation has resulted from combinations of the above habitat loss and degradation factors as well as from fragmentation caused by oil and gas development (Hunt 2004) and suspected effects of wind energy development (Pruett et al. 2009b). In addition, LPC populations have been influenced by fences and utility lines (Wolfe et al. 2007, Hagen 2010), prolonged drought (Merchant 1982, Dixon 2011, Lyons et al. 2011, Grisham 2012) and climate change (Grisham 2012, USFWS 2012a, USDA NRCS 2012).

Because of these declines, the USFWS was petitioned to list the LPC as threatened in 1995. After review, the USFWS issued its findings and in 1998 that the species was warranted for listing but precluded because of actions needed for higher priority species (USFWS 2012a). The USFWS assigned LPC a listing priority number of 8 (1 indicating the highest need for action and 12 lowest), which it then revised in 2008, increasing it to a 2 (USFWS 2012a) because of their belief that the threat of wind development and associated development of transmission lines within the occupied range had increased since their last analysis. On December 11, 2012, the USFWS (2012a) expressed concerns that a number of existing and expanding threats are currently outside of the regulatory authority of the states to control and proposed listing LPC as threatened (Fed. Reg. 50 CFR Part 17 Docket No. FWS- R2-ES-2012-0071:4500030113 (http://www.gpo.gov/fdsys/pkg/FR-2012-12-11/pdf/2012-29331.pdf), with a final listing decision scheduled for no later than September 30, 2013. Public comments received by the USFWS since the publication of the proposed rule have expressed concerns regarding the sufficiency and accuracy of the data related to the listing proposal for the LPC. Included in this information were descriptions of numerous efforts to address the decline of LPC that had been initiated since the initial determination of its 'warranted but precluded" status, such as state and federal programs enrolling millions of acres in LPC programs, the appearance of stability of some LPC populations, and concerted efforts to address declines in other ecoregions. Therefore, in consideration of these developments, the USFWS extended the final determination for six months in order to solicit scientific information to help to clarify these issues. The USFWS will make a final listing determination for the LPC no later than March 30, 2014.

The RWP has been developed in response to concerns about LPC habitat threats which may be impacting LPC populations, and the proposed listing under the ESA. Along with the existing conservation efforts already being implemented, as described in the RWP, the supporting WCA represents another mechanism to implement conservation to benefit LPC. The WCP represents an opportunity to enroll participants who agree to avoid, minimize and mitigate actions which may be detrimental to LPC. Landowners may enroll properties to be managed for the benefit of LPC. Properties may generate credits for mitigation. When complete avoidance is not possible, industry participants may enroll and pay fees to be used to mitigate impacts. When taken as a

whole, the RWP along with other existing and planned conservation efforts can effectively ameliorate threats to LPC and preclude the need for listing.

PURPOSE

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

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

Overall, the RWP will allow for economic development to continue in a seamless manner by providing an efficient mechanism to voluntarily conserve the LPC and/or comply with the ESA, if the final determination is to list the species. Without the RWP, there could be significant regulatory delays in obtaining take permits, disruption to economic activity in an area vital to state and national interests, and little incentive to conserve LPC habitat on private lands to potentially preclude listing of the LPC. The RWP encourages participants to immediately enact proactive and voluntary conservation activities in response to the proposed listing of the LPC. Progress will be tracked through a committee structure using adaptive management. Goals and objectives associated with population levels, habitat conservation objectives using short and long term agreements, and funding streams will be reviewed, and adjusted accordingly, by the adaptive management process.

AUTHORITIES

A variety of state regulatory measures and authorities are in place to ensure RWP implementation. State wildlife agencies will ensure that other regulatory state agencies are aware of the conservation measures identified in the RWP. In some cases, existing measures may be more restrictive than those described in the RWP. These regulatory measures and authorities are identified for each state.

COLORADO

Colorado Parks and Wildlife (CPW) has responsibility for the management and conservation of wildlife resources, including the conservation and management of threatened and endangered species, within their borders as defined and directed by state laws (i.e., Colorado Revised Statutes, Title 33, Article 1). Title 33 Article 1-101, Legislative declaration states: "It is the policy of the State of Colorado that the wildlife and their environment are to be protected, preserved, enhanced and managed for the use, benefit, and enjoyment of the people of this state and its visitors. It is further declared to be the policy of this state that there shall be provided a comprehensive program designed to offer the greatest possible variety of wildlife-related recreational opportunity to the people of this state and its visitors and that, to carry out such program and policy, there shall be a continuous operation of planning, acquisition, and development of wildlife habitats and facilities for wildlife-related opportunities." LPC are not hunted in Colorado.

Oil and gas well permits are issued by the Colorado Oil and Gas Conservation Commission (COGCC). As of April 2009, the 1200 series COGCC rules address oil and gas development threats to the LPC. These rules require producers to use online resources to identify sensitive wildlife habitat and areas of restricted surface occupancy. Currently, sensitive LPC wildlife habitat is defined as production areas that include 80% of the nesting and brood rearing habitat that surrounds leks that have been active once in the last 10 years. Restricted surface occupancy areas for LPC are defined as areas within 0.6 miles of leks that have been active once in the last 10 years. Under COGCC rule, development of oil and gas wells within these areas mandates a consultation with CPW, where best management practices (BMPs) are provided to industry to minimize impacts to LPC. Colorado has developed a set of oil and gas BMPs. These include the following provisions for LPC:

- Consult with CPW at the earliest stage of development to review detailed maps of LPC seasonal habitats and to help select development sites.
- Conduct comprehensive development planning that provides a clear point of reference in evaluating, avoiding, and mitigating large scale and cumulative impacts.
- No surface occupancy within 0.6 mile of any active or inactive (within past 5 years) LPC leks.
- Avoid oil and gas operations within 2.2 miles of active leks and within LPC nesting and early brood-rearing habitat outside the 2.2 mile buffer.

- Select sites for development that will not disturb suitable nest cover or brood-rearing habitats within 2.2 miles of an active lek, or within identified nesting and brood-rearing habitats outside the 2.2 mile perimeter.
- Where oil and gas activities must occur within 2.2 miles of active leks, conduct these activities outside the period between March 15 and June 15.
- Restrict well site visitations to portions of the day between 9:00 a.m. and 4:00 p.m. during the lekking season (March 15 to June 15).
- Establish company guidelines to minimize wildlife mortality from vehicle collisions on roads.
- Avoid surface facility density in excess of 10 well pads per 10-square mile area (one well pad per section) in LPC nesting and early brood-rearing habitat (within 2.2 miles of active leks).
- When surface density of oil and gas facilities exceeds 1 well pad/section, initiate a Comprehensive Development Plan that includes recommendations for off-site and compensatory mitigation actions.
- Phase and concentrate all development activities so that large areas of undisturbed habitat for wildlife remain and thorough reclamation occurs immediately after development and before moving to new sites. Development should progress at a pace commensurate with reclamation success.
- Locate compressor stations at least 2.2 miles away from LPC active and historic (within last 5 years) lek sites. When compressor stations must be sited within 2.2 miles of LPC active and historic (within last 10 years) lek sites, locate compressor stations farther than 0.6 mile (3200 feet) from LPC lek sites.
- Use topographical features to provide visual concealment of facilities from known lek locations and as a noise suppressant.
- Muffle or otherwise control exhaust noise from pump jacks and compressors so that operational noise will not exceed 49 dB measured at 30 feet from the source.
- Utilize a central generator to feed the entire field via underground electrical lines.
- Design tanks and other facilities with structures such that they do not provide perches or nest substrates for raptors, crows and ravens.
- Install raptor perch deterrents on equipment, fences, cross arms and pole tops in LPC habitat.
- Bury new power lines and retrofit existing power lines by burying them or installing perch guards to prevent their use as raptor perches.
- Design wastewater pits to minimize retention of stagnant surface water.
- Treat waste water pits and any associated pit containing water that provides a medium for breeding mosquitos with Bti (Bacillus thuringiensis v. israelensis) or take other effective action to control mosquito larvae that may spread West Nile Virus to wildlife, especially grouse.
- Use early and effective reclamation techniques, including an aggressive interim reclamation program to return habitat to use by lesser prairie-chicken as quickly as possible.

- In consultation with CPW, replace any permanently impacted, disturbed, or altered sand sagebrush habitat within identified nesting and brood rearing range through enhancement of existing or marginal sand sagebrush habitat or reclamation of altered or converted habitat within or immediately adjacent to mapped nesting or brood rearing habitat.
- Implement the species appropriate reclamation guidelines found in this document.
- When reclaiming breeding habitat, include a substantially higher percentage of forbs than used in other areas.
- Reclaim LPC habitats with native grasses including switchgrass, big bluestem, little bluestem, sand bluestem, yellow Indian grass, and prairie sandreed.
- Do not plant buffalo grass, blue grama and sideoats grama in LPC habitat as they will eventually dominate the resulting stand and will not provide LPC habitat.
- Restore appropriate native shrub species to disturbed sites.
- Do not use aggressive non-native grasses or shrubs in LPC habitat reclamation.
- Utilize native and select non-native forbs and legumes in seed mixes as they are a vital component of brood-rearing habitat. Dryland adapted varieties of alfalfa and yellow sweet clover should be the primary non-native forb species used.

KANSAS

Kansas Department of Wildlife, Parks and Tourism (KDWPT) manages LPC under the authorities in Kansas Statutes Annotated (KSA) 32–702 which states: "It shall be the policy of the state of Kansas to protect, provide and improve outdoor recreation and natural resources in this state and to plan and provide for the wise management and use of the state's natural resources, thus contributing to and benefiting the public's health and its cultural, recreational and economic life. For these purposes, the secretary, the commission and the department are hereby vested with the duties and powers hereinafter set forth." Hunting of LPC is closely regulated in Kansas through bag limits and seasons. Research has indicated that hunter harvest is an insignificant source of mortality in Kansas (Hagen et al. 2007, Fields 2004, and Pitman *unpublished data*). Removing that source of mortality will not result in a significant increase in population growth (Hagen et al. 2009). In 2009, the KDWPT was petitioned to list the LPC at the state level. The ad hoc review committee recommended not listing the species, which was approved by the KDWPT Commission.

The Kansas Corporation Commission (KCC) regulates mineral extraction in Kansas, and also provides siting authority for electric transmission and generation. The KCC permits mineral extraction activities in the state through their established proration orders. Transmission lines proposed by a public utility that are ≥230kV and ≥5 miles in length are subject to KCC regulations and siting authority. Prior to building a transmission line or an electric generation facility, a notice of intent must be filed with the KCC. A required public hearing is held to discuss each notice of intent and the final order for each is issued within 120 days of application.

The KCC also regulates set back distances and the number of completions for each mineral formation in Kansas through establishment of proration orders. The KCC has a set of basic

proration orders that apply to all the mineral formations in the state unless more conservative special proration orders have been established. The basic proration orders require set back distances of 330 feet from lease boundaries and do not cap the number of completions that can occur. The specific proration orders that apply to many of the formations within Kansas LPC range are much more conservative and require set back distances ranging from 660-1,250 feet. Those specific proration orders also set a maximum number of completions at specified scales (i.e. density). Approximately half of the mineral formations occurring under Kansas LPC range are subject to specific proration orders that cap well density at 1-6 per square mile. The vast majority of mineral extraction in the sand sagebrush ecoregion in Kansas is subject to specific proration orders that limit densities to 3-6 wells per square mile.

Wind development in Kansas is not regulated by KCC. Some wind developers consult with KCC, but there is no requirement to do so. County commissions are the only regulatory bodies with some oversight of wind development in Kansas through their zoning permits. While there is little regulatory oversight of wind development in Kansas, the KDWPT does have some ability to make recommendations regarding project siting due to strong working relationships with many of the developers and major power purchasers.

KDWPT also has some regulatory authority over some development pursuant to K.S.A. 32-957 to 963, 32-1009 to 1012, and 32-1033 of the Kansas Nongame and Endangered Species Conservation Act. The KDWPT conducts environmental reviews and permits activities that are publicly funded or require some other type of state or federal permit. If those reviews indicated expected impacts to state listed species, the KDWPT requires mitigation. While the LPC is not a state listed species in Kansas it shares similar habitats with the state listed long-nosed snake in a substantial portion of its range (primarily south of the Arkansas River). Thus, the LPC is being provided with indirect protections in those areas through the Kansas Nongame and Endangered Species Conservation Act.

NEW MEXICO

New Mexico Department of Game and Fish (NMDGF) manages LPC under the statutory authority of Chapter 17 of New Mexico Statutes Annotated 1978 which states: "It is the purpose of this act and the policy of the State of New Mexico to provide an adequate and flexible system for the protection of the game and fish of New Mexico and for their use and development for public recreation and food supply, and to provide for their propagation, planting, protection, regulation and conservation to the extent necessary to provide and maintain an adequate supply of game and fish within the state of New Mexico."

In 1997, NMDGF was petitioned to investigate the status of the LPC for listing. NMDGF found that the prospects for survival and recruitment of the LPC were not jeopardized to a degree that constitutes classification as threatened or endangered under the Wildlife Conservation Act (Davis 2006). NMGDF's recommendation regarding the LPC Investigation was brought before the New Mexico State Game Commission in November 2006. The motion to accept the Final Listing

Investigation Report and recommendation that the LPC not be listed under the Wildlife Conservation Action was carried unanimously. The LPC hunting season has been closed in New Mexico since 1996.

In New Mexico, by statute (Sections 9-5A-1 through 7, NMSA 1978), the New Mexico Energy Conservation and Management Division (ECMD) "shall plan, administer, review, provide technical assistance, maintain records and monitor state and federal energy conservation and alternative energy technology programs." Included are programs related to the development and use of solar, wind, geothermal, and biomass resources as well as alternative fuels and transportation. In addition, this division provides technical assistance and information in these areas to government agencies, Indian tribes and pueblos, educational institutions, and the general public. ECMD receives U.S. Department of Energy funding support through its State Energy Program to accomplish the ECMD clean energy goals.

ECMD partners with citizens, businesses, industry, schools, universities, and research laboratories to invest in clean energy infrastructure and to conduct clean energy programs. ECMD staff develops and implements effective clean energy programs – renewable energy, energy efficiency and conservation, efficient transportation and clean fuels – that reduce energy use and utility expenditures by increasing and diversifying energy supplies to promote environmental and economic sustainability for New Mexico and its citizens. As the importance of energy efficiency, energy conservation, and renewable energy grows each year, the State of New Mexico and ECMD continue to promote the development and implementation of effective programs that strive to lessen dependence on fossil fuels and foreign oil.

By statute (§9-5A-4.D, NMSA 1978), the Mining and Minerals Division (MMD) "shall enforce and administer laws and regulations relating to mine safety, coal surface mine reclamation and abandoned mine lands reclamation."

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

OKLAHOMA

The Oklahoma Department of Wildlife Conservation (ODWC) manages LPC under authority given by Title 29, Oklahoma Statutes, §29-3-103Functions, powers and duties of the Commission, which states: “A. The Wildlife Conservation Commission shall constitute an advisory, administrative and policymaking board for the protection, restoration, perpetuation, conservation, supervision, maintenance, enhancement, and management of wildlife in this state as provided in the Oklahoma Wildlife Conservation Code.” (http://www.lsb.state.ok.us/OKStatutes/CompleteTitles/os29.rtf). The mission of the ODWC is to

manage Oklahoma's wildlife resources and habitat to provide scientific, educational, aesthetic, economic and recreational benefits for present and future generations of hunters, anglers and others who appreciate wildlife. LPC are considered game birds in Oklahoma, but there has been no open season since 1997.

The Oklahoma Corporation Commission (OCC) was established in 1907 by Article 9 of the Oklahoma Constitution. The First Legislature gave the Commission authority to regulate public service corporations, as e the services of those businesses are considered essential to the public welfare. These businesses include oil, gas and electric utilities. The OCC regulates and permits oil and gas drilling and has siting authority only in the sense that it specifies well spacing guidelines. It does not have siting authority for transmission lines or wind energy development. OCC conducts voluntary project reviews of transmission and wind projects.

TEXAS

Texas Parks and Wildlife Department (TPWD) manages LPC under the authority of the Texas Statute (http://www.statutes.legis.state.tx.us/) Parks and Wildlife Code, Title 2 Chapters 11 and 12, and PWC Title 5 Chapters 61 and 64. The mission of TPWD is to manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing, and outdoor recreation opportunities for the use and enjoyment of present and future generations. In Texas, LPCs are considered game birds. However, harvest and hunting seasons for this species were suspended indefinitely in 2009. Texas Statute, Parks and Wildlife Code Title 2; Chapter 12 subchapter A Sec. 12.011 establishes the responsibility for protecting the state's fish and wildlife resources and authorizes TPWD to provide comments and recommendations on projects to minimize impacts to fish and wildlife. From 2008-11, TPWD reviewed 55 projects.

The Railroad Commission of Texas (RRC) is the state agency with primary regulatory jurisdiction over the oil and natural gas industry, pipeline transporters, natural gas and hazardous liquid pipeline industry, natural gas utilities, the LP-gas industry, and coal and uranium surface mining operations. It is also responsible for research and education to promote the use of LP-gas as an alternative fuel in Texas. The Commission exercises its statutory responsibilities under provisions of the Texas Constitution, the Texas Natural Resources Code, the Texas Water Code, the Texas Health and Safety Code, the Texas Utilities Code, the Coal and Uranium Surface Mining and Reclamation Acts, and the Pipeline Safety Acts. The Commission also has regulatory and enforcement responsibilities under federal law including the Surface Coal Mining Control and Reclamation Act, the Safe Drinking Water Act, the Pipeline Safety Acts, the Resource Conservation Recovery Act, and the Clean Water Act. The RRC is responsible for issuing permits for well drilling and for enforcing rules pursuant to House Bill 2259 that regulate the removal of surface equipment for wells that have been inactive for more than 10 years. Legislation in HB 2259 requires that between 2010 and 2016, the removal of all surface equipment including power lines from more than 38,000 inactive wells state-wide and more than 4,212 wells within the counties in the range of the LPC must be conducted.

The Public Utility Commission (PUC) of Texas regulates the state's electric and telecommunication utilities, implements respective legislation, and offers assistance in resolving consumer complaints. Texas law provides that most utilities must file an application with the PUC to obtain or amend a Certificate of Convenience and Necessity (CCN) in order to build a new transmission line in Texas. The law requires the PUC to consider a number of factors in deciding whether to approve a proposed new Competitive Renewable Energy Zone (CREZ) transmission line in Texas. The PUC may approve an application to obtain or amend a CCN for a CREZ transmission line after considering the following factors:

- The effect of approving the application on the applicant and any utility serving the proximate area
- Whether the route utilizes existing compatible rights-of-way, including the use of vacant positions on existing multiple-circuit transmission lines
- Whether the route parallels existing compatible rights-of-way
- Whether the route parallels property lines or other natural or cultural features
- Whether the route conforms with the policy of prudent avoidance (which is defined as the limiting of exposures to electric and magnetic fields that can be avoided with reasonable investments of money and effort)
- Other factors such as community values, recreational and park areas, historical and aesthetic values, environmental integrity, and the probable improvement of service or lowering of cost to consumers in the area.

If the PUC decides an application should be approved, it will grant the applicant a CCN or CCN amendment to allow for the construction and operation of the new transmission line.

In Texas, there is no wind energy-specific siting authority. However, individual county boards can decide whether or not to approve applications for tax abatements. If TPWD is asked by industry to review a project, they will review it as if it were a development project regulated by NEPA and provide recommendations. TPWD has developed voluntary mitigation siting guides and BMPs to address threats for LPCs from all types of development that can be accessed at: http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/habitat_assessment/tools.phtml.

These guidelines include the following:

- Avoid
  - Coordinate and communicate with TPWD to avoid transmission-related development in estimated occupied annual range of LPC habitat
  - Avoid any grassland corridors between existing large tracts of LPC habitat.

- Minimize or limit
  - Minimize impacts to lek sites. Development within 1 to 2 miles of active leks of LPC is discouraged.
  - Minimize impacts to broods.

- Schedule timing of activities to avoid LPC breeding, nesting, and brood-rearing activities (March 01 thru July 31).
- Install raptor deterrents on poles as indicated by Avian Power Line Interaction Committee (APLIC).
- Restore degraded habitat.
- Conversion or reseeding of cropland into native grasslands is encouraged.

- Compensation
  - If avoidance is not possible and all measures for minimization have been taken, and there is still a need to compensate for LPC habitat, mitigation should be used.
  - Consider alternative locations and development configurations to minimize fragmentation of habitat in consultation with TPWD and USFWS personnel.
  - Protect high quality habitat parcels identified by TPWD and USFWS that may be included as part of a RWP to limit future loss of habitat for the LPC.
  - Identify areas for restoration of LPC habitat such as historic LPC habitat adjacent to or which could be connected to existing LPC habitat through restoration practices.
  - Fund/perform monitoring, habitat maintenance, aerial surveys with data sharing among partners, habitat mapping, and/or research.
  - Replace or provide substitutes through means such as habitat acquisition, conservation easements, restoration of historic habitat, enrollment of suitable acres in Candidate Conservation Agreement with Assurances (CCAA), and/or mitigation banking.
  - Provide payment per acre to pre-determined non-profit entity based on agreed-upon LPC to-be- determined habitat value(s).

BACKGROUND AND LIFE HISTORY

The LPC is a North American grouse species that occupies sand sagebrush (*Artemisia filifolia*), sand shinnery oak (*Quercus havardii*) and mixed grass vegetation communities of the southern Great Plains within portions of Colorado, Kansas, New Mexico, Oklahoma and Texas. During the breeding season (primarily mid-March through May), male LPC congregate on lek sites and perform courtship displays to attract females for mating. Nests are initiated mid-April through late May, typically within two weeks of lek attendance and copulation (Bent 1932, Copelin 1963, Snyder 1967, Merchant 1982, Haukos 1988, Behney et al. 2010). Hatching peaks in late May through mid-June throughout the range (Copelin 1963, Merchant 1982). Re-nests (following nest depredation or abandonment of the initial clutch) are initiated mid-May through early June, with hatching mid-June through early July (Merchant 1982, Pitman et al. 2006). After hatching there is a period of time during which chicks are brooded by the female. This means the critical reproduction period for LPC range-wide is from March 1-July 15, with some variation due to latitude. In autumn and winter, birds assemble into mixed flocks, feeding primarily in sand sagebrush, sand shinnery oak, or mixed-grass prairies, but also often in waste grain fields (Hagen and Giesen 2005). Habitat components necessary to fulfill LPC life history needs include nesting habitat, brood-rearing and summer habitat, and autumn/winter habitat.

LEKS

LPC have high fidelity to lek sites (Campbell 1972) and males often use traditional leks sites year after year. Females tend to select traditional leks rather than newer or temporary leks (Haukos and Smith 1989). However, new leks will form, especially with an expanding population, as reported for greater prairie-chickens (*Tympanuchus cupido pinnatus)* (Hamerstrom and Hamerstrom 1973).

Lek sites are characterized by sparse, low vegetation [less than 4" (10 cm)] and are often located on a knoll, ridge, or grama-grass (*Boutela* spp.) flat (Jones 1963, Copelin 1963, Cannon and Knopf 1979, Taylor and Guthery 1980a, Giesen 1991). Disturbed areas such as roads, abandoned oil and gas well pads, areas around livestock watering facilities, herbicide treatments, and prairie dog towns (Crawford and Bolen 1976a, Davis et al. 1979, Sell 1979, Taylor 1979, Ahlborn 1980, Locke 1992, Bidwell et al. 2003) may also be used as lek sites. Jones (2009) reported a lek being established in a sand sagebrush site one year after a burn. A study conducted by Jarnevich and Laubhan (2011) indicated that areas with slight topographic relief are favored as lek sites.

Monitoring of lek locations is an important component of the RWP. Generally, there are sufficient areas with appropriate conditions for lek development to meet this LPC habitat requirement. Lek sites are therefore not considered limiting to LPC populations, and habitat management to specifically provide for lek sites is not considered to be necessary. However, monitoring leks is very important in management for LPC, as data help wildlife managers understand the distribution and trends of LPC in an area, and indicate where birds are finding nesting habitat. Leks also provide a valuable index of LPC population status in an area over time. Furthermore, lek locations provide valuable information about where maintenance and improvement of nesting and brood rearing habitat will be most effective. The presence of stable to increasing birds on leks over 5 to 10 year periods, which will capture fluctuations brought on by climatic conditions, reveals that at least minimum quality habitat exists in the area and that birds are present to respond to habitat improvements. Because LPC exhibit strong site fidelity, they are susceptible to continued occupation of habitat that has degraded below suitable levels for population maintenance and growth (i.e. sink population); therefore, the mere presence of birds at lek sites does not correlate strongly with habitat quality unless trends are known. However, the presence of birds, whether declining or not, to respond to habitat improvements and/or removal of negative impacts should hasten local population recovery and expansion. Lek locations are therefore considered an important consideration in developing management plans for specific sites or for siting projects within the LPC range.

NESTING HABITAT

Nesting success and brood survival are two of the most critical population parameters for LPC sustainability (Hagen 2003, Pitman et al. 2006, Hagen et al. 2009 and Grisham 2012), and are considered two of the most critical habitat components for this species. Shrub and herbaceous

cover are key components influencing nest fate of LPC (Davis et al. 2008). In sand sagebrush-grasslands, nests are most often in sand sagebrush or in tall native bunchgrasses (Giesen 1994, Pitman et al. 2005, 2006). Further, successful nests are typically associated with greater heights and cover of shrubs and/or tall perennial grasses (e.g., native bluestems) (Davis et al. 1979, 1981; Riley et al. 1992, Patten et al. 2005a, Davis 2009, Lyons et al. 2011, Hagen et al. in review). Typically the height and density of shrubs, forbs, or residual grasses are greater at the nest site than in the surrounding rangeland, and are greater at successful nests than at unsuccessful nests (Riley 1978, Davis et al. 1979, Wisdom 1980, Haukos and Smith 1989, Riley et al. 1992, Pitman et al. 2005, Patten et al. 2005a, Davis 2009, Lyons et al. 2011, Hagen et al. in review). In southwestern Kansas, LPC that nested in areas with denser cover were more successful in hatching nests than females with less cover (Hagen et al. 2007b). A maximum height selection for grasses and shrubs appears to be around 18-20 in. (46-51 cm) (Lyons et al. 2011). Grasses were found to be taller at successful nests (average height = 26 in., (66 cm)), than unsuccessful nests (average height = 14 in., (36 cm) n = 26; Riley et al. 1992). Nesting habitat producing the relatively highest nest success rates in sand sagebrush communities would have >60% absolute cover of shrubs, grasses, and forbs, and where feasible should support grasses >20 in. (51 cm) in height (Hagen et al. in review). Elmore et al. 2009 suggested that habitat patches should maintain average grass heights greater than 15” (38 cm) in order to provide enough taller vegetation to provide preferred nest sites. Residual litter should be maintained and bare ground minimized (Davis 2009, Grisham 2012, Hagen et al. in review). In sand shinnery oak, nesting habitat has been reported to have lower total vegetation cover (>35% absolute cover desired), but should strive to support grasses >20 in. (51 cm) in height and maintain a high level (>30%) residual cover of litter (Haukos and Smith 1989, Riley et al. 1992, Davis 2009, Grisham 2012, Hagen et al. in review).

In the Conservation Reserve Program (CRP) grasslands planted to mixed, native warm-season grasses, nests are predominately found in mid- and tall grasses such as little bluestem (*Schizachyrium scoparium*), big bluestem (*A. gerardi*), switchgrass (*Panicum virgatum*), and in some locations western wheatgrass (*Pascopyrum smithii*), where clumps of tall residual vegetation from the previous growing season are common (Fields 2004). Nests have been found in CRP planted to Old World bluestems (*Bothriochloa spp.*) (Wolfe et al. 2003), but such stands are generally thought to offer poorer quality nesting habitat compared to native warm season grass stands due to less concealment, herbaceous species diversity, reduced nest success, etc.

Female LPC typically nest within two miles of leks (Suminski 1977, Riley 1978, Giesen 1994). Pitman et al. (2006) reported that the majority of hens they monitored nested within one mile of a lek, but not necessarily the lek where they were captured. Thus, locations of leks can serve as an indicator of where existing nesting habitat is located, and indicate prime areas for potential improvements to nesting habitat.

BROOD HABITAT

Juxtaposition and interspersion of nesting and brood habitat is important (King 1938), and so are generally found within two miles of lek sites. As broods have limited mobility, especially at early ages, quality brood habitat needs to be close to nesting habitat. Giesen (1998) suggested approximately 1000 ft. (300 m.) as a desirable maximum distance for brood movement. Pitman (2003) reported one female that moved 35 mi (58 km) from its capture site to where it nested. Jamison (2000), in a study conducted in southwestern Kansas, reported movements that averaged 806 ft. (246m) per day [n = 14, range 634 – 1,411 ft. (193 – 430 m)] for broods less than 14 days of age and 1,040 ft. (317m) per day [n = 8, range 605 – 2,139 ft. (184 – 652 m)] for broods 14 to 60 days of age (Jamison 2000). A mosaic of nesting and brood habitat provides the optimal combination of conditions for LPC. Hagen et al. (in review) suggested that approximately 1/3 of an area should be in brood habitat and 2/3 in nesting habitat for quality LPC habitat. Thus, interspersion of nesting and brood habitat is important in providing optimum habitat conditions.

Brood habitat typically has a higher amount of forb cover and less grass cover than nesting sites (Ahlborn 1980, Applegate and Riley 1998. Hagen et al. in review). Brood-rearing locations are usually associated with higher levels of insect abundance (Jamison et al. 2002b, Hagen et al. 2005) and where chicks can move easily on the ground (Bidwell et al. 2003). Grisham (2012) reported that brood survival from 0-14 days post-hatch was the primary limiting factor to LPC in the Southern Great Plains, and that lack of forbs that could support greater numbers of insects was a primary factor. Active sand dunes with shrubs, especially within sand shinnery oak or sand sagebrush vegetation types, are common in brood-rearing habitat. Jones (2009) reported male LPC and females with broods used sand sagebrush areas one and two years following a burn. Greater forb density was found in these areas.

Burning of LPC habitat (both sand sagebrush and sand shinnery oak communities) tends to temporally reduce shrub and grass cover while increasing forb cover for one to two years post-fire, and has been found to increase grasshopper densities (Boyd and Bidwell 2001). Following this, the shrub and grass component recovers and the forb cover is reduced (Davis et al. 2008). Thus, brood habitat is improved for a few years following a burn while nesting habitat is lowered in quality, but this is a temporary change as grasses and shrubs respond following the burn and typically return to their higher cover and density within several years. Grisham (2012) compared brood habitat selection in areas in New Mexico that had either been grazed or were ungrazed combined with being treated or untreated with herbicide (tebuthiuron) to reduce sand shinnery oak. He found that broods used areas that were either grazed or had received herbicide treatment over areas that were ungrazed or not treated with herbicide, further supporting the selection of broods for more disturbed areas.

Shrubs and shinnery oak have been reported to be used for shade in summer (Copelin 1963, Donaldson 1969, Bell 2005 Larsson et al. 2012) for thermoregulation during high temperatures (Bell et al. 2010, Larsson et al. 2012), not only for broods, but for adults as well. At higher temperatures, LPC broods in New Mexico selected locations with more overhead cover and taller plant heights (Bell et al. 2010). There was also evidence that sand shinnery oak was preferred

habitat irrespective of temperature (Bell et al. 2010). Woodward et al. (2001) suggested that shrubland communities provide year round food and cover and are less influenced by climate and grazing than herbaceous dominated communities.

AUTUMN/WINTER HABITAT

LPC typically range across larger areas during the autumn and winter months, occupying the same general vegetation types as are used for nesting and brood-rearing (Giesen 1998). Boal and Pirius (2012) reported that 97% of bird locations in the non-breeding season for 23 birds they monitored in west Texas were within one mi (1.7 km) of a lek. Kukal (2010) studied over-winter habitat use of LPC in the northeastern Panhandle of Texas, and found that 98% of the locations for the birds were within three mi (5 km) of the lek where they were captured, and within 1.4 mi (2.4 km) of a known lek. As these findings represent similar distances for locations of over-wintering birds as reported for distances from leks for nesting and brood rearing birds, these results indicate the general overlap in nesting, brood, and autumn/winter habitat use. Taylor and Guthery (1980a) found LPC use mixed-grass, sand sagebrush, or sand shinnery oak for resting and roosting. The birds fed in these vegetation communities, or congregated in agricultural fields with waste grains as long as they are located in close enough proximity to rangelands that provide adequate cover for resting and concealment (Jones 1964, Crawford and Bolen 1976b, Ahlborn 1980, Taylor and Guthery 1980b, Jamison 2000). Sand shinnery oak provides leaves, catkins, acorns, and insect galls as seasonal food resources. Pirius (2011) and Boal and Pirius (2012) described overwinter habitat use in sand shinnery oak ecosystems in west Texas, and found that birds in this location selected for grasslands mixed with sand shinnery oak while not selecting for sand sagebrush-dominated areas, whether these had grasses present or not. Kukal (2010) described overwinter habitat use in the panhandle of Texas and found the LPC there preferred grasslands with <15% shrub cover, and emphasized the need to maintain good quality grasslands for over-winter habitat use. Kukal (2010) did not observe birds using agricultural fields. Because of the overlap in autumn and winter habitat requirements with nesting and brood habitat, specific management for autumn and winter habitat is not considered to be necessary as long as good quality nesting and brood habitat is present.

FOOD

The USFWS (2012a) provided a review of foods of LPC. They noted that most food habitats studies have been conducted in sand sagebrush and sand shinnery oak areas, with food habitats from mixed grass communities less well-documented. Insects are a key component of the diet when available, and are especially important for broods. Martin et al. (1951:97) reported oaks as a primary food in fall, winter and spring, with grain crops, especially wheat and sorghum used in fall and winter, with sumac in winter, and gromwell in spring and summer. They reported insects as a key summer food with grasshoppers the largest component followed by “beetles, bugs, and caterpillars”. As summarized (USFWS 2012a), vegetation provides the bulk of the diet of adults through fall, winter and early spring. Green vegetation becomes important in spring, with seeds, mast, and leafy vegetation being selected throughout this time. In sand shinnery oak, acorns are

an important food item when available, but their availability varies considerably from year to year (Smith 1979). Thus, selected vegetation to be eaten by LPC is diverse.

WATER

Water has not been considered a direct requirement of LPC (Davison 1935, Elmore et al. 2009, USFWS 2012a), although they will use surface water when it is available. Supplemental water sources were noted as being more available today than historically because of water developments for livestock. Supplemental water was suggested as a benefit during periods of drought (Crawford 1974), but no data to support its importance are available. Generally, water developments in most parts of the range are not considered to be a habitat improvement practice for LPC. However, Haukos (USGS, personal communication) noted that with the drawdown of the Ogallala aquifer in the sand hills of the Southern Great Plains many springs and seeps appear to have dried up. Loss of these water sources could reduce LPC habitat in these dry landscapes so that water improvements may be desired in these areas. Boal and Pirius (2012) reported that 99.9% of the locations for 23 birds they monitored in west Texas were within 2 mi (3.2 km) of a water source, raising the question of the importance of water for LPC in this part of its range.

HOME RANGES

Home ranges of LPC have been reported in various studies, and have been summarized by the USFWS (2012a). Home ranges vary by sex, age, season, and weather patterns. LPC are not territorial, so home ranges of individuals overlap. Taylor and Guthery (1980c) reported home ranges of 19 telemetered birds in western Texas as ranging from 86 acres (35 ha) for one immature female in February to 4804 acres (1,944 ha) for three immature males in December. The overall average monthly home range for the 19 birds was 988 acres (400 ha). Riley et al. 1994 conducted telemetry studies in New Mexico and found that 51 females averaged home range sizes of 571 acres (231 ha) during pre-nesting and 227 acres (92 ha) while nesting. Females with broods had home ranges that averaged 294 acres (119 ha) while females without broods averaged 180 acres (73 ha) in the post-nesting timeframe. Toole (2005) studied LPC in Texas and found that home ranges for 24 birds distributed across two study areas for two years ranged from 286 acres (116 ha) to 729 acres (295 ha) during the breeding season while home ranges for seven birds across the two study areas during one fall ranged from 422 acres (171 ha) to 647 acres (262 ha). Toole (2005) found no significant differences in home ranges between sexes or ages of the birds he monitored. Giesen (1998) reported that home ranges for males in Colorado were 512 acres (207 ha), while females were 1,473 acres (596 ha). Jamison (2000) reported home ranges of males in Kansas to range from 30 acres (12 ha) to 346 acres (140 ha) in the spring, 190 acres (77 ha) to 356 acres (144 ha) in the summer, and 566 acres (229 ha) to 1,010 acres (409 ha) in the fall. Taylor and Guthery (1980a) reported winter home ranges in Texas to range from 86 acres (35 ha) to 1,223 acres (495 ha). Boal and Pirius (2012) monitored home ranges of 23 LPC in west Texas and reported that female prairie chickens had slightly larger home ranges, averaging 1,244 acres (504 ha), compared to 1,209 acres (489 ha) for males, with this difference not significant. Kukal (2010) reported home range sizes for 11 male LPC in

the northeastern Panhandle of Texas in the fall and winter of 2008-2009 as 1,657 acres (671 ha) in fall and 1,271 acres (515 ha) in winter. He reported home ranges for 18 male LPC in the fall and winter of 2009-2010 as 1,483 acres (600 ha) and 1,189 acres (481 ha) respectively. Kukal (2010) reported home ranges of 3 females for the fall of 2008 as 791 acres (320 ha), and reported three females having fall and winter home ranges in 2009-2010 of 1,880 acres (791 ha) and 697 acres (282 ha).

Home ranges have been noted to increase in size during droughts (Copelin 1963, Ahlborn 1980, Merchant 1982). Merchant (1982) found the average home range size of 7 female LPC was 430 acres (174 ha) during a year of normal precipitation, but was 1,146 acres (464 ha) for eight females in a drought year, a 267% increase. Home ranges have generally not been compared to measures of habitat quality, although an assumption that could be applied to the Merchant (1982) study is that habitat quality was reduced during drought years resulting in the larger home range sizes. Thus, in general, nearly all home ranges of LPC have been found to be less than 2,000 acres (809 ha) in size at all times of the year.

MINIMUM SIZES OF HABITAT BLOCKS

To ensure a sustainable population, Applegate and Riley (1998) recommended clusters of 6-10 or more leks, each with a minimum of six males, separated from one another by a distance of 1.2 mi (1.9 km) or less. A number of studies have reported distances between leks of 1 mi (1.6 km) or less (Crawford 1974, Crawford and Bolen 1976a, Taylor 1979, Locke 1992, Jamison et al. 2002a). If each lek in the cluster were surrounded by a two mi radius area (3.2 km) (i.e., the minimum breeding season patch size around a lek), the entire cluster of leks and core habitat complex might occupy up to 32 sq. mi (83 sq. km) (~21,000 acres) (8,500 ha), with a wider perimeter of habitat for autumn and winter foraging and escape cover. This is consistent with the 25,000-acre (10,118 ha) estimate of Bidwell et al. (2003) for a lek complex.

Taylor and Guthery (1980c) recommended LPC be managed in units of at least 16,000 acres (6475 ha) in size. Bidwell et al. (2003) suggested that the collective home range of all birds attending a particular lek site averages approximately 19 sq. mi (49 sq. km) (>12,000 acres) (4,856 ha), indicating large areas are needed to ensure long-term persistence of LPC populations (Elmore et al. 2009). Although the minimum habitat patch size to support LPC is not clear, several studies have speculated that habitat mosaics containing patches ranging from 1,200 acres (486 ha) to 25,000 acres (10,118 ha) of contiguous native rangelands may be necessary to sustain LPC populations (Davison 1940, Copelin 1963, Crawford and Bolen 1976a, Taylor and Guthery 1980b, Wildlife Management Institute 1999, Woodward et al. 2001, Bidwell et al. 2003). Crawford and Bolen (1976a) reported that areas should be greater than 63% high quality habitat to provide favorable habitat conditions. A LPC conservation plan in Oklahoma (Haufler et al. 2012) used recommendations developed by a science team that reviewed the available information on sizes of habitat blocks and set an objective for core LPC conservation areas to average 50,000 acres (20,236 ha) in size with at least 70% of the area in good to high quality habitat.

DENSITY INFORMATION

LPC do not defend territories other than the small area of a lek defended by a male during the breeding season. Therefore, determination of home range sizes does not provide a basis for density estimates as it can for other species. Density estimates are best derived from surveys of bird numbers occurring at leks, and extrapolating this to population sizes over the surveyed area. Texas estimated a mean density of 5.63 LPC/sq. mi (14.6 LPC/sq. km) (range 2.18-8.64 (5.6-22.4)) (Davis et al. 2008). New Mexico used an estimate of 4.85 birds/sq. mi birds/sq. km) (Davis et al. 2008). Kansas estimated densities of LPC in much of its range at 10 breeding birds/sq. mi (25.9 birds/sq. km) (Davis et al. 2008). In development of the Oklahoma LPC conservation plan, an estimate of 5 birds/ sq. mi was used in setting habitat goals (Haufler et al. 2012). Olawsky and Smith (1991), using transect sampling, reported summer densities of 52-67 birds/sq. mi, and 88-137 birds /sq. mi in winter in their study areas in Texas and New Mexico. Davison (1935) estimated a spring population of 850 birds on a 10,000 acre ranch in sand shinnery oak in northwestern Oklahoma in 1935, a density of approximately 55 birds/sq. mi, and reported an average density of males of 24/sq. mi for 7 years of monitoring in the 1930's, a decade with reported reduced numbers of LPC due to drought conditions (Davison 1940). These higher densities of birds may have been influenced by declining amounts of available habitat. Displacement of birds due to development may have concentrated LPC within the remaining habitat, which increased density until population equilibrium, similar to what was recorded in the sandsage ecoregion when conversion of sandsage habitat to center pivot irrigation appeared to inflate population counts from 1968 to 1983.

MOVEMENT INFORMATION

Movements of LPC may be expressed as normal daily movements or occasionally as dispersal movements. Campbell (1972) observed that males moved several miles from their leks to feed in grain fields in the winter. Taylor and Guthery (1980c) recorded a daily movement of over 2.4 mi (3.9km) in one day, with one juvenile male moving 7.7 mi (12.4km) in 4 days, a move that they attributed to dispersal. A banded juvenile male LPC moved an average of 5.3 mi (8.5km) [range 0.2- 12.6 mi (0.3-20.3km)] from the lek they were captured on to where they were collected by hunters (Campbell 1972). Riley et al. (1994) reported that 3 females with broods moved an average of 910 ft. (277m) per day. Kukal (2010) reported on fall and winter movements of 15 male LPC monitored in the northeastern Panhandle of Texas in 2008-2009 and found minimum average daily movements of 2,015 ft. (614 m) in fall and 1,588 ft. (484 m) in winter. Male LPC monitored in 2009-2010 (n=18) had minimum average daily movements of 2,067 ft. (630 m) in fall and 1,581 ft. (482 m) in winter.

HABITAT DYNAMICS

Davis et al. (2008) provided a good description of the relationship of fire to LPC: "Fire was a naturally occurring form of disturbance on the pre-Columbian Great Plains and was ignited not only by lightning, but for at least 12,000 years, by aboriginal Americans. The impact of fire was a major force in shaping the structure of the vegetation community (e.g., Knopf and Samson 1997). The long history of large ungulate herbivores on the Great Plains is also well accepted

(Milchunas et al. 1988). Large ungulates are attracted to recently-burned areas by the new growth that is typically more palatable and of greater nutritional quality than vegetation in unburned areas. In turn, recently burned, and consequently, heavily-grazed areas supported more forbs and were less likely to burn in subsequent years due to a reduction in grass litter. The effect of this historical pattern, known as the fire-grazing interaction, created a mosaic of patches (burned/unburned, heavily grazed/lightly grazed, dominated by forbs/dominated by grasses) that shifted spatially over time (Vinton et al. 1997, Hartnett et al. 1996, Fuhlendorf and Engle 2001). LPC tend to nest in areas with greater heights and density of grasses and shrubs (e.g. Riley et al. 1992, Pitman et al. 2005, Lyons et al. 2011) and then move their just-hatched chicks to areas with less grass, more forbs, and greater insect availability (e.g. Bidwell et al. 2003, Jamison et al. 2002b, Hagen et al. 2005, Bell et al. 2010). This shifting mosaic of historical habitat satisfied this critical reproductive need. Average intervals of fire return to any given area varied and were generally more frequent in eastern sections of the Great Plains where litter accumulation rates were greater. Within the range of the LPC, fire return intervals varied from an average of 5 years in eastern sections of the range to 10-20 years in the more-arid, western-most parts of the species' range (Hahn 2003).

Thus, having a mix of nesting habitat from April 15-June 15 and brood rearing habitat from June 15-August 15 are considered the most critical time components of LPC habitat. These should be in relatively close proximity and fairly well interspersed to maximize habitat quality. The movement and home range information reported in above sections supports the need for these two habitat requirements to be in relatively close proximity to provide optimum habitat conditions. As previously discussed, Hagen et al. (in review) suggested a 2/3 to 1/3 mix of nesting to brood habitat to optimize LPC habitat. Brood habitat can be created by fire, or by other disturbances including grazing, herbicide application, or mechanical treatments. However, for a site to maintain its dynamics where it will return rapidly from a brood condition to an optimum nesting condition, as occurred with historical fire regimes, it needs to support appropriate shrub/grass/forb communities. Disturbances that create brood habitat but do not sustain the compositions to allow the transition of brood habitat to nesting habitat make development of the mix of good nesting and brood habitat difficult.

SURVIVAL RATES

Survival rates of LPC and factors affecting these rates have been studied at various locations. Haukos et al. (1988) reported a hen survival rate of 58% for the three month breeding season. Hagen et al. (2007a) determined survival rates of females on two study sites in southwest Kansas and found that birds nesting or raising broods had higher mortality rates than at other times of the year or for females not involved in these activities. They suggested nesting and brood habitat were key components to survival rates of LPC. Jones (2009) reported lower survival rates for LPC during the breeding season than other times of the year. Pitman et al. (2006) reported on survival of birds in southwest Kansas during early and late brood rearing as well as over winter, and recommended that improving food resources for early brood rearing was important for increasing LPC survival rates. Grisham (2012) studied LPC survival rates in Texas and reported

that males had a 57% survival rate during the breeding season while females had an 89% survival rate during 2010 and a 71% survival rate in 2011. He reported that these survival rates for females were higher than reported in other studies. Lyons et al. (2009) reported annual survival rates of 31% in sand shinnery oak ecosystems and 52% in sand sagebrush ecosystems in Texas with higher mortality occurring during the breeding season. Boal and Pirius (2012) monitored survival rates for 53 adult birds in west Texas and reported: "Survival rates during the first 2 years (year 1: 0.846 ± 0.141; year 2: 0.827 ± 0.092) were among the highest ever reported for the species during the nonbreeding season. Survival was markedly decreased in year 3 (0.572 ± 0.136) and resulted in an overall nonbreeding season average of 0.721 (± 0.0763)."

POPULATION STATUS

In 2012, a range-wide aerial population monitoring program was initiated for LPC. This survey used helicopters flying standard routes within 15 km by 15 km blocks distributed within four LPC ecoregions (McDonald et al. 2012) consisting of the sand shinnery oak ecoregion in eastern New Mexico-southwest Texas, the sand sagebrush ecoegion located in southeastern Colorado-southwestern Kansas and the western Oklahoma Panhandle, the mixed grass ecoregion located in the northeast Texas panhandle-northwest Oklahoma-south central Kansas area, and the short grass/CRP mosaic ecoregion located in northwestern Kansas and northeastern Colorado (Figure 2).

McDonald et al. (2012) reported observing 36 lesser prairie-chicken leks, 26 greater prairie-chicken leks, 5 lesser and greater prairie-chicken mixed leks and 85 prairie-chicken groups not confirmed to be lekking for a total of 152 prairie-chicken groups. Additional flights flown by Texas Tech University and the ODWC detected 10 LPC leks and seven groups not confirmed to be lekking. An estimated total of 3,174 LPC leks (90% CI: 1,672 – 4,705) and 441 lesser and greater prairie-chicken mixed leks (90% CI: 92 - 967) were reported to occur in the study area, equating to an estimated total population of 37,170 individual (90% CI: 23,632 – 50,704) (Table 1) and 309 individuals based on the hybrid lesser-greater prairie-chicken lek counts (90% CI: 191 - 456). Assumptions and limitations for this survey effort can be found in McDonald et al. 2012.

Table 1. Estimated total abundance reported in McDonald et al. 2012.

Ecoregion	Est. #. of leks	Est. Population	% of surveyed leks	% of surveyed pop in ecoregion
Sand Shinnery oak	428	3,699	13.5%	10.0%
Sand Sagebrush	105	1,299	3.3%	3.5%
Mixed-Grass	877	8,444	37.6%	22.7%
Short-Grass	1,764	23,728	55.6%	63.8%
Total	3,174	37,170	100%	100%

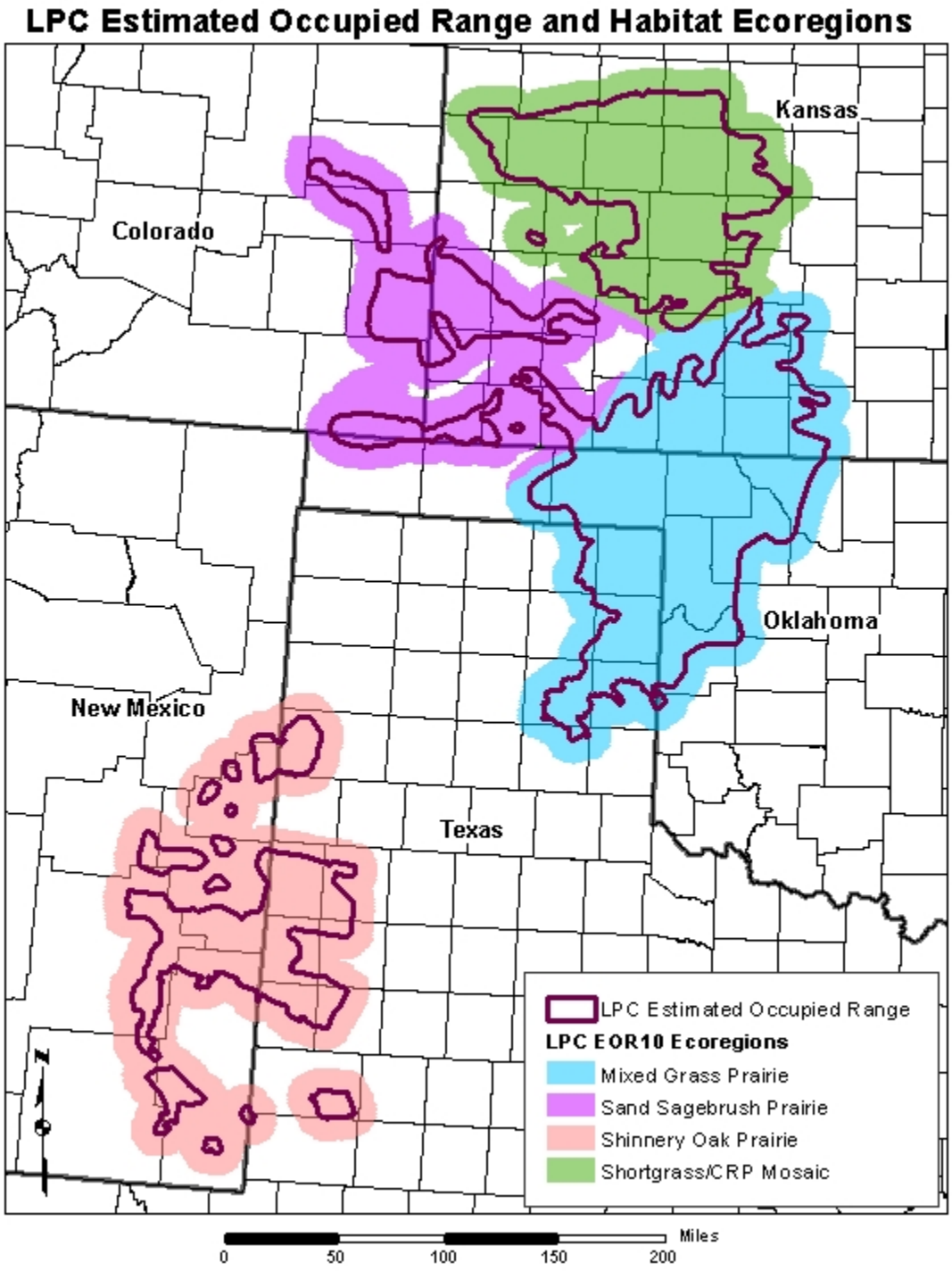

Figure 2. Ecoregions delineated for LPC for their range including the currently estimated occupied range (EOR) of the species.

Garton (2012) conducted a reconstruction analysis of LPC populations for the overall population of LPC as well as for each of the four ecoregions for LPC. Garton (2012) developed the population analysis from past lek counts including the most recent aerial survey reported above and used these to estimate quasi-extinction probabilities. He discussed many of the limitations of the available population data including the limited number of leks surveyed as one goes farther back in time, the inconsistencies in the survey methods used, the assumptions of observed males on leks to numbers of females, and the minimum population sizes assumed to be needed to maintain populations.

Garton (2012:16) showed "future projections of carrying capacity without substantial changes in key determinants of LPC population dynamics are slightly above 10,000 in 30 years and less than 1,000 in 100 years." Of significant value in the analysis were the comparisons of the various ecoregions. Data for the shortgrass ecoregion could not be analyzed prior to 1997 due to a lack of sufficient leks, but the data for 1997 to present showed this population to have a high probability for persistence and projected increasing numbers. The population analysis for the sand shinnery oak ecoregion showed good probabilities of short and long term persistence, although not as high as for the shortgrass ecoregion. However, the projected populations in the mixed grass ecoregion, and especially for the sand sagebrush ecoregion, showed higher levels of short term risk and significant long term likelihood of dropping below the effective population thresholds for maintaining genetics of 50 and 500 individuals based on the above assumption of no changes to key determinants of LPC population dynamics.

Garton's analysis of LPC populations (2012) used short and long-term population viability targets based on the 50/500 rule as suggested by Franklin (1980) and Soule (1980) as the basis for the quasi-extinction analyses, which is the effective population as it relates to genetic maintenance. An analysis for greater sage-grouse (*Centrocercus urophasianus*) used these same population viability targets (Garton et al. 2011). Garton (2012) used the effective population size (Ne) values of 50 for short-term (30 year) persistence and 500 for long-term (100 year) persistence and adjusted these for count composition of sexes resulting in an estimate of 85 birds counted at leks for the Ne=50 and counts of 852 birds representing Ne=500. As used by Garton et al. (2011), a significant likelihood of extirpation was defined as a result of >50% of simulated population forecasts falling below the respective Ne for either 30 or 100 years.

Other targeted population goals besides the 50/500 populations as minimum viable population sizes for quasi-extinction thresholds have been suggested. Flather et al. (2011) noted: "Genetic considerations consisted of comparing an estimate of the effective size (Ne) of a population to the 50/500 'rule' of conservation genetics (i.e. a Ne exceeding 50 for short-term and 500 for long-term survivability).

However, the 50/500 values of Ne are simply viability goals for maintaining genetically diverse populations; they provide "little direct connection with extinction risk" (Flather et al. 2011:308). Traill et al. (2010) attempted to determine a generalized minimum viable population number,

much like the 50/500 rule, and reported that the evolutionary and demographic constraints on populations require minimum sizes to be at least 5000 adults. However, Flather et al. (2011) reported on reviews they conducted of the viability analyses used by Traill et al. (2010) revealed that a huge range in minimum viable population estimations existed, finding that even estimates conducted within many populations varying by orders of magnitude. They also reported on the limitations of population viability analyses (PVA's) to provide meaningful estimates of minimum population sizes. Flather et al (2011:308) stated that estimates of extinction risk from PVA models were often imprecise, inaccurate, contingent upon threats currently acting, and affected by model structure, study duration and other uncontrolled factors (Flather et al. 2011 referencing Beissinger and Westphal 1998). Flather et al. (2011:308) went on to note that PVA's were best used for ranking relative extinction risk, switching the focus of these analyses away from the determination of a minimum viable population to emphasize the importance of PVAs for understanding the relative probability of persistence for populations in comparisons among management options.

The Garton (2012) report potentially could have run other minimum viability population targets for their extinction analyses. The results of such different population targets would be likely changes to the timeline over which any of the declining populations would reach a minimum threshold and fail to meet the desired quasi-extinction probabilities. However, PVA's conducted on other grouse species have supported the use of the 50/500 number. Grimm and Storch (2000) estimated the minimum viable population for capercaillie (*Tetrao urogallus*) in central Europe, and stated that 470 individuals were needed to sustain a population with less than 1% chance of extinction in 100 years. However, they noted the sensitivity of their model to certain parameters such as female survival rates, and suggested that additional populations needed to be studied to confirm their findings. The Gunnison Sage-grouse Rangewide Steering Committee (2005) reported that small populations of Gunnison sage-grouse (*Centrocercus minimus*) having fewer than 25 individuals had a high probability of extinction in 50 years, but that populations of 500 individuals were fairly secure (<5% extinction probability) if the populations were generally stable. Garton (2012) did not provide an estimated minimum viable population for LPC, but did provide the quasi-extinction probabilities for the range-wide population as well as for the ecoregional populations based on past population trends. They projected continued losses in population carrying capacity within the sand sagebrush and mixed grass ecoregions if habitat impact conditions continue on their current trajectory.

Of interest in the analysis is the expansion of LPC into parts of the shortgrass ecoregion where they were not known to previously occur. In northwest Kansas, LPC have expanded back into some of their historical range and new areas where they were not known to previously occur due to the establishing of CRP (Rodgers and Hoffman 2005). The warm-season grasses planted in these CRP stands were a mixture of tall and mid-grasses native to Kansas but the plantings often occurred in ecological sites that did not historically support high densities of these species (J.C. Pitman, KDWPT, *personal communication*). LPC populations are doing well in these planted fields with a generally expanding population (Garton 2012). Garton (2012) did note the extensive

intermixing of LPC and greater prairie-chickens in these areas with a number of mixed flocks and hybrids.

DESCRIPTION OF THE RWP AREA

The RWP addresses both the historic and current estimated occupied LPC range plus 10 miles within the states of Kansas, Texas, Oklahoma, New Mexico and Colorado. LPCs are currently recorded as much as 30 miles beyond the northern boundary of the historic range, and the current estimated occupied range varies from year to year as a function of shifting habitat, population size and detectability. We included the 10 mile buffer around the estimated occupied range to account for these sources of variability.

COVERED AREA

The Covered Area includes public, private and state property that currently provides or could potentially provide suitable habitat for the LPC within the current range of the LPC and ten miles around that range. The Covered Area is represented in the CHAT (http://kars.ku.edu/maps/sgpchat/) as the Estimated Occupied Range plus 10 miles (EOR+10). This 10 mile buffer was added to the EOR because the exact occupancy of the LPC is not known. This buffer provides greater assurance we are capturing all the occupied areas and provides participants with the opportunity to enroll in the voluntary programs under the RWP that provide coverage for take if the LPC is listed. It also provides for ranges shifts, which some research suggests might happen in the future due to changing climatic conditions. This distance is also consistent with the way NRCS is defining the action area for their LPC Initiative. Enrolled property is the property identified in signed WCPs for all Participants under this RWP. Participants may amend their WCPs to enroll additional property at any time. If range expansion due to changing climatic or habitat conditions is recorded in the next 10 years, WAFWA will explore modifying the covered area under the RWP to accommodate these new areas.

SERVICE AREAS

The Service areas are the four habitat ecoregions identified as part of the range-wide aerial survey effort (McDonald et al. 2012). These ecoregions are:

1. Shinnery Oak Prairie Region (SOPR) located in eastern New Mexico-southwest Texas panhandle
2. Sand Sagebrush Prairie Region (SSPR) located in southeastern Colorado-southwestern Kansas-western Oklahoma Panhandle
3. Mixed Grass Prairie Region (MGPR) located in the northeast Texas panhandle-western Oklahoma-south central Kansas
4. Short Grass/CRP Mosaic (SG/CRP) located in northwestern Kansas.

These ecoregions represent actual on the ground vegetative coverage and structure either natural or manmade.

DURATION

The proposed term for the RWP is 30 years from the date the FWS approves it. Population objectives are identified on a 10 year basis and will be evaluated through the adaptive management process. At the end of the term, the RWP Administrator may apply to the USFWS to renew the RWP and any associated permits or WCPs. The RWP Administrator will apply for a renewal at least 30 days prior to the expiration of the RWP. The RWP Administrator and Participants may continue the activities authorized by the RWP until the USFWS acts on the application for renewal. If approved, any assurances and permit language agreed to at the time of the renewal request will be honored by the USFWS. The USFWS may also deny renewal of the RWP or have the option of terminating it.

PROPOSED ACTION

This RWP describes a locally controlled and innovative approach for maintaining state authority to conserve the LPC and, if implemented in a timely manner, to influence a final decision to preclude the need to list under an ESA. Should the LPC be listed, any RWP authorization granted or permits issued to the states and WAFWA from the USFWS would provide assurances and authorize incidental take of LPC to participants who voluntarily enroll and fully implement their conservation commitments under the RWP.

This RWP is designed to include conservation measures that eliminate and/or reduce threats by land uses including mineral, oil/gas, and, wind-energy developments, agricultural practices, and civil infrastructure (including transmission and distribution lines, radio/cell towers, water lines, and roads) on state and private property. This RWP also establishes a mechanism to enroll private or state lands to generate conservation benefits to LPC by implementing management strategies that will improve habitat quality and quantity. If enough participants implement conservation measures through their participation in the RWP, the states believe this RWP could potentially influence the final listing decision. A federal decision not to list the LPC must be based on the removal of threats and population stabilization or improvement. The decision to list is a regulatory process and this RWP cannot predetermine the outcome. The actions and successes of this RWP will be evaluated in accordance with USFWS Policy for Evaluation of Conservation Efforts (2003) and factored into the five-factor analysis of the listing decision.

COVERED ACTIVITIES

The impacts to the LPC and its habitat from covered activities and the net benefits to recovery attributable to the conservation measures required under this RWP are explained in more detail later in the document. The following covered activities are organized by industry but may be conducted by any enrolled Participant.

OIL AND GAS ACTIVITIES

Seismic and Land Surveying: Seismic activities are generally performed in the exploration

mode of oil and gas development or in areas of development for refining knowledge of the geology and improving well siting. Seismic activities are conducted for periods of short duration in any given area. Activities may include clearing vegetation to allow equipment access for seismic work and consist of a small crew laying/stringing cables on foot or possibly using off-highway vehicles (OHVs). A crew removes cables when the project is complete. Land surveying is a temporary activity and may require some truck and/or foot traffic.

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

Drilling, Completion, and Workovers (Re-Completion): Related drilling, completion, 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 LPC 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.

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

Plugging and Remediation: These activities may include well plugging, draining lines and tanks, removal of surface infrastructure including pump jacks and Christmas trees, tank batteries and associated lines, compressor stations, pipelines, buildings, and power lines, as well as the removal of roads and pads, regarding surface contours and re-seeding.

AGRICULTURAL ACTIVITIES

Brush management: Brush management will be a covered activity if done in accordance with the NRCS practice standards.

Building and maintaining fences and livestock structures: Construction and maintenance of new and existing fences and/or livestock structures will be covered activities if they are done in accordance with the NRCS practice standards.

Grazing: Grazing will be a covered activity if it is done in accordance with the NRCS practice standards.

Water/windmill: Construction of water storage facilities, agricultural water pipelines, windmills, and water troughs will be covered activities if they are done in accordance with NRCS practice standards.

Disturbance practices: Disturbance of grassland is a covered activity if done in accordance with USDA practice standards for native rangelands and planted grass stands. Some activities that will be covered include prescribed fire, disking, mowing, haying, etc.

Crop production: Normal agricultural activities occurring on tilled acreage are not considered to be a source of take (e.g. plowing, planting, harvesting, etc.).

WIND POWER, CELL AND RADIO TOWERS, AND POWER LINE ACTIVITIES

Construction: This includes all aspects of construction of turbines towers or power lines, as well as access to the sites, transmission line connections to substations, existing power grids, or structures, associated infrastructure, assembling and erecting poles and towers, and stringing and connecting wires. Also considered part of construction are clearing vegetation, contouring, compacting, stabilizing soils and erosion control (including silt fencing, earthen berms, etc. per Clean Water Act permitting requirements). Heavy equipment and trucking associated with construction activities may cause LPC mortality due to collision and behavioral modifications. Physical disturbance affected by the construction of turbines, turbine noise, and physical movement of turbines during operation have the potential to disturb nesting.

Operations and Maintenance: Routine operations can include daily inspections and maintenance, electrical line repairs, emergency response and repair and cleaning of structures, work overs (recompletions), and weed and tree control.

Decommissioning and Remediation: These activities may include removal of turbines, towers, power lines, buildings, roads and pads, re-grading of surface contours, and reseeding.

ROAD ACTIVITIES

Construction: This includes all aspects of construction from siting routes, establishing staging areas for machinery, building associated infrastructure, access roads and rights-of way and may include clearing vegetation, contouring, compacting, stabilizing soils and erosion control (including silt fencing, earthen berms, etc. per Clean Water Act permitting requirements). Heavy equipment

and trucking associated with construction activities may cause LPC mortality due to collision and behavioral modifications.

Operations and Maintenance: Routine operations can include daily inspections and maintenance, road repairs, emergency response and repair and cleaning of roadways or applying gravel, work overs (recompletions), and weed and tree control.

Decommissioning and Remediation: These activities may include removal of roads, bridges, and culverts, re-grading surface contours and reseeding.

GENERAL ACTIVITIES

Hunting: Recreational hunting may result in travel by hunters in LPC habitat to seek and retrieve targeted game, including LPC. Hunting of LPC is closely regulated in Kansas through bag limits and seasons. Research has indicated that hunter harvest is an insignificant source of mortality in Kansas (Hagen et al. 2007b, Fields 2004, Pitman *unpublished data*). Removing that source of mortality will not result in a significant increase in population growth (Hagen et al. 2009).

OHV activity: OHV activity in LPC habitat includes OHV use for recreation (including hunting) and for ranching and oil and gas development.

General construction: General construction and development activities by a variety of sectors, public and private, may occur in LPC Habitat. For example, a water utility line planned by multiple counties in the region may involve construction in or near LPC habitat. Other construction or access dozing by alternative energy producers or for recreational purposes is also contemplated.

Other land management: Other land management activities may include prescribed burns and game, predator management, and remediation of impacted habitat back to baseline conditions.

THREAT ANALYSIS

The USFWS (2012a) provided a summary of threats they considered in their listing proposal. Potential threats identified included:

- Habitat conversion from agriculture
- Livestock grazing
- Wind power and energy transmission development and operations
- Petroleum production
- Shrub control and eradication
- Altered fire regimes and invasion by woody plants
- Climate Change and Extreme Weather Events
- Collision mortality

- Disease and parasites
- Predation
- Hunting losses
- Insecticides
- Hybridization
- Competition from ring-necked pheasants (*Phasianus colchicus*)
- Roads, pipelines, and other linear features

A number of these potential threats can cumulatively result in habitat loss and fragmentation, which is the primary concern identified by the USFWS (2012a) for proposing LPC as a threatened species**.** Habitat loss and fragmentation can affect LPC populations at multiple scales. At large scales, fragmented populations of LPC may become genetically isolated and lose genetic diversity. Genetic concerns from fragmentation have not been shown to occur within LPC. The LPC population in New Mexico and west Texas does have some genetic differences from the rest of the population (Van Den Bussche et al. 2003, Hagen et al. 2010, Pruett et al. 2011). Fragmented populations may require demographic support to help build numbers back up following a local population crash from such factors as severe weather events. If no other population sources are close enough, or if the intervening habitat conditions are too adverse to allow movements of individuals, local populations could be extirpated. However, populations of LPC could be relocated from other areas.

Finally, reductions in habitat quality within habitat patches can reduce population sizes, reproductive success, and survival rates. While these fluctuate annually with weather patterns and other factors, areas with low habitat quality may be population sinks and not able to maintain their population sizes without demographic support from other areas. This is especially true for extended periods of drought. Again, like other species management efforts, translocations from secure populations could allow for accelerated repatriation. Below are assessments of the different threats identified in the proposed listing rule.

HABITAT CONVERSION TO AGRICULTURE

Habitat conversion to agriculture can be described as conversion of native grasslands and shrublands (rangelands) to row crops. This conversion has been identified as an historical event that resulted in a substantial reduction in LPC habitat (Crawford and Bolen 1976a, Fuhlendorf et al. 2002). Woodward et al. (2001) found that areas with the greatest decreases in amounts of native shrubland had the greatest declines over time in LPC numbers, but did not relate this directly to conversion to row crops. Most of the conversion to row crops occurred in the relatively distant past with settlement of the prairies. However, changing markets and crop prices have stimulated new conversions of grasslands as reported by Wright and Wimberly (2013) for the western Corn Belt. These current losses in grasslands have not been reported within the range of LPC. Houts conducted a GIS analysis and reported at an ESRI meeting that changes in grasslands between 1993 and 2005 within LPC range showed a reduction of 255,258 acres (103,303 ha) of grasslands. However, during this same time, substantial increases in grassland

plantings, primarily through the Conservation Reserve Program (CRP) also occurred. While it is accurate to describe an individual contract for CRP as temporary (lasting 10-15 years) the program as a whole has maintained over 5.8 (5.6-6.0 95%CIs) million acres within LPC range since 1998. Thus, while conversion to row crops is occurring in some parts of the country, within LPC range, this seems to be a much more limited concern and a low threat which can be managed through the coordination of the RWP.

LIVESTOCK GRAZING

Livestock grazing is a widespread practice on most remaining native grass and shrublands within LPC range. Maintaining these native shrub and grasslands is desirable for LPC conservation. Grazing practices can have both beneficial and detrimental effects to LPC habitat. Grazing practices that result in reductions in vegetation structures and yield residual vegetation that is less than optimal for LPC are detrimental to habitat quality (Hoffman 1963, Jackson and DeArment 1963, Sell 1979, Hunt and Best 2010). In particular, reductions in grass heights in nesting habitat can significantly reduce habitat quality, as described previously in the nesting habitat section. A lack of lightly grazed habitat will result in insufficient nesting habitat (Crawford 1980, Jackson and DeArment 1963, Davis et al. 1979, Taylor and Guthery 1980a,). Uniform or widespread livestock grazing of rangeland at an intensity that leaves less than adequate residual cover remaining in the spring is considered detrimental to LPC populations (Bent 1932, Davis et al. 1979, Crawford 1980, Riley et al. 1992, Giesen 1994b), due to reductions in nesting cover and desirable food plants. Thus, grazing can reduce the quality of LPC nesting habitat, but can be an appropriate practice when managed to benefit LPC by improving brood habitat.

Residual cover at and around nests is thought to increase nest success because nests are better concealed from predators (Davis et al. 1979, Wisdom 1980, Riley et al. 1992, Giesen 1994). Leonard (2008) found that LPC use ungrazed areas for nesting significantly more than grazed areas. However, grazing can also reduce grass densities where they are too dense to allow for the movements of chicks, and may be used to produce an increase in forb cover or diversity that can improve brood habitat quality.

Crawford (1981) reported that grazing can reduce the needed density of grasses as well as increase the density of shrubs. LPC prefer sand sagebrush and sand shinnery oak with high densities of grasses. Grazing can reduce the density of grasses resulting in an increase in shrub densities (Crawford 1981), particularly in sand shinnery oak (Haukos 2011). Good cover of grasses will utilize available water and keep sand shinnery oak at lower densities. With higher levels of grazing, shinnery oak is able to obtain greater amounts of moisture and expand their densities and keep grasses from reestablishing, which at high levels reduces the quality of LPC habitat (Haukos 2011).

WIND POWER AND ENERGY TRANSMISSION DEVELOPMENT AND OPERATIONS

In 2008, one of the primary reasons USFWS (2012a) raised the listing priority number for the LPC was the increased perception of risk from wind energy developments and associated development of transmission lines. Substantial areas of the occupied LPC range have been

identified as having high suitability for wind energy development (Pruett et al. 2009b). This is particularly true of some of the sandy ridgelines that comprise high quality LPC habitat. While empirical data on the effects of wind energy development on LPC are lacking, and the avoidance behavior of LPC towards transmission lines has limited empirical data, concerns exist about the impacts of these developments (vertical structures) on habitat use by the species (Robel et al. 2004, Pruett 2009a, 2009b, Hagen 2010, Hagen et al. 2011, USFWS 2012a).

Presently, little is known about how wind power developments affect LPC and/or habitats. Wind developments include turbines to harness energy, access to the sites, and transmission line connections to substations or other existing power grids. Physical disturbance affected by the construction of turbines, turbine noise, and physical movement of turbines during operation have the potential to disturb nesting LPC (Robel et al. 2004). Behavioral avoidance of these facilities by prairie grouse has the potential to exacerbate the negative impacts of the project area. The effects of habitat fragmentation may indirectly affect local LPC populations by decreasing the area of habitat available for nesting and brood-rearing (Pitman et al., 2005). It is predicted that nesting and brood-rearing hens will avoid large wind turbines by at least a one mile radius (Robel et al., 2004), but again, no empirical data are available to support such predictions. However, sound wildlife management practices require managers to err toward the benefit to the species when analyzing threats until better information becomes available.

PETROLEUM PRODUCTION

Oil and gas developments have been reported to cause impacts to LPC (Hunt 2004, Hunt and Best 2010, Hagen et al. 2005, Pitman et al. 2006, Beck 2009, Hagen et al. 2010, 2011). While additional information about avoidance behaviors of LPC around oil and gas development and production activities and how these influences integrate with other land use activities is still needed, concerns exist that increased well density will result in reduced LPC populations. Reasons for this include loss and degradation of habitat and avoidance behavior exhibited by LPC. Hunt (2004:96) reported that abandoned leks in his study area had higher densities of wells than active leks stating “Average number of active wells near active leks was one, while average number of active wells within 1.6 km (1 mile) of abandoned leks during their last active year was eight.” Activities associated with oil development and production including roads, power lines, pipelines, compressor stations, and other structures all add to the cumulative impacts and associated concerns for LPC populations (Hunt 2004).

A challenge in addressing the threat of oil and gas developments is that of split estates, where landowners who own and control the surface of the land and the uses of that land often don’t own the subsurface or mineral rights. Mineral rights are often owned by multiple parties and may have complex leases of the rights. As owners of mineral rights have the authority to exercise those rights, agreements with surface rights owners for LPC habitat protection or management are subservient to the mineral rights. Thus, provision of LPC habitat into the future must consider both surface and mineral rights. The complexity of mineral rights with multiple owners makes addressing mineral rights creates a significant challenge. Conservation practices could be

disrupted by mineral extraction if those rights are exercised and are inconsistent with the RWP goals the surface owner has agreed to implement. Consideration of this factor is essential for LPC habitat planning.

SHRUB CONTROL AND ERADICATION

Widespread control of sand shinnery oak or sand sagebrush can be detrimental to LPC habitat quality (Haukos and Smith 1989, Johnson et al. 2004, Patten et al. 2005b, Bell et al. 2010, Gunter et al. 2012, Thacker et al. 2012). Other studies have suggested that reduction of sand shinnery oak in some locations may provide some benefits to LPC (Doer and Guthery 1983, Leonard 2008) by increasing seed production or producing more favorable habitat conditions. However, Olawsky et al. (1988) did not find a statistical difference in LPC densities between treated and untreated areas.

Patten et al. (2005a) found higher survival rates of LPC in sand shinnery oak with greater than 20% shrub cover compared to birds using 10-20% or <10% shrub cover. Patten et al. (2005b) noted the more favorable microclimate provided by these higher cover of shrubs. Because most land management goals in sand shinnery oak communities are directly related to improving cattle forage, high application rates of tebuthiuron have been common, with little attention to possible wildlife related effects (Peterson and Boyd 1998, Haukos 2011). No studies have suggested that widespread chemical control of sand shinnery oak or sand sagebrush designed to eliminate these shrub species to increase grass production for livestock were beneficial for LPC. In Texas, Haukos and Smith (1989) found that nesting LPCs preferred nesting in untreated areas compared to treated areas. Likewise, Johnson et al. (2004) found more LPC nests in untreated areas compared to treated areas in New Mexico. However, both of these studies were conducted in the presence of unmanaged grazing. It should be recognized that managed grazing may have different results. Patten et al. (2006) found that hens typically nested in untreated areas for several years post treatment, and that if they nested in treated areas, they selected remnant patches of shinnery oak.

Studies on treatments that applied tebuthiuron at lower levels to thin sand shinnery oak rather than eliminate it have reported different results. Zavaleta (2012) tested restoration techniques using a combination of herbicide (0.60 kg/ha tebuthiuron) and managed short-duration grazing (50% utilization of annual production in two grazing events) treatments over a 10-year period. Use of tebuthiuron had the greatest effect on the community by increased grass and forb cover by 149% and 257%, respectively in treated areas. Across the study, plots with the herbicide and grazing treatment combination were the most comparable to NRCS ecological site reference communities with 20.2% sand shinnery oak, 69.7% grass, and 10.2% forb cover. Plots not treated with herbicide had three times the coverage of sand shinnery oak and less than 50% cover of grass and forbs. Grazing treatment was found to have the greatest influence on LPC response (Grisham 2012, Boal and Pirius 2012). Of the 66 encounter histories for females only 12% occurred in treatment combinations that included no grazing. No evidence of differences in breeding season survival among treatment combinations was found, and the studies concluded

that herbicides and managed grazing can be used to restore monocultures of sand shinnery oak to near reference community compositions of shrubs, grasses, and forbs. Managed grazing will maintain the community so that future herbicide treatments should not be necessary (Haukos 2011). Haukos (2011) provided a good summary of LPC use of sand shinnery oak communities and the effects of herbicide application to these communities, and also cited studies that showed the role of fire as a dynamic influence that helped maintain the diversity of conditions desired in sand shinnery oak communities.

Limited research has been conducted on effects of herbicide application to LPC habitat quality in sand sagebrush ecosystems, although Thacker et al. (2012) and Gunter et al. (2012) found changes in plant communities that were expected to be detrimental to LPC habitat quality, and numerous studies have shown LPC preference for nesting in sand sagebrush communities. No studies have reported a positive response by LPC to chemical control of sand sagebrush.

ALTERED FIRE REGIMES AND INVASION OF WOODY PLANTS

Expansion of woody plants including eastern red cedar (*Juniperus virginiana*) into LPC range has caused reductions in LPC habitat (Elmore et al. 2009, Fuhlendorf et al. 2002). In the southwest, mesquite has invaded some areas (USFWS 2012a). The expansion of these species has reduced or eliminated LPC habitat. Additionally, alterations of fire regimes have changed the dynamic processes in sand shinnery oak, sand sagebrush, and mixed grass communities that historically produced the mix of habitats preferred by LPC as previously discussed. Fear of use of prescribed burning as well as social perceptions of this practice have limited its use in many areas. LPC habitat quality has declined as a result of these changes (USFWS 2012a).

CLIMATE CHANGE AND EXTREME WEATHER EVENTS

Climate change may have detrimental effects on LPC (Grisham 2012, USFWS 2012a). Climate projections clearly show warming trends throughout LPC range along with projected reductions in precipitation and more extreme weather events including intense storms and prolonged drought (http://www.climatewizard.org/). All of these are threats to LPC populations. Plant communities in the southwest parts of LPC range may shift in compositions or structures to be less favorable as LPC habitat. Temperatures may stress LPC populations in these warmer parts of the range. Prolonged drought conditions could cause population fluctuations that could threaten persistence of populations that are fragmented. Intense storms at sensitive times such as during the nesting season may cause significant local reductions in reproductive success or survival. Grisham (2012) modeled LPC responses to predicted climate change and projected negative effects on the population by 2050.

Catastrophic events such as wild fires, tornadoes, prolonged periods of severe drought, and similar events may temporarily remove or degrade LPC habitat. Higher temperatures, less rainfall, and changes in storm frequency and severity could negatively affect LPC habitat by reducing habitat and by converting shinnery oak vegetation to other vegetation inhospitable to

LPC. In particular, events such as drought and late freezes could cause dramatic shifts in the available habitat. Smaller habitat patches may be less resilient to natural events, so extreme short-term and long-term weather shifts could cause declines in LPC habitat. However, by creating connectivity between focal areas as described in the RWP, the ecosystem function will be maintained for LPC and create the resiliency and redundancy needed for transitions caused by climate change. By incorporating 10+ miles onto the EOR, managers identify habitat conditions to allow the LPC shift its presence on the landscape using focal areas and connectivity zones.

COLLISION MORTALITY

LPC have been shown to collide with fences, power lines, and cars (Hagen 2003, Wolfe et al. 2007, USFWS 2012a). Generally, these mortality rates have been relative minor, with the one exception of Wolfe et al. (2007) who reported a substantial level of mortality from fences in Oklahoma. We have no basis to believe this is a threat across the range and believe it can be greatly reduced by marking fences that pose a high risk for collision mortality.

DISEASES AND PARASITES

Disease and parasites as reviewed by the USFWS (2012a) have not been shown to cause any substantial population concerns. While the presence of parasites such as eye worm (*Oxyspirura petrowi*) were noted, and their effects on LPC health not well-understood, no evidence exists that this is a significant threat to LPC populations. The USFWS (2012a) concluded that "at this time, we have no basis for concluding that disease or parasite loads are a threat to any lesser prairie-chicken populations."

PREDATORS

Predators have been shown to be causes of mortality of LPC (e.g., Hagen et al. 2007, Wolfe et al. 2007b, Kukal 2010, Grisham 2012), as LPC are a prey species. However, Behney et al. (2010) and Behney et al. (2012) did not observe predation on leks and LPC chicks in Texas to be a significant concern based on over 700 hours of observations. Davison (1935) noted that predator control might cause changes to other populations (such as rats) that might do more harm to nesting LPC than the predators being controlled. Robb and Schroeder (2005) discussed the importance of habitat quality as an influence on predation, and suggested that more fragmented habitat may lead to greater risks of predation. While predators do cause mortality of LPC, predation is generally considered to not be a threat factor if adequate habitat quality exists.

HUNTING LOSSES

Hunting could be a concern for a declining species when it is distributed in small, isolated LPC habitat patches where hunting mortality may be additive rather than compensatory (Hagen et al. 2009). Hagen et al. (2009) reported that hunting mortality in their study contributed only 3% to overall mortality. Hunting of LPC currently does not occur in four of the five prairie-chicken states, but does occur in Kansas where there is little concern that hunting mortality is additive

rather than compensatory for normal annual population cycles. The harvest of LPC in Kansas for the past five reported years was 500 in 2007, 750 in 2008, 910 in 2009, 633 in 2010 and 378 in 2011, reflecting the general population fluctuations that have occurred with weather patterns (KDWPT reports). The USFWS (2012a) stated: "Given the low number of lesser prairie-chickens harvested per year in Kansas relative to the population size, the statewide harvest is probably insignificant at the population level." Campbell (1972) reported no detrimental effects from hunting on an LPC population he studied. All states have the regulatory authority to open and close hunting seasons based on management objectives. This impact is not considered a threat. Close monitoring by KDPWT through hunter surveys, and setting of annual hunting season and bag limits, will allow informed decisions regarding hunting.

INSECTICIDE

Effects of insecticide applications on LPC have not been studied, but are not believed to present a threat to the species (USFWS 2012a).

HYBRIDIZATION

Hybridization between LPC and greater prairie chickens is known to be occurring, especially as noted by McDonald (2012) in the area where LPC are expanding to the north and east in Kansas. However, the level of hybridization is less than one percent of the estimated LPC population (McDonald 2012). While the presence of hybrid birds is known, how they compete in breeding and whether they produce viable offspring has not been researched in depth. While this factor is not considered a threat, annual surveys will allow mangers to monitor it over time.

COMPETITION WITH RING-NECKED PHEASANT

Mote et al. (1998) reported that ring-necked pheasants (hereafter pheasants) can harass male LPC on leks. Pitman et al. 2006 reported that only 6 of 209 (4%) LPC nests were parasitized by pheasants and/or northern bobwhites. They found no evidence of depressed nest success or egg hatchability as a result of the observed parasitism (Hagen et al. 2002, Pitman et al. 2006). Additionally, Hagen et al. (2007) evaluated habitat use by radio-marked LPC and ring-necked pheasant and concluded that the two species occupy separate niches in southwestern Kansas. To date, there is no evidence that population level effects on LPC are occurring due to competition with pheasants.

ROADS, PIPELINES, AND OTHER LINEAR FEATURES

Roads, pipelines and flow lines located throughout LPC habitat may also have negative direct and indirect effects on LPC habitat. Heavy equipment used to remove shinnery oak and bury the lines in the sand may destabilize dunes. Roads, pipelines and flow lines may expose LPCs to petroleum chemical leaks and an increased likelihood of being crushed by OHV travel due to maintenance crews using vehicles along those lines. Flow lines are located throughout the range of the LPC, are currently being built with every well site, and will continue to be built in the

future with or without the RWP. While some lines will be able to be routed around LPC habitat, pipelines and flow lines may result in some continued adverse impacts on LPC by yielding avoidance behaviors by LPC.

EXISTING CONSERVATION PROGRAMS

Numerous state, federal, and private programs currently exist that provide conservation benefits to LPC and directly address threats to the species such as:

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

Through improvements in habitat quantity, quality, and connectivity, these programs also indirectly address LPC threats such as:

- Climate Change
- Extreme weather events like drought, hail storms, blizzards, etc.
- Predation
- Disease

These programs provide technical and financial assistance to landowners for habitat management for LPC. Other programs provide assurances to landowners and industries that if LPC considerations are included in management activities, future management can continue in this manner even if LPC are listed by the USFWS. Several programs address industry siting, best management practices, and avoidance, minimization and voluntary mitigation. Additional programs provide for direct management of LPC habitat on public or other lands within LPC range. Combined with the RWP, these programs provide for a high level of certainty and predictability to the USFWS regarding LPC conservation.

Five federal agencies have programs or initiatives that directly relate to delivery of LPC habitat improvement or assurances. These five agencies are the Natural Resources Conservation Service (NRCS), Farm Service Agency (FSA), U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), and the U.S. Forest Service (USFS). Below is a description of these conservation programs, which are general in nature but recently have been focused toward conserving LPC habitat.

NATURAL RESOURCES CONSERVATION SERVICE AND FARM SERVICE AGENCY PROGRAMS

In 2008, NRCS launched the Lesser Prairie-Chicken Conservation Initiative (LPCI). The objective of this initiative is "to increase the abundance and distribution of the LPC and its habitat while promoting the overall health of grazing lands and the long-term sustainability of ranching operations." (for more information see http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1047025.pdf). In addition to NRCS technical service providers, LPCI has partnered with various agencies and organizations to help to deliver the program to landowners. Partnering agencies and organizations include:

- The five state wildlife agencies (CPW, ODWC, KDPWT, NMDGF, and TPWD)
- Kansas Forest Service
- USFWS Partners for Fish and Wildlife Program
- LPC Interstate Working Group
- National Fish and Wildlife Foundation
- National Wildlife Foundation
- Pheasants Forever
- Playa Lakes Joint Venture
- Rocky Mountain Bird Observatory
- The Dorothy Marcille Woods Foundation
- Texas Wildlife Association
- The Nature Conservancy

LPCI is funded through the NRCS Conservation Technical Assistance Program, Environmental Quality Incentives Program (EQIP) and Wildlife Habitat Incentive Program (WHIP) and helps producers apply conservation practices that benefit LPC and their operations. The primary goal of LPCI is to healthily increase the abundance and distribution of the LPC and its habitat while promoting the overall grazing of lands and long-term sustainability of ranching operations. The goals are pursued by providing landowners with financial and technical assistance to implement NRCS conservation practices such as brush management, prescribed grazing, range planting, prescribed burning and restoration of rare and declining habitats, with many acres having been implemented in priority areas identified in this RWP (Appendix B).

Currently, NRCS practices across all programs have provided conservation to 1,259,612 acres through prescribed grazing (Figure B-1), upland wildlife habitat (Figure B-2), brush management (Figure B-3), and 19 other practices in the focal areas and connectivity zones (Appendix B). More specifically, LPCI has resulted in 137,692, acres of habitat improvement within these priority areas. An investment in the LPCI action area has resulted in approximately 700,000 acres of LPC habitat benefited (Table 2), with 20% of that occurring in Focal Areas and Connectivity Zones. It is important to note that NRCS prioritization prior to this RWP did not explicitly target these areas. Focal Areas and Connectivity Zones as described in the RWP will be incorporated into the new Southern Great Plains Crucial Habitat Assessment Tool (CHAT) for use in prioritizing and ranking future LPCI contracting efforts within the eligible area. Thus,

the numbers herein provide a baseline for monitoring investments and conservation actions in these areas from here forward.

Table 2. Contracts and funding through NRCS's LPCI program listed by state for 2010-2012.

Contract Year	State	Contracts	Acres	Amount ($)
2010	KS	64	28,280	$1,525,789
2011	KS	43	19,464	$1,378,072
2012	KS	36	35,659	$1,377,897
2010	CO	6	33,815	$365,317
2011	CO	5	17,563	$423,356
2012	CO	3	33,883	$484,775
2010	OK	20	19,305	$645,532
2011	OK	26	28,500	$906,460
2012	OK	13	28,697	$1,439,684
2010	TX	231	165,352	$5,563,556
2011	TX	205	222,777	$6,868,732
2012	TX	21	48,780	$817,877
2010	NM	2	12,571	$234,459
2011	NM	17	164,594	$1,313,162
2012	NM	9	83,332	$1,186,590
Totals		**701**	**942,572**	**$24,531,258**

As with any new program, the LPCI has endured a number of bumps in the road and the LPC range has endured one of if not the worst drought on record in recent years. As the numbers indicate, field staff and cooperators have achieved successes through the program, and it is logical to assume that with improved conditions, the success of contract and acreage enrollment will not only continue but will likely increase. To ensure LPCI contracts are achieving optimum benefits and providing needed improvements for the benefit of the LPC, NRCS hired a science advisor, Christian Hagen, in 2010.

With the Science Advisor providing input and guidance, the Initiative targeted priority enrollment areas based on the CHAT. A number of research projects have been initiated which will serve to track improvements to LPC habitat in response to conservation practices implemented. The Science Advisor has coordinated development of habitat assessment tools, vegetation monitoring procedures, and other tools to determine needed habitat improvements and monitor success of the conservation practices implemented. The addition of the Science Advisor

has resulted in providing science-based credibility for their efforts and ensured maximum benefits for dollars invested by targeting the investments to areas of greatest impact.

Further, the NRCS collaborated with the USFWS to develop a conference report (CR) which was signed by the USFWS June 30, 2011. This conference report evaluated the overall effects of implementing the LPCI and discussed 22 conservation practices to provide for overall long term beneficial effect on LPC. By following provisions of this CR when working through NRCS, producers are provided regulatory predictability. NRCS is working with the USFWS to transform the CR into a Conference Opinion, expanding coverage to 27 conservation practices and providing incidental take definitions for five practices where harm may occur to individual birds through implementation. This identification of incidental take will provide further regulatory predictability to producers implementing conservation practices as outlined in the final Conference Opinion should they harm individual birds in the implementation of those practices. With conversion to the conference opinion the NRCS will follow the provisions of the associated conservation measures for all technical and financial assistance provided on LPC habitat or potential habitat. A flow chart process was developed to assist field staff in determining when LPC habitat is or may be present. The provisions of the conference opinion must be followed to receive NRCS technical or financial assistance.

In 2012, NRCS worked with the USFWS to initiate the Working Lands for Wildlife (WLFW) program. It included the LPC as one of its seven focus species and the LPCI as its delivery program (see the following for more information on the WLFW program: http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/?&cid=stelprdb1046975). Under this program, landowners are provided with technical assistance, financial assistance to implement practices, and regulatory predictability. Under the WLFW partnership, federal, state and wildlife experts jointly identified at-risk or listed species that would benefit from targeted habitat restoration investments on private lands. Using the best available science, these wildlife experts prioritized restoration actions on a large regional scale to focus assistance most cost effectively. The federal government will grant farmers, ranchers and forest landowners regulatory predictability in return for voluntarily making wildlife habitat improvements on their private agricultural and forest lands. Participating producers must adhere to the requirements of each conservation practice during the term of their contract, which can last from one to 10 years. If landowners would like to receive regulatory predictability for up to 30 years, they must maintain the conservation practices as outlined in the NRCS conservation RWP. (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/?cid=stelprdb1048842).

This combination of federal dollars for funding technical assistance and implementation of practices, combined with partnering agency and organization funding of technical service providers and the regulatory predictability provided through the NRCS/USFWS agreement, is a powerful voluntary, incentive-based initiative. Early results from this partnership demonstrate positive outcomes in terms of on-the-ground management of LPC habitat.

NRCS also has other Farm Bill conservation programs that can be applied to LPC management; specifically EQIP, WHIP, and the Grassland Reserve Program (GRP). The Farm Service Agency (FSA) administers the Conservation Reserve Program (CRP) including the State Acres for Wildlife Enhancement (SAFE) Program.

Wildlife Habitat Incentive Program: WHIP is a program offering technical and financial assistance to landowners to voluntarily develop and improve wildlife habitat on private lands. Participants work with NRCS and their local conservation district to develop a wildlife habitat development plan and contract. The plan describes the landowner's goals for improving wildlife habitat, includes a list of practices and a schedule for installing them, and specifies the steps necessary to maintain the new habitat for the life of the agreement. All privately owned rural lands are eligible for participation in WHIP (see: http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/financial/whip/?&cid=STELPRDB104697).

Environmental Quality Incentives Program: EQIP is a voluntary conservation program that promotes agricultural production, forest management, and environmental quality as compatible goals. Through EQIP, farmers and ranchers may receive financial and technical assistance to install or implement structural and management conservation practices on eligible agricultural land. NRCS administers EQIP with funding derived from the Commodity Credit Corporation. EQIP offers contracts with a minimum term that ends one year after the implementation of the last scheduled practice and a maximum term of 10 years. EQIP activities are carried out according to a conservation plan of operations developed with the program participants. For more information regarding EQIP (see: http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/).

Grassland Reserve Program: GRP is a voluntary program offering landowners the opportunity to protect, restore, and enhance grasslands on their property. NRCS and FSA coordinate implementation of GRP, which helps landowners restore and protect grassland, rangeland, pastureland, shrubland and certain other lands and provides assistance for rehabilitating grasslands. This program will address threats to LPC by conserving vulnerable grasslands from conversion to cropland or other uses while helping maintain viable ranching operations. GRP also addresses LPC threats related to grazing issues through the development of an NRCS prescribed grazing program under the NRCS Conference Report (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/easements/grassland/?cid=nrcs143_008401). In addition, the Farm and Ranchlands Protection Program (FRPP) may provide additional opportunities for establishment of easements that can provide benefits to LPC.

Conservation Reserve Program: CRP is a voluntary program for agricultural landowners administered by FSA that addresses threats to the LPC including agricultural conversion by providing a pathway to incentivize landowners to take cropland out of production and plant it back into grassland. The conversion of these lands back to grassland promotes habitat connectivity, which helps address LPC threats like climate change and extreme weather events.

The program also addresses grazing threats by providing millions of acres of grassland habitat that are ungrazed, grazed at a reduced rate once in a limited number of years, or where grazing is strictly managed during county drought designation. This program includes mid-contract management practices that promote wildlife habitat, including shallow disking, prescribed burning, herbicide usage and inter-seeding with legumes and forbs, and requires the control of noxious weeds and trees. FSA and USFWS are currently working on a Conference Report to define how the practices under this program work to address the threats to the LPC. Through CRP, agricultural producers can receive annual rental payments and financial assistance to establish long-term, resource-conserving practices on eligible farmland. The Commodity Credit Corporation (CCC) makes annual rental payments based on the agriculture rental value of the land, and it provides cost-share assistance for up to 50 percent of the participant's costs in establishing approved conservation practices throughout the United States (http://www.fsa.usda.gov/FSA/webapp?area=home&subject=copr&topic=crp).

Because not all applications to participate in CRP can be accepted, applicants compete nationally by submitting offers to enter eligible land into the CRP during designated signup periods. Under CRP's general signup, landowner offers are ranked according to an Environmental Benefits Index (EBI). Those seeking to enroll land (and/or practices) beneficial to LPC receive additional points, boosting their enrollment chances. Each eligible offer is ranked in comparison to all other offers and selections are made. Producers may offer land at lower than the allowable rates to further increase the likelihood that their offer to participate in CRP will be accepted.

A conservation plan must be developed and approved before land is enrolled in the CRP. Technical assistance is provided to landowners to assist in developing and implementing conservation plans for their CRP contracts. These plans are developed by the NRCS, other conservation partners, or a USDA-approved technical service provider in coordination with the landowner. The conservation plan is part of the CRP contract and details the seed mix to be used, required maintenance and mid-contract management activities, and other essential information for establishing, restoring, maintaining, or enhancing conservation covers for soil, water and wildlife benefits.

Mid-contract management within LPC range now requires conservation practices to enhance vegetative covers that benefit LPC. All new CRP participants are required to perform at least one mid-contract management activity as part of their approved conservation RWP. These practices may include light disking, inter-seeding, prescribed burning, upland wildlife habitat management, managed haying or grazing, and other practices designed to ensure plant diversity, wildlife benefits, and enhancement of permanent cover. Much of the mid-contract management in the LPC region is reflected by the number of acres of prescribed burning and upland wildlife habitat management practices. Since 2003 over 190,000 acres of CRP have been treated with prescribed burning and nearly 470,000 acres have received upland wildlife habitat management in the LPC region. There are approximately 200,000 additional acres pending for both the prescribed burning and upland wildlife habitat management practices in CRP conservation RWPs within the region.

CRP, as implemented, provides predictable high-quality LPC habitat. The program has evolved over time in a manner that benefits the LPC to an even greater extent than in its early years. This includes improving the quality of CRP covers for LPC habitat by providing incentives for landowners to establish native grass/mixed forbs and other covers that benefit the LPC. Landowners who submit offers to establish these covers improve the likelihood their land will be accepted for enrollment. Between 1986 and 1991, over 90% of the grass established in Kansas and New Mexico was native, but only 40% of the grass in Oklahoma and 57% in Texas was established in native grass. Currently, 93% of grass covers planted in the LPC states is native grass, ranging from a low of 87% in Oklahoma to a high of 98% in Kansas. In many cases, new native grass contracts are substituted for expiring contracts using introduced grasses, resulting in covers more suitable for LPC.

State and national conservation priority areas have been established making cropland that is important for wildlife eligible for CRP. Land from these priority areas offered for enrollment automatically meets land eligibility criteria and receives additional EBI points, increasing the likelihood that these offers will be accepted. Each of the five States with LPC populations has established LPC conservation priority areas. CRP has proven to be an effective tool in establishing habitat for LPC throughout its range but especially in Kansas north of the Arkansas River.

While there is fluidity in CRP enrollment as individual properties are enrolled in CRP and others come out of the program at the end of 10- to 15-year contracts, the total acres enrolled in CRP throughout the LPC range has remained relatively constant at around 5.5 million acres since 1998, and nearly 1 million of these acres are in LPC priority areas identified in this RWP (Figure C-4. It should be noted that the numbers described in the text are different from numbers in the figure. This is because older CRP data was not spatially referenced and at was provided at different scales, i.e. county level).

As CRP contracts expire, many are re-enrolled back into the program. Following CRP General Signups in the autumns of 1997 and 1998-- the point in time when actual re-enrollment can first be gauged-- an examination of state-level CRP re-enrollment activity reveals that re-enrollment rates were 47% in New Mexico, 48% in Oklahoma, 63% in Kansas, and >90% in Texas and Colorado. New enrollments coupled with re-enrollments help retain a relatively constant level of CRP in the LPC occupied range.

Concerns have been expressed that once CRP acres come off contract that they are immediately returned to agricultural production. However, this does not appear to be the case. An analysis that compared the location of expired CRP fields to 2010 NAIP imagery in Kansas found that 86% of the acreage was still in grass. Not only were these acres still in conservation cover, but the native grass was located in areas of significant conservation need for LPC. Across the entire LPC range, a 2012 survey estimated that of CRP acreage that expired during the period of 2008 through 2011, 73% of the acres in Colorado, 90% of the acres in Kansas, 97% of the acres in New Mexico, 90% of the acres in Oklahoma, and 80% of the acres in Texas were still in grass.

CRP has always served as a forage safety net in times of drought or other emergency. Safeguarding wildlife are rules requiring no haying and grazing during the primary nesting and brood rearing season, hay harvesting requirements that 50 percent of the field be left un-harvested, and grazing requirements restricting grazing intensity to 75 percent of carrying capacity. Haying and grazing of CRP land is limited to certain CRP program practices. Haying and grazing considerations are to be incorporated into the NRCS-approved conservation RWP, adherence to which is a requirement of CRP contract compliance. Haying and grazing activities must maintain vegetative cover, minimize soil erosion, and protect water quality and wildlife habitat. The total number of days allowed for haying and grazing of CRP is limited. As otherwise consistent with CRP policy, managed haying and grazing is allowed once every three or five years. The highest proportion of CRP land used for haying and grazing in the LPC range in recent years was observed during the 2012 drought (23.0 percent), 2011 (20.9 percent), and 2006 (12.4 percent). In each of those drought years emergency grazing made up over 60 percent of the acres that were hayed or grazed.

The installation of windmills, wind turbines, wind-monitoring towers, or other wind-powered generation equipment outside of the primary nesting or brood-rearing season on CRP acreage on a case by case basis is consistent with statute. Local FSA county committees may approve up to five acres per CRP contract of wind turbines on CRP acreage provided the environmental impacts have been considered. The five acre threshold is a cumulative figure that is calculated by totaling the square footage of land area devoted to the footprint of the wind generating device and any firebreak installed around the footprint. Access roads, transformers, and other ancillary equipment will not be considered in calculating the five acre threshold. For cases over five acres authority for approval rests with FSA national headquarters.

In March 2007, USDA launched a continuous CRP practice known as State Acres for Wildlife Enhancement (SAFE). Currently a total of 214,000 acres has been allocated to five LPC SAFE projects: Colorado (21,500 acres), Kansas (52,100 acres), New Mexico (2,600 acres), Oklahoma (15,100 acres) and Texas (122,700 acres). Under SAFE, new land entering CRP is offered Signup Incentive Payments and Practice Incentive Payments. State fish and wildlife agencies, non-profit organizations and other conservation partners work collaboratively with FSA to target CRP delivery to specific conservation practices and geographic areas where enrollment of eligible farm land in continuous CRP will provide significant wildlife value (http://www.fsa.usda.gov/Internet/FSA_File/safe08.pdf.)

Together, LPCI, EQIP, WHIP, GRP, CRP, and SAFE directly address a variety of threats to LPC including agricultural conversion, grazing management, woody invasive species, shrub control, and collision risk, and indirectly address threats like climate change, extreme weather effects and predation by working to create high quality, connected habitat that increases the ability of LPC populations to respond to these threats. These programs address these threats by helping producers apply practices to improve habitat including, but not limited to, brush management, prescribed grazing, range planting, prescribed burning, grassland establishment, and restoration of rare and declining habitats.

UNITED STATES FISH AND WILDLIFE SERVICE

Partners for Fish and Wildlife Program: The USFWS Partners for Fish and Wildlife Program restores, improves and protects fish and wildlife habitat on private lands through partnerships between the USFWS, landowners and others. The objectives of this national program are to:

- Restore, enhance and manage private lands for fish and wildlife habitat
- Significantly improve fish and wildlife habitat while promoting compatibility between agricultural and other land uses
- Restore declining species and habitats
- Promote a widespread and lasting land use ethic

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

Candidate Conservation Agreements and Candidate Conservation Agreement with Assurances: A Candidate Conservation Agreement (CCA) is an agreement between the USFWS and a Federal agency that identifies actions to be taken to benefit a candidate species. A Candidate Conservation Agreement with Assurances (CCAA) is a formal agreement between the USFWS and non-federal property owners. It may include mineral leases. The purpose of a CCAA is to address the conservation needs of proposed candidate species or species likely to become candidates, before they become listed as endangered or threatened under the Endangered Species Act (ESA). CCA's apply to federal programs or lands and specify actions being taken to promote conservation of candidate species that, if followed by all landowners, would preclude the need to list the species. CCAA's similarly describe actions voluntarily agreed to by participants (industry or landowners), which if adopted by a large percentage of landowners and industry across the range of the species, would preclude the listing of the species. In exchange for entering into such an agreement, USFWS agrees that if the species is subsequently listed despite the presence of the CCAA, then those entering into the agreement will not be subject to additional actions or regulations relating to the activities covered by the agreement.

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

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

A CCAA may benefit property owners in several ways. If the conservation actions preclude listing, no regulatory programs under the ESA take effect. If the conservation actions are not sufficient and the species is listed, the CCAA automatically becomes a 10(a)1(A) permit authorizing the property owner's incidental take of the species, covering any adverse effects of the landowners' normal activities affecting the species. Thus, the CCAA provides property owners with assurance that they will not face future additional conservation requirements or restrictions beyond those they agree to at the time they enter into the agreement. For property owners who want to conserve the species or want to manage habitat on their land, the agreement provides an avenue to potential federal or state cost-share programs. The CCAA is a powerful incentive for landowners to participate in conservation actions that benefit the species. To date, a total of 2,100,000 acres are enrolled in New Mexico (1,500,000 acres), Texas (500,000 acres), and Oklahoma (200,000 acres). (See: http://www.fws.gov/endangered/what-we-do/cca.html#ccaa).

CCAA's can also be used for industry development interests. Energy-related CCA's/CCAA's are either existing, under development, or being considered for LPC. A CCA/CCAA for New Mexico allows developers and landowners to become Participating Cooperators in the agreement (http://www.fws.gov/southwest/es/Documents/R2ES/LPC-SDL_CCA-CCAA_2008.pdf). The CCA/CCAA operates under the guidelines of the BLM Special Status Species Resource

Management Plan Amendment (RMPA). The RMPA established foundational requirements to be applied to all future activities for federal surface and federal minerals (including private surface used for federal mineral development). Each Participating Cooperator must sign a Certificate of Inclusion for a particular parcel of land (enrolled property), agree to the foundational requirements of the RMPA, implement conservation measures on the enrolled property and contribute funding, land, or provide in-kind services for conservation efforts that will benefit LPC either on or off of the enrolled property. The Certificate of Participation requires the Participating Cooperator to implement conservation activities including the following:

- Establish Plans of Development for enrolled properties
- Remove caliche pads and roads on legacy wells where there is no responsible party
- Construct all infrastructures supporting the development of a well (including roads, power lines, and pipelines) within the same corridor
- Construct new infrastructures in locations which avoid occupied and suitable LPC habitat
- Bury new distribution power lines that are planned within two miles of occupied LPC habitat
- Minimize total new surface disturbance by utilizing alternative techniques such as co-locating wells, directional drilling, and interim reclamation of drill pads to minimum area necessary to operate the well
- Provide escape ramps in all open water sources
- Install fence markers along fences that cross through occupied habitat within two miles of an active lek
- Remove mesquite vegetation that invades into soils preferred by LPC

These activities address a variety of threats to LPC including habitat loss and fragmentation due to oil and gas development, roads, and power lines through avoidance, minimization, mitigation and remediation of defunct and abandoned oil and gas well pads, roads and power lines.

Unlike the Texas and Oklahoma CCAAs, the New Mexico CCA/CCAA includes mitigation payments for oil and gas developments that are assessed on a per well basis. These payments go into an account managed by a board that can fund land acquisition, conservation easements, and habitat improvement programs designed to offset the impacts associated with the development activities. Much of that habitat improvement funding is used to improve and restore habitat on private land ranches enrolled in the agreement. To date, 850,000 acres are enrolled in the energy-related New Mexico CCA/CCAA.

Habitat Conservation Plans: HCP's are a similar tool but are designed to operate after listing of a species and provide the ability for a company/landowner that voluntarily enters into the agreement to receive an incidental take permit, 10(a)(1)(B). This permit protects the permit holder from any harm which may occur to the protected species should such harm occur as an incidental occurrence from the otherwise permitted activities covered by the permit. Candidate species can be included in an HCP if another listed species is also addressed.

HCPs are a post-listing tool designed to mitigate for impacts on federally threatened or endangered species. Nineteen wind energy companies have been working with USFWS on the Great Plains Wind Energy Habitat Conservation Plan (WEHCP) to address threats related to wind industry development for three federally listed species; the whooping crane (federally endangered), piping plover (federally endangered) and least interior tern (federally threatened in the Great Plains region). This WEHCP is also proposed to include the LPC. This WEHCP is scheduled for completion after the timelines for the RWP. The WEHCP should be designed to be compatible with the recommendations in this RWP.

Wind Energy Guidelines: The USFWS (2012c) developed guidelines to address threats related to habitat loss and fragmentation due to wind energy development. These guidelines suggest a tiered approach to wind development, where planning emphasizes avoidance of sensitive areas. The guidelines contain a number of recommended BMPs, many of which are applicable to LPC and are identified in this RWP.

BUREAU OF LAND MANAGEMENT

The BLM manages lands within the occupied range of LPC and in delineated focal areas, especially in New Mexico, and has regulatory responsibility for federal oil and gas permitting. Where BLM has management control of lands, it can make substantial contributions towards LPC habitat conservation. In New Mexico, BLM has implemented a Special Status Species Resource Management Plan for the LPC, and as part of this plan, has established an LPC Habitat Preservation Area of Critical Environmental Concern (http://www.blm.gov/pgdata/etc/medialib/blm/nm/field_offices/roswell/rfo_planning/special_status_s pecies.Par.34868.File.dat/pdf_sss_rod_rmpa_May_2008.pdf).

This plan specifies decisions regarding oil and gas leasing and development within the plan area, off-highway vehicle use, land ownership adjustments, and wildlife habitat management. It addresses the management of all resources and uses on approximately 850,000 surface acres of public lands and approximately 1,150,000 acres of federal mineral estate in the planning area located in southeastern New Mexico. The Plan established the 58,000 acre Lesser Prairie-Chicken Habitat Preservation Area of Critical Environmental Concern (ACEC). The purpose of this ACEC is to maintain and enhance habitat for the LPC and dunes sagebrush lizard. The plan describes areas the BLM will not offer for future oil and gas leases, describes the desired plant communities that should be the goal of vegetation treatments and grazing plans, and provides recommendations for other land uses such as OHVs. As part of the oil and gas specifics, it includes a description of BMPs. Therefore, BLM is directly addressing threats to the LPC that include energy development, roads, grazing, woody invasive species, shrub control, altered fire regimes, and collision, and is indirectly addressing threats such as climate change, extreme weather events, predation, and disease.

The BLM LPC Special Status Species Resource Management Plan (BLM 2008) not only directs BLM's land management activities for this area but also specifies guidelines for oil and gas

development and other development activities. For example, it established a program where applicants for electric power line rights-of-way could participate in a power line removal credit (PLRC) program. Under this program, applicants could remove 1.5 miles of idle power lines (wire and poles) within LPC habitat management units or LPC habitat type before receiving authorization to construct 1.0 mile of new power line in similar or lower value LPC habitat. It includes a set of BMP's for oil and gas activities. These BMP's specify various actions including seasonal restrictions for time of day of allowable activities, reclamation and restoration requirements, fence marking, burying of power lines, and various other required practices.

UNITED STATES FOREST SERVICE

USFS manages national grasslands within the occupied range of LPC, with some of these lands occurring within delineated focal areas. The USFS has various units throughout the LPC range and is working to address LPC threats related to grazing, woody invasive species, noxious weeds, altered fire regimes, and collisions, and is working to indirectly address climate change, extreme weather events, predation, and disease.

Comanche National Grasslands: The Comanche National Grasslands (CONG) in southeastern Colorado encompasses more than 444,000 acres. An analysis conducted by Rondeau and Decker (2010) found vegetation conditions generally within the range suitable for LPC habitat, although lacking in preferred bluestem grass species, on a 9,300 acre high priority area for LPC. However, they noted low LPC populations in the area possibly as a result of the severe winter of 2006-07.

The CONG has instituted changes in grazing rotations in designated LPC grazing allotments to enhance LPC habitat. In the last four years, the CONG (in partnership with CPW) has installed large grazing closures around active LPC leks to improve nesting habitat. In 2012 the CONG and the Campo Grazing Association significantly reduced their stocking rates in one of their primary LPC allotments (Mt. Carmel).

Cimarron National Grasslands: The Cimarron National Grassland (CING) in southwestern Kansas is 108,175 acres in size and is one of the largest areas of public land in Kansas managed by the USFS. While both the CONG and CING are still operating under a forest RWP developed in 1984, both recognize the importance of LPC habitat management. An assessment of LPC management in these grasslands was conducted that can provide important information for LPC conservation actions (http://www.fs.fed.us/r2/projects/scp/assessments/lesserprairiechicken.pdf).

Cibola National Forest: The Cibola National Forest administers four National Grasslands: Black Kettle (BKNG), McClellan Creek (MCNG), Kiowa (KNG), and Rita Blanca (RBNG), which cover 263,261 acres in northeastern New Mexico, western Oklahoma, and northern Texas (Figure 3). The 2012 Land and Resource Management RWP (LRMP) for the KNG, RBNG, BKNG, and MCNG provided an analysis of habitat and species with viability concerns. The LPC was determined to have viability risks and RWP components were developed to ensure habitat considerations. Shinnery oak vegetation type covers approximately 18,900 acres (59%) of the

BKNG and MCNGs. About 45% of the shinnery oak vegetation is in the early to mid-open, post-fire to three years post-fire regime and dominated by tall grasses in shallower and relatively stable sandsheet areas.

Grass cover is dominant with rapid recovery of shinnery oak resprouts. The late-closed successional stage structure and composition stage occur in the 3- to 10-year post fire timeframe. Shinnery cover is mostly dominant, although grasses remain co-dominant on about 55% of the vegetation type. Most shinnery oak stands are burned on a 2- to 9-year cycle to maintain a co-dominant canopy cover of grasses intermixed with shinnery oak for wildlife habitat diversity and to resemble historical conditions. Current livestock grazing within the shinnery oak system is relatively light, with utilization levels retaining at least 50 percent of the current year's growth of forage species.

Mixed-grass prairie covers approximately 11,300 acres or 35% of the BKNG and MCNG. The mixed-grass prairie on the red-shale soils is dominated by perennial grasses including blue grama, hairy grama, little bluestem, and purple threeawn. Forbs make up about 10 percent and woody species another 10 percent of the species composition of mixed-grass prairie. Prescribed fire and managed livestock grazing provide disturbance to this vegetation type, which evolved under disturbance regimes. This vegetation type is in low departure from reference condition for structure, and the desired condition is similar to the existing condition. The goal is to maintain about 10% of the area in forbs and 10% in woody species. In addition, the shortgrass prairie on the KNG and RBNG has several inclusions, such as a mixed-grass prairie segment which provides potential suitable habitat for the LPC.

The BKNG and KNG/RBNG conduct habitat enhancement projects to benefit LPC habitat including:

- Annual planting of about 30 acres of food plots that affects about 480 acres in areas adjacent to occupied LPC habitat on the BKNG.

- Annual burning of shinnery oak habitat on about 5000 acres per year including some adjacent private lands in cooperation with USFWS.

In 2008, the USFWS provided funding for burning of private lands through a reimbursable agreement using Wyden Amendment authority on the BKNG. Burn objectives are to remove upland trees such as black locust and eastern red cedar, considered to contribute to structural habitat fragmentation, and to manage shinnery oak to an earlier successional stage to increase warm season grasses and provide suitable nesting and brood rearing habitat.

  - Prescribed burns are conducted on the KNG/RBNG to enhance LPC habitat through the regeneration of sand sagebrush and mid-grass prairie.

Figure 3. Location of Cibola National Forest Grassland units.

- BKNG grazing program provides habitat for the LPC through structure height and plant density management that provides nesting cover and brood rearing habitat. Much of the grazing is done during the dormant season to enhance production of warm season grasses. BKNG units that are not dormant season grazed have multiple pastures with rest rotation provided to meet LPC cover and forage needs. Grazing RWPs are revised to improve habitat for LPC with rest/recovery grazing concentrated on mid-grass prairie objectives to manage for nesting and brood rearing cover.
- Annual removal of eastern red cedar from hardwood bottoms and removal of red cedar and black locust in upland habitat to improve habitat suitability for LPC and Rio Grande turkey on about 30-50 acres on the BKNG. Treatments are conducted in association with the National Wild Turkey Federation and ODWC.
- Annual herbicide treatment of invasive weeds like Scotch thistle on about 30 acres to restore native habitat in Oklahoma.
- Marking of about 6 miles of fences annually to reduce collision mortality

The LRMP for the Cibola National Forest Grassland units has provisions to improve habitat and restore ecosystems for sensitive species and species with viability concerns through vegetation treatments and management practices. RWP components such as desired conditions, objectives, guidelines and management approach provisions define habitat features on the landscape for LPC and wildlife in general. For example, in General Special Uses, a Desired Condition states: The location of new, large linear infrastructure such as power lines has minimal effects on wildlife and minimizes habitat fragmentation. Wind Energy Development has the following Desired Condition: the Grasslands support alternative energy production and facilitate their development while mitigating impacts to resources and values. Wind energy developments are designed to minimize impacts to other uses and resources, in particular wildlife and scenic integrity. The RWP also notes that trees and tall human-made structures will be evaluated for removal in areas important for recovery of LPC habitat.

The sand sagebrush vegetation type covers approximately 22,651 acres (8%) of the Cibola National Forest. Sand sagebrush typically occurs on areas of level plains, undulating hills and draws, or on gently rolling uplands of the southern Great Plains. The sand sagebrush prairie is dominated by mid-grasses and shrubs. The landscape includes a diversity of areas in different successional stages and with varying vegetative heights, as well as cool season grasses and a variety of forbs. The primary shrub species is sand sagebrush. Native, warm season perennial grasses (including big bluestem, little bluestem, sand dropseed, blue grama, and sideoats grama) are prominent in this ecosystem. One percent is in a post-fire successional stage dominated by resprouts and seedlings of grasses and forbs with low to medium height having a variable canopy cover. This stage typically occurs where fires burn relatively hot. The mid-open successional stage represents about 65% and has less than 35% herbaceous cover, medium to tall in height. Mid-closed stage represents about 35% of the area with greater than 35% herbaceous cover, medium to tall in height. Prescribed burning is currently being accomplished at a rate of approximately 500 acres every 3 to 5 years. Dormant season livestock grazing is generally emphasized to maximize ground cover. Pastures are usually grazed only once during the growing season. The majority of this habitat type is being managed at a mid-open successional stage.

Although there are currently no viable populations of LPC on the Cibola National Grasslands, they are likely to use portions of the BKNG in Oklahoma, and are occasionally seen on adjacent private lands. LPC are not known to occur on the KNG/RBNG, but in recent years there have been two observations on the RBNG in Texas.

There are a variety conservation efforts being implemented by regional organizational or interagency programs. Below are the descriptions of these efforts and their contribution toward LPC conservation and the reduction of threats.

THE LESSER PRAIRIE CHICKEN INTERSTATE WORKING GROUP

The Western Association of Fish and Wildlife Agencies (WAFWA) Grassland Initiative provides direction to the IWG. This group has been working since 1995 on coordination of activities and

integrates LPC management among the five state wildlife agencies within the range of this species. It previously developed a detailed report on range-wide status of the LPC (Davis et al. 2008), and has led the development of the CHAT.

In 2009, the Western Governors' Wildlife Council initiated the creation of multiple west-wide Wildlife Crucial Habitat Assessment Tools. The purpose of this effort is to provide greater "certainty and predictability to planning efforts by establishing a common starting point for discussing the intersection of development and wildlife." As a subset of this effort, the CHAT was developed specifically for LPC. An initial version of this CHAT was led by the ODWC and KDWPT, IWG, Playa Lakes Joint Venture, and USGS. The project modeled LPC habitat and developed an online tool usable by conservation managers, industry, and the public that identifies priority areas (http://kars.ku.edu/geodata/maps/sgpchat/).

A second version of the CHAT, led by ODWC, KDWPT, and IWG, was developed. It included new categories and definitions identified by this RWP. The CHAT will be an important tool for implementation of the WAFWA mitigation framework described in the RWP by using the different CHAT categories as ratio multipliers.

The SGP CHAT is a spatial model put together to designate and prioritize areas for LPC 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. In many ways it is the spatial representation of the LPC RWP. 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 LPC.

Below is a description of each category.

a. CHAT 1- This category is comprised of the focal areas for LPC conservation. The focal areas were designated by teams in each state that prioritized and identified intact LPC habitat. The goal in this category is to have 70% of the area within the category managed under LPC conservation plans. They were 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 for LPC conservation. The corridor areas were designated by teams in each state that prioritized and identified intact LPC habitat. The goal in this category is to have 40% of the area within the category managed under LPC conservation plans. They were 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 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, CRP, land cover, abiotic site condition) to characterize that habitat on the landscape.

d. CHAT 4- This category is comprised of the estimated occupied range (EOR) for the LPC plus 10 miles. The EOR is an expert derived delineation that has had 10 miles added to it for range expansion and planning.

In addition to the CHAT score, the SGP CHAT also includes a suite of other data layers including current and historical LPC range, land cover, oil/gas well density, vertical structures, and a 1-square mile hexagon summary to provide users contextual information about the surrounding landscape.

The CHAT will be updated on an, at this time, undefined timeline. Every effort we will be made to inform stakeholders when future changes will occur and make them aware of the process. It is expected that this version of the CHAT will have a 3-5 year lifespan.

PLAYA LAKES JOINT VENTURE

Playa Lakes Joint Venture (PLJV) is a regional partnership of federal and state wildlife agencies, conservation groups and private industry dedicated to conserving bird habitat throughout the western Great Plains including portions of Colorado, Kansas, Nebraska, New Mexico, Oklahoma and Texas. PLJV has several ongoing programs that provide conservation benefits to LPC including:

- The development of spatially explicit decision support tools in collaboration with the NRCS and FSA
- Coordination, support and funding for private lands biologists to help deliver habitat in the LPC region
- Promotion and funding of local and state prescribed burn associations in Kansas and Oklahoma
- Coordination and hosting of a monthly conference call on LPC to allow exchange of information about ongoing conservation efforts.

PLJV was a facilitating partner in the development of Version 1 of the CHAT. In addition, PLJV is a member of collaborative groups in Colorado and New Mexico that developed siting guidance for wind energy developers and associated best management practices.

NATIONAL FISH AND WILDLIFE FOUNDATION

The National Fish and Wildlife Foundation (NFWF), in partnership with NRCS, initiated a new funding program in 2011 called the Private Land Technical Assistance Program. The purpose of this partnership is to provide grants on a competitive basis to support field biologists and other

habitat professionals (botanists, ecologists, foresters, etc.) working with NRCS field offices to provide technical assistance to farmers, ranchers, foresters and other private landowners to optimize wildlife conservation on private lands. One of the funding priorities of this program was the short grass prairie with a specific focus on helping deliver programs to improve LPC habitat. This program provided funding toward the 2013 range-wide aerial LPC survey.

PHEASANTS FOREVER

Pheasants Forever (PF) is dedicated to the conservation of pheasants, quail and other wildlife through habitat improvements, public awareness, education and land management policies and programs. In 2009, the North American Grouse Partnership joined with Pheasants Forever, Quail Forever, Theodore Roosevelt Conservation Partnership, Ecosystem Management Research Institute, American Bird Conservancy, and the Mule Deer Foundation to launch the Prairie Grouse Partners; a conservation partnership with an aggressive goal of restoring 20 percent of North America's native grasslands. This effort would result in 60 million acres of improved habitat for a wide range of wildlife, including three species of prairie grouse and pheasants. In support of this and its other habitat management efforts, PF has been an active partner in funding cooperative technical service provider positions with NRCS and state wildlife agencies. A number of these positions are within the range of LPC and help deliver NRCS LPCI and other LPC habitat improvement programs. In this cooperative effort, Farm Bill Wildlife Biologists are employed by PF but work out of NRCS offices. In 2012, PF had 10 biologists in four of five states helping provide technical services within the range of LPC. The biologists provide direct technical assistance to producers and offer full service in implementing all phases of local programs provided through NRCS, FSA, state fish and wildlife agencies and other partners. This is one of several ways that PF is fulfilling its commitment to the Prairie Grouse Partners effort.

ROCKY MOUNTAIN BIRD OBSERVATORY

The Rocky Mountain Bird Observatory (RMBO) is a nonprofit organization that conserves birds and their habitats through science, education and stewardship efforts across the western United States and Mexico. RMBO has been working on grassland bird conservation on private lands for more than a decade, including LPC outreach and management. RMBO works in partnership with the Colorado Parks and Wildlife and Colorado Natural Resources Conservation Service (NRCS) to host and support two biologists through the Strategic Watershed Action Team and Private Lands Wildlife Biologist program, respectively. These positions provide technical assistance to NRCS and landowners in Colorado to deliver NRCS LPCI and other wildlife and habitat programs. Efforts include promoting grazing compatible with LPC and landowner goals, conservation easements, creation and enhancement of LPC habitat through CRP, and leveraging of partner funding, among other benefits. In addition, RMBO partner positions play a key role in LPCI project monitoring, as well as assisting with annual lek surveys. Both positions are active in the Colorado LPC working group and work hand in hand with NRCS state office staff on review of LPCI policy and implementation. RMBO has various landowner programs and tools that encourage grassland stewardship and promote enhancement of LPC habitat. RMBO has

partnered with several agencies and organizations to provide fence marking kits to help reduce the risk of LPC collisions with fences, improve seed mixes, provide financial assistance with cost-share on LPCI project and provide wildlife escape ladders for stock water tanks.

THE NATURE CONSERVANCY

The Nature Conservancy (TNC) has various ongoing programs that provide benefits to LPC. TNC owns a number of preserves within the range of LPC, several of which have LPC as a primary focal species. Key preserves will be discussed in the state descriptions below. TNC also offers conservation easements to interested landowners throughout LPC range. TNC is also engaged in various local efforts coordinated within each state program.

LAND TRUSTS

Various land trusts and other organizations have active programs to support conservation easements for private lands within LPC range. Three land trusts collaborated in a focused effort to help LPC through application of a NFWF grant. The Colorado Cattlemen's Agricultural Land Trust (CCALT), the Ranchland Trust of Kansas (RTK) and the Texas Agricultural Land Trust (TALT) are working to obtain conservation easements on ranchlands that can provide long term assurances for LPC habitat.

CCALT was started in 1995 by the Colorado Cattlemen's Association, who saw a need for a land trust to serve the farming and ranching community. CCALT protects productive agricultural lands and the conservation values they provide by working with ranchers and farmers, thereby preserving Colorado's ranching heritage and rural communities. Since inception, CCALT has partnered with over 265 landowners to protect over 394,000 acres throughout the state of Colorado (www.ccalt.org).

RTK is a land trust affiliated with the Kansas Livestock Association (KLA). The KLA formed in 1894 and is a trade association that represents the state's multi-billion dollar cattle industry at both the state and federal levels, with a focus on legislative and regulatory issues. In 2003, KLA leaders formed RTK as a separate charitable conservation organization, with a mission to preserve Kansas' ranching heritage and open spaces for future generations through the conservation of working landscapes (www.klaranchlandtrust.org). In Kansas, TNC is in partnership with RTK in a program seeking to conserve mixed grass communities.

TALT was founded in 2007 by leaders from the Texas Farm Bureau, Texas & Southwestern Cattle Raisers and Texas Wildlife Association. Today it holds easements on approximately 128,000 acres throughout Texas (www.txaglandtrust.org.).
There are a variety conservation efforts being implemented at the state level. Below are the descriptions of these efforts and their contribution toward LPC conservation and the reduction of threats.

OKLAHOMA

ODWC has programs directed towards LPC management. In 2011, at the request of the state legislature, ODWC began development of the Oklahoma Lesser Prairie Chicken Conservation Plan to address threats to LPC in Oklahoma (Haufler et al. 2012). The Oklahoma Plan was completed in 2012 just prior to the RWP effort. This state-specific effort followed a collaborative process involving agencies, organizations, universities, industry, interest groups and the public in its development. It established a state LPC science team to provide recommendations on population and habitat needs. It also established an LPC implementation team to coordinate delivery of LPC programs to landowners. A number of meetings were held with groups of stakeholders as were two series of three public meetings to obtain input regarding the RWP. The RWP was available for public review on the ODWC website. Numerous comments were received and addressed prior to its completion. For more information go to the following: (www.wildlifedepartment.com/wildlifemgmt/LPC/Final_OK_LPC_Mgmt_RWP_23Oct2012).

ODWC has a number of programs designed to address LPC threats such as agricultural conversion, loss of CRP, grazing, woody invasive species, shrub control, altered fire regimes, collision, and indirectly to address threats such as climate change, extreme weather events, predation and disease. ODWC administers these programs to provide technical and financial assistance to landowners to undertake conservation projects that benefit grasslands and restore and enhance habitats important to the LPC. It also has programs and tools that assist with addressing impact evaluations and mitigation.

The ODWC LPC Habitat Conservation Program was designed to help private landowners develop, preserve, restore, enhance and manage LPC habitat on their land. This program has been incorporated into this RWP and will continue to provide the benefits it developed. Landowners receive technical and cost-share financial assistance to develop and maintain LPC habitat. Eligible conservation practices include brush management, native grass planting, fence marking and removal, fire break construction and prescribed fire. Landowners work with ODWC to develop a habitat management plan and enter into a contract that specifies the conservation projects that will be accomplished to benefit LPC habitat (http://www.wildlifedepartment.com/wildlifemgmt/LPChcp.htm).

Through the State Wildlife Habitat Improvement Program (SWHIP), ODWC provides cost share assistance for specific habitat improvement practices, some of which benefit LPC habitat. Under the SWHIP, landowners enter into 10-year contracts with ODWC for approved projects to develop, preserve, restore and manage wildlife habitat on private lands. ODWC shares part of the cost of habitat improvement work, based on allowable costs determined by the NRCS. In exchange, the landowner agrees to maintain the habitat for a period of 10 years. (http://www.wildlifedepartment.com/wildlifemgmt/wildlifehabitat.htm).

The ODWC Quail Enhancement Program focuses on improving quail habitat and increasing the public's knowledge of bobwhite biology, habitat requirements and management. Improvements to quail habitat will also provide many benefits to LPC, although the habitat requirements of the

two species do differ in a number of ways. Technical assistance to improve habitat is available to landowners free of charge by ODWC biologists, including on-site visits and management recommendations. Any landowner in the state of Oklahoma is eligible for technical assistance, regardless of property size and location within quail range. For more information see (http://www.wildlifedepartment.com/wildlifemgmt/quailenhancement.htm).

Through a Voluntary Offset Program (VOP), developers can enter into voluntary agreements with the ODWC. Developers make financial contributions to a habitat conservation fund to address threats to LPC from energy developments by helping offset acknowledged impacts to wildlife habitat from development activities. The VOP is a voluntary mechanism to accomplish off-site mitigation and has been used to offset or partially offset acknowledged impacts to LPC habitat. Examples include two agreements and payments made by Oklahoma Gas and Electric Company (OG&E) in 2009 and 2010 using a ratepayer impact assessment to provide compensation for two adjacent wind facilities, and a March 2012 agreement with Chermac Energy Corporation to compensate for a planned 55 mile long high voltage transmission line. The OG&E agreement provided funding that has been used to purchase 23,736 acres in fee title for LPC conservation, with some of these lands providing for a potential LPC stronghold (see stronghold discussion). These funds have also provided research, surveys, educational programs, and funding for the development of the Oklahoma LPC Conservation Plan. OG&E has also specifically avoided important LPC areas, keeping potential impacts out of over 100,000 acres of LPC habitat by requiring proposers for wind projects to identify potential wildlife impacts, conducting pre-construction surveys of leks, and assisting in a new research project addressing transmission line impacts on LPC.

The Oklahoma LPC Spatial Planning Tool (Horton et al. 2010) is a spatially explicit model designed to assist development planning by providing developers with information that will allow them to avoid, minimize and mitigate negative effects of development on LPC in Oklahoma. The tool was developed through a cooperative multi-party effort to promote voluntary habitat conservation actions and to prioritize agency management actions (www.wildlifedepartment.com/LPCdevelopmentRWPning.htm).

The Oklahoma Association of Conservation Districts (OACD) has established a wildlife credit program to provide landowners with stewardship payments for work done to protect and expand the habitat of LPC. This pilot program is funded through a NRCS Conservation Innovation Grant (www.okconservation.org).

The Oklahoma Audubon Council has designated the Selman Ranch in northwest Oklahoma as one of Audubon's Important Bird Areas (IBA) primarily because of the LPC population present on the ranch. The Selman Ranch IBA is entirely private property, and the ranch owner has worked closely with Audubon to promote her property as an IBA, protect the birds and improve habitat, including marking many miles of fencing to reduce fence collision mortality. Since 2009, this IBA has been the featured destination during the Lesser Prairie-Chicken Festival, Lek Treks & More, in Woodward, Oklahoma.

The Oklahoma Independent Petroleum Association (OIPA) worked with ODWC to address threats from oil and gas development by developing a set of Voluntary Best Practices for oil and gas development (http://www.oipa.com/page_images/1336665235-regulatory.pdf). Preplanning is recommended to consider the location of possible developments in relation to areas of high value to LPC as mapped by Oklahoma's LPC Spatial Planning Tool. Avoidance of high value areas is recommended, but where development will occur in these areas, construction during the spring breeding season should be avoided, and ODWC biologists consulted to minimize impacts during pad siting. Where oil and gas development will occur in LPC habitat, the following best practices are recommended to the extent possible:

- Maximize the use of existing corridors for new infrastructure supporting new well development (i.e. roads, power lines, pipelines, flow lines, etc.).
- Combine multiple operations at one site to minimize the disturbance/fragmentation of the LPCs habitat.
- Minimize surface disturbance in order to decrease fragmentation.
- Minimize the time needed to complete new construction and drilling operations.
- Remove unnecessary equipment and infrastructure, and reclaim all portions of well sites not needed for production operations and all portions of roads not needed for vehicular travel.
- Consider burying distribution power lines at new well sites near active leks, and consider the use of low profile equipment whenever economically feasible.
- Avoid conducting early morning activities between 3:00 am and 9:30 am during the mating season (March 1 to May 1) at well sites near active leks, to the extent possible.
- Use noise control devices to muffle or control exhaust noise from facilities (pump jacks, compressors, etc.) at well sites near active leks, to the extent possible.
- Limit the height of the top strand to below 40 inches, limit fencing to three strands, and install fence markers or other visually detectable avoidance mechanisms to new fencing installed that is not associated with tank batteries or other equipment on site .
- Use native grasses and forbs where possible to promote natural habitat when reseeding disturbed areas in high importance habitat.
- Remove unneeded equipment, infrastructure, trash and debris from well sites.

KANSAS

Kansas has a number of programs available for helping improve LPC habitat. The Federal programs (CRP, SAFE, LPCI, and USFWS Partners) are all very important for LPC in Kansas. U.S. Forest Service has 108,000 acres in the Cimarron National Grasslands in Kansas. The five-year plan for these grasslands includes LPC as one of its indicator species.

KDWPT has several programs that address LPC threats related to agricultural conversion, loss of CRP, grazing, woody invasive species, and altered fire regimes. These programs help landowners deliver habitat improvements to LPC. KDWPT's Upland Game Bird – Habitat Improvement

Program allows KDWPT biologists and private landowners to work together in the development of habitat management plans. This program provides a 75% match for practices that can improve LPC habitat. Currently, the annual budget is $120,000. The program is focused on CRP enhancements, including cost sharing on prescribed burning, light disking, food plot establishment, forb/legume interseeding, brush removal, and providing additional Sign-Up Incentive Payment or Practice Incentive Payment incentives to help increase the enrollment in several Continuous CRP practices. Additional focus has been to provide cost share for the conversion of cropland to native grass, converting cool season grasses to native warm season grass, hedgerow renovation, wetland development, and deferred grazing on native rangeland.

Kansas State Wildlife Grant to Benefit Species of Greatest Conservation Need in Kansas was developed to provide cost-share incentives for private landowners interested in enhancing habitat for species of greatest conservation need, including the LPC. As of December 2012, the program has funded 58 projects with a total project partnership of federal, state and private dollars exceeding $1.1 million. Landowners whose projects are approved for funding are required to match a minimum of 25% of the total project cost. This match can be cash from non-federal sources, contributions of in-kind (labor, equipment, and supplies) or a combination of both. As of December 2012, 21 projects targeted to benefit LPC have been approved for funding through the program. All but five of the most recent projects are waiting for implementation to be completed. These 21 projects are directly impacting 11,155 acres of LPC habitat. Projects include 7,341 acres of eastern red cedar removal, 1,894 acres of expired CRP perimeter fencing, and 1,920 acres of prescribed grazing with establishment of alternative livestock water supply. These projects total over $310,000 of SWG funds, $130,000 KDWPT funds, and $150,000 of private landowner match.

In partnership with FSA, NRCS, PLJV, and others, KDWPT developed a targeted Conservation Priority Area to address threats from loss of habitat by encouraging enrollment of CRP within the LPC current range. KDWPT provides technical assistance in planning seeding mixes and targets KDWPT WHIP cost-share towards enhancing CRP within the identified priority areas. SAFE enrollment is targeted towards LPC through these priority areas.

The Nature Conservancy in Kansas has a Strategic Watershed Assistance Team grant from NRCS to promote EQIP and WHIP programs. They are also providing assistance to prescribed burning associations through workshops. TNC has identified LPC as a target species in their ecoregional plans for the Red Hills. Conservation easements are an important focus of TNC, and can help maintain LPC habitat for the long term. The Smokey Valley Ranch is a TNC property managed as a showcase for a prescribed grazing program producing habitat and grazing benefits. TNC provides outreach on EQIP and LPCI to cooperating landowners.

KSU Extension has been providing public education through programs and through maintenance of a LPC website (http://www.ksre.k-state.edu/p.aspx?tabid=275). KSU Extension has also been working to assist prescribed burning associations. Several burn co-ops are working within LPC range, especially in the Red Hills, and Comanche, and Park counties. The Prescribed Fire

Council of the Kansas Grazing Lands Coalition provides help with educational programs and other support for prescribed burning. The Comanche Pool Prairie Resource Foundation, a collaborative initiative of the USFWS Partners program is an effective habitat improvement program within LPC range that was awarded a NFWF grant to fund two prescribed fire specialists.

COLORADO

In 2009, CPW initiated its LPC habitat improvement program (LPCHIP). This program was specifically designed to directly address LPC threats such as agricultural conversion, loss of CRP, grazing, altered fire regimes and to indirectly address threats such as climate change, extreme weather events, predation and disease through the improvement of habitat quality and connectivity. LPCHIP improves and restores habitat on private lands for LPC and other mid-grass and sand sagebrush dependent wildlife found in occupied LPC range in southeast Colorado. Program delivery has been achieved through the collaborative work of biologists, district wildlife managers, and the partnership Farm Bill biologists. Specific project identification and implementation is contracted through Pheasants Forever using their program that has been demonstrated to be efficient and effective in delivering on-the-ground conservation. Currently the LPCHIP is funded by the Severance Tax Species Conservation Trust Fund. Program funds are often used to provide incentives in conjunction with federal programs to target projects that address habitat limiting factors for LPC, almost exclusively on private lands. A small portion of funding was used for a project on the USFS Comanche National Grasslands. As of June 2012, the LPCHIP implemented projects directly impacting 11,212 acres. There were an additional 7,413 acres of projects in progress and areas where there was strong landowner interest. The completed acres include 3,590 acres of CRP projects, 3,280 acres of CRP mid-contract management, 4,380 acres of grazing deferment designed to improve nesting habitat adjacent to leks, and 2,422 acres of non-CRP grass establishment.

CPW conducts annual monitoring of all known and historical leks. Additional reconnaissance is conducted in potential habitat to detect unknown leks. Aerial helicopter surveys were conducted in 2011 to survey large blocks of potentially suitable habitat north of currently occupied areas in Colorado. No new leks were discovered.

TNC is currently focusing on conservation easements as one of the important tools used to protect LPC habitat in eastern Colorado. TNC is working closely with partners, including CPW and NRCS to conserve properties containing LPC habitat. Land trusts like TNC can apply to CPW and NRCS for funds to help with the costs associated with acquiring a conservation easement.

One of Colorado's core LPC populations was found on the Comanche National Grasslands. CPW works closely with USFS personnel on LPC habitat management by offering recommendations on grazing management, assisting with population monitoring on the Grasslands, and by providing equipment, materials, and manpower for LPC habitat projects. In recent years the

USFS has changed much of their grazing management in order to provide better nesting habitat for LPCs. This has included annual deferment of grazing on some pastures, reduction of stocking rates in one of the primary LPC allotments, and conducting some patch-burn-grazing trials to assess their effectiveness as a habitat management tool for southeastern Colorado sand sagebrush rangelands. In partnership with CPW, the USFS has also installed large grazing closures around or in close proximity to its active leks. Portions within these closures are disked annually in order to provide patches of quality brood habitat.

The Colorado Renewables and Conservation Collaborative and the New Mexico Wind and Wildlife Collaborative developed a set of BMPs for multiple species that addresses threats of wind development for each state (http://www.pljv.org/windandwildlife/index.php). These are informal groups of representatives from the renewable energy industry and the conservation community whose common purpose was to constructively and proactively address conservation concerns related to renewable energy development in each state. Each collaborative developed a science-based site selection and mitigation framework that described avoidance, minimization and/or mitigation actions associated with wind energy development. The groups also developed BMPs for multiple species and landscape features including LPC. The LPC BMPs are similar for each state and include recommendations such as avoiding wind energy development in identified LPC habitat whenever possible (similar to USFWS guidelines), avoiding large blocks of habitat if possible, burying power lines and minimizing fencing, and avoiding construction during the breeding season. To offset impacts that do occur, the BMPs offer mitigation recommendation.

TEXAS

TPWD provides technical assistance to interested landowners on a voluntary basis including development of LPC wildlife management plans (WMP). These WMPs include technical assistance for grazing management and currently cover over 942,000 acres. Implementation of a WMP will allow a landowner to be included in the Texas LPC landowner CCAA with a certificate of inclusion (CI) provided by TPWD to the landowner that will "protect the landowner from future land use restrictions that would be imposed if and when the species is listed." Under this CCAA, "TPWD will meet with participating landowners at their request to provide continued technical assistance, including discussions of funding options, for projects that improve and maintain LPC habitat" (http://www.tpwd.state.tx.us/huntwild/lesserprairiechicken/media/lpc_ccaa.pdf). "Under this CCAA, TPWD issues a CI to private landowners who enter into TPWD-approved WMPs for LPC and are actively implementing conservation measures. The conservation measures implemented by landowners would generally consist of prescribed grazing, prescribed burning, brush management, Conservation Reserve Program (CRP) and cropland management, range seeding, other upland wildlife habitat management practices, and population management techniques." Texas currently has 491,816 conservation acres enrolled in this program.

The Landowner Incentive Program (LIP) is a TPWD program intended to help meet the needs of private, non-federal landowners wishing to enact good conservation practices on their lands for

the benefit of healthy terrestrial ecosystems. LIP focuses on projects aimed at creating, restoring, protecting and enhancing habitat for migratory birds and species of greatest conservation need including the LPC.

LIP is funded through various partnerships including the USFWS, Partners for Fish and Wildlife Program, National Fish and Wildlife Foundation and others. LIP projects for the LPC are reviewed internally by TPWD biologists and by USFWS Partners biologists to ensure they address threats to the species. These projects include technical and financial assistance for replanting cropland into native vegetation, conversion of expired CRP into rangeland, grazing management, control of woody invasive species and noxious weeds, and fence marking. Since 2008, TPWD has treated more than 15,000 acres specifically for LPC projects through LIP (http://www.tpwd.state.tx.us/landwater/land/private/lip/).

TPWD also helps coordinate other LPC management activities within the state through partnerships with other agencies and NGOs. As a member of the Texas State Technical Action Committee, TPWD works with NRCS, FSA and other agencies and NGOs to help effectively target Farm Bill Programs. In 2011, TPWD worked with NRCS, PF, and PLJV to hire three Strategic Watershed Action Team (SWAT) biologists to assist with program delivery and monitoring under the LPCI. In addition, TPWD formed the TX LPC implementation team with representatives from TPWD, NRCS, FSA, Texas AgriLife Extension, Texas General Land Office and USFWS. The intent of this team is to promote common targeting of LPC habitat management programs across agencies within Texas and to coordinate with similar teams in other states.

The TPWD Wildlife Habitat Assessment Program provides a voluntary project review service for projects across the state including reservoirs, highway projects, pipelines, urban infrastructure, utility construction, renewable energy, and residential and commercial construction, as well as many others. This program provides siting recommendations and recommendations to avoid minimize and mitigate for potential impacts to LPC habitat. In 2011, an electric transmission line project resulted in $600,000 of voluntary mitigation, which was utilized by TNC along with Section 6 funds from USFWS to purchase LPC habitat adjoining the Yoakum Dunes Preserve and to support aerial surveys in the region. The 7,200-acre Yoakum Dunes Reserve resides within the 69,760-acre potential focal area in northeastern Yoakum and southeastern Cochran counties. In May 2013, TPW Commission approved the acquisition of more than 3,000 acres of LPC habitat as an addition to the Yoakum Dunes Preserve.

Within Texas, the Dorothy Marcille Wood Foundation has developed a website to disseminate LPC information and help coordinate LPC education and other programs for the private landowner community.

NEW MEXICO

New Mexico has private landowner programs administered by both state and federal agencies as well as lands administered by the BLM that are contributing to LPC habitat conservation. Similar

to other states, NRCS in New Mexico has partnered with the NFWF, PF and Quail Forever to create a SWAT that provides specialists in the field to work with landowners and NRCS field offices. The Team assists in conducting range and habitat inventories, grazing plans, outreach, and in monitoring and evaluation of applied conservation practices. As a result of the team's efforts, ranchers and conservationists will have a better understanding of the impacts of conservation activities, and will be able to more effectively prescribe, target and implement future conservation efforts that will benefit the health and productivity of rangeland and LPCs.

NMDGF recognized the importance of managing LPC as early as the 1940's. A recent report (NMDGF 2011) stated: "In the 1940's the State Game Commission started to acquire properties for the purposes of conserving habitat for this species (LPC). These acquired properties, named Prairie Chicken Areas (PCAs), were often farms and ranches that had failed during the Dust Bowl and Great Depression and were scattered throughout De Baca, Lea, and Roosevelt counties. The basis for this purchase strategy was that wide distribution of protected areas would be more beneficial to lesser prairie-chicken conservation than conserving a large area in only one part of this species' range. Currently, there are 29 properties that encompass 27,182 acres. These properties range in size from 28 to 7,189 acres and are managed primarily to provide habitat for LPC, but also to provide benefits to other wildlife species. This also includes the Sandhills Prairie Conservation Area (CA), which was acquired in 2007 and encompasses 5,285 acres." NMDGF is in the process of enrolling all of these properties in the CCAA.

NMDGF worked with the BLM, TNC, and other partners to identify a series of LPC core conservation areas. These are areas that have many conservation components already in place, assuring long-term benefits for LPC. Many of the livestock grazing allotments on these areas are enrolled in the CCA program and the private and state lands associated with these allotments are enrolled in the CCAA program. Approximately 60% federal mineral estate is not under lease.

TNC also has land holdings devoted to LPC in New Mexico. "In 2005, TNC purchased the 18,500-acre Creamer Ranch in eastern New Mexico to become the Milnesand Prairie Preserve. In 2009, TNC significantly expanded the preserve through its acquisition of the 9,200-acre Johnson Ranch. The preserve, now at 28,000 acres, provides superb unfragmented grassland with oak shrubs, which provide protective cover for LPC." (http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/newmexico/placesweprotect/milnesand-prairie-preserve.xml). TNC has also enrolled over 7,000 acres of its lands in the Milnesand Prairie Preserve in the New Mexico CCAA. This preserve is also the site of the Annual High Plains LPC Festival that attracts visitors in April to observe mating displays of LPC.

As reported by the USFWS (2012a:73,833) "In January 2003, a working group composed of local, state, and Federal officials, along with private and commercial stakeholders, was formed to address conservation and management activities for the LPC and dunes sagebrush lizard (*Sceloporus arenicolus*) in New Mexico. This working group, formally named the New Mexico

Lesser Prairie-Chicken/Sand Dune Lizard Working Group, published the Collaborative Conservation Strategies for the LPC and Sand Dune Lizard in New Mexico in August 2005.

This Strategy provided guidance in the development of BLM's Special Status Species Resource Management Plan Amendment (RMPA), approved in April 2008, which also addressed the concerns and future management of LPC and dunes sagebrush lizard habitats on BLM lands, and established the LPC Habitat Preservation Area of Critical Environmental Concern. Both the Strategy and the RMPA prescribe active cooperation among stakeholders to reduce or eliminate threats to these species in New Mexico. As an outcome, the land-use prescriptions contained in the RMPA now serve as baseline mitigation (for both species) to those operating on federal lands or non-federal lands with federal minerals." "Since the CCA and CCAA were finalized in December 2008, 29 oil and gas companies have enrolled a total of 815,890 acres of mineral holdings under the CCA. In addition, 39 private landowners in New Mexico have enrolled about 1,523,573 acres. There currently are additional pending mineral and ranching enrollment applications being reviewed and processed for inclusion. Recently, BLM also has closed 370,435 acres to future oil and gas leasing and closed some 847,000 acres to wind and solar development. They have reclaimed 1,325 acres of abandoned well pads and associated roads and now require burial of power lines within two miles of leks. Some 32.5 miles of aboveground power lines have been removed to date. BLM also has implemented control efforts for mesquite (*Prosopis glandulosa*) on 366,350 acres and has plans to do an additional 317,220 acres."

APPROACH FOR DEVELOPING LPC RANGE-WIDE CONSERVATION PLAN

Development of the RWP was led by the IWG consisting of a representative from each of the five states supporting LPC populations (CO, KS, OK, TX, and NM) with coordination from WAFWA and EMRI. Information on the planning process was provided on WAFWA's website (http://www.wafwa.org/html/prairie_chicken.shtml). An initial stakeholder scoping meeting on the revision of the CHAT and the development of the RWP was held in in Edmond, Oklahoma on June 11, 2012. More than 90 stakeholders representing oil and gas, wind energy, transmission, agriculture associations, Farm Bureau representatives, departments of transportation, public utilities and public utilities commissions, oil and gas permitting agencies, agricultural and natural resource agencies, conservation bankers and conservation organizations attended from across the five state region. A first draft of the RWP titled *Range-wide Conservation Plan for the Lesser Prairie-Chicken* was provided for public input in January 2013. Input was received at a public meeting held in Edmond, Oklahoma on January 23 and 24, 2013 and was also received through both email and written inputs. A second draft of the RWP was provided for public comment in February with a third draft provided to the USFWS and placed on the WAFWA website for public comment on April 1, 2013. The IWG solicited comments on the third draft of the RWP until May 15, 2013 and the USFWS closed their comments on June 21. Comments were reviewed by the IWG and the current RWP titled *The Lesser Prairie-Chicken Range-wide Conservation Plan* was drafted in October 2013. Finalization and endorsement of the RWP from the USFWS is anticipated in late 2013.

A critical component of RWP development was coordination among the various agencies, organizations, industries, landowners, and other stakeholders interested in LPC and its conservation strategy. Coordination was needed at multiple levels including interagency coordination for federal agencies, interagency coordination within and among states, interagency coordination between states and federal agencies, coordination with regional organizations and industries, intrastate agency and organization coordination, and general outreach and engagement of landowners and the public. Sequencing of planning components involved establishment of various committees to accomplish specific tasks, and then engaging broader involvement as various components of the RWP were available for review and input.

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

The IWG established a science committee to assist the planning effort with setting of RWP goals as well as providing recommendations for science-based decisions included in the RWP. The science committee included the members of the IWG as well as Dwayne Elmore with Oklahoma State University, Dan Mulhern, Chris O'Meilia, Allison Arnold, Aron Flanders, and Heather Whitlaw with the USFWS, Dave Haukos, with the U.S. Geological Survey, Blake Grisham with Texas Tech University, Don Wolfe with Sutton Avian Research Center, Christian Hagen with Oregon State University representing the Natural Resources Conservation Service, and Alex Daniels and Anne Bartuszevige with PLJV.

The goals the science committee set were the desired population size and the conversion of the population goal into habitat goals for LPC. The science committee was also tasked with review of a mitigation metrics system to be used to quantify impact units and offset units, to recommend impact buffer distances to be used in impact assessments, and to recommend range-wide delineation of sub-population areas. The science committee was also asked to review other science components of the RWP. This committee met for two days in August 2012 and held several webinars/conference calls to review and recommend inputs to the RWP. Minutes of the science committee meetings are available on the WAFWA LPC website.

A significant focus of the RWP is the improvement of habitat for LPC on private lands as well as integration of the limited amounts of public land that can contribute to LPC habitat needs. A variety of conservation initiatives focused on improving LPC habitats have been initiated by numerous agencies and organizations. Most of these initiatives are administered at state levels, either through staffing of federal programs at state levels, state agency programs, or organizations that either operate within a state or align with state-level initiatives. For this reason, coordination of LPC programs within each state is a critical part of conservation planning. Therefore, each state convened an implementation team consisting of agencies and

organizations involved in delivery of LPC programs to coordinate initiatives within each state for maximum effectiveness and efficiency in conservation delivery. These teams reviewed their current coordination, identified additional opportunities for increased coordination, and discussed how to ensure that landowners are being provided with “one-stop-shopping” through contacts with any of the partnering agencies or organizations. Each state also held public meetings and outreach efforts to discuss the ongoing LPC planning process and coordination.

The conservation strategy for LPC must address the identified threats previously discussed in the RWP if it is to be successful in providing for a high probability of long-term persistence of the species. Inclusion of mitigation opportunities and tools for voluntary reductions in threats is essential for this success. A framework for the consistent development and application of such conservation tools was needed. The science committee, as mentioned, was tasked with reviewing the science involved in metrics that could be used to evaluate potential impact units and mitigation units. However, various decisions concerning the application of these metrics were also needed that involve policy components beyond what science can provide as guidance. To address these policy components while providing a consistent foundation for impact and mitigation tools, a voluntary offset/mitigation committee was convened. An additional work group was formed to consider the various tools or options that could be developed for credit trading/conservation banking. This group was tasked with reviewing the mitigation metrics and policy framework developed by the science committee and mitigation/voluntary offset committee and providing recommendations on how the foundation could be consistently applied to the various potential trading/banking tools.

The IWG coordinated with ongoing CCAA/HCP efforts. The Great Plains Wind Energy Habitat Conservation Plan has held meetings and IWG has sent representatives to these meetings to help coordinate efforts. An oil and gas coalition is developing a draft range-wide CCAA and has involved the five states and USFWS in review of drafts of this effort. On January 23-24 2013, a stakeholder meeting occurred in Edmond, Oklahoma focusing on ESA or related conservation tools that might be applied to LPC. Participants were invited to review the first RWP draft for such tools and to provide input to the process.

A number of outreach meetings were held by each of the five states and WAFWA. These meetings were targeted towards local stakeholders, including industry representatives and permitting agencies representing the oil and gas industry, wind energy, transmission, state departments of transportation, public utilities commissions, soil and water conservation boards, agricultural associations, agricultural agencies, congressional members and staff, and landowners. In addition, several meetings were held to explore possible CCAA development with oil and gas interests. Members of the IWG contacted representatives of wind energy, transmission industries and nongovernmental entities to encourage involvement and input (see Appendix A).

CONSERVATION STRATEGY

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

A key component of the conservation strategy is applying the concept of focal (core) areas. This concept as applied to LPC is based on identifying the areas of greatest importance to the species, and focusing habitat enhancement, maintenance, conservation, and protection in these areas. In addition, a subset of lands within focal areas will be identified as "strongholds." These are areas meeting the definition described by the USFWS (2012b) and are a much smaller component of focal areas but have the ability to provide permanent LPC conservation areas. This accomplishes:

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

The conservation strategy employs various tools to achieve its management objectives with an emphasis on focal areas and connectivity zones. With the exception of New Mexico, over 95% of the current LPC range is on private lands. To be successful, the conservation strategy must emphasize delivery of habitat improvement in focal areas and connectivity zones by maximizing incentives to encourage landowners to engage in LPC habitat improvements. This has to be either economically neutral or economically advantageous to the landowner. The strategy identified existing programs available to help provide these improvements and then worked with implementation teams and others to identify how to coordinate and maximize the delivery of these programs, especially in focal areas. Another important component of the strategy is identifying approaches and tools to avoid, minimize, and compensate through off-site mitigation the potential threats to LPC. This is accomplished through a mitigation framework that offers assurances for continued operations for developments in the future following identified

guidelines and standards. This mitigation framework includes a metric system to quantify impact units and mitigation units.

The strategy recognizes that many aspects of LPC ecology and management remain unknown. Monitoring is proposed that will allow the generation of new information as well as documentation of RWP success in terms of habitat improvements and population responses. The strategy includes an adaptive management component that provides certainty for landowners, industry and others who implement programs, yet allows for adjustments as substantial new information becomes available.

BIOLOGICAL GOALS AND OBJECTIVES

USFWS defines biological goals as the broad, guiding principles that clarify the purpose and direction of the conservation components for conservation tools (65 FR 35241). The biological goals and objectives are designed to address the potential impacts of the proposed activities while taking into account the overall conservation needs of LPC and its habitat. In general, the biological goals will be accomplished by: (1) conserving LPC and their habitat in the service areas, and (2) mitigating the impacts of take contemplated by the RWP by conserving and managing certain known LPC habitat areas throughout the service areas. In addition to these general objectives, the RWP will include a conservation strategy that will strive for the implementation of activities that will preclude the need to list the species, but if the species is listed, provides the blueprint toward speedy recovery and delisting.

POPULATION GOALS

The IWG science committee discussed LPC population goals during its August 2012 meeting (http://www.wafwa.org/html/rangewide_lpc_conservation_RWP.shtml). The science committee recognizes the limitations of historical population data and the limitations of any population viability analyses conducted on a range-wide or regional basis to set population goals. With these data limitations, the team agreed to utilize a long-term spring population average, trend information, and variability analyses as a basis for setting initial population goals on an ecoregional basis. Past populations were reviewed, and the estimated population sizes at points in the past were considered during their deliberations. Populations that were present prior to the determination made by the USFWS in 1998 were considered as well. Initial population goals were set based on available population and habitat information for each ecoregion.

In January, upon receiving a report by Garton (2012), the IWG felt it was prudent to have the science committee revisit the initial population goals. Garton reconstructed LPC populations based on information generated from past monitoring efforts and found a general increase in LPC populations in the last half of the 1960s followed by a long-term decline from the 1970s to mid-1990s when the population apparently stabilized at substantially lower abundance level on a range-wide basis (50,000-100,000 LPC compared to estimates around 200,000 during the 1970s and 1980s). However, further analysis by Garton from the most recent data identified two of the

ecoregions and the range-wide species populations having high to very high probabilities of falling below quasi-extinction thresholds within 30 years, if current factors affecting LPC populations are not addressed presently, thus supporting the development of this RWP to address those impacts. As a result of the discussion surrounding Garton, and reviewing the data points generated from the analysis (see Table 3), the science committee adjusted the overall population objective upwards and redistributed the population goals within the ecoregions. While this 10 year population goal will sustain and increase LPC, some of the ecoregions will need more intensive management to sustain populations into the future., Population goals may need to be adjusted after the first 10 years of RWP implementation, as more information becomes available through an adaptive management process.

Table 3. LPC Range-wide reconstructed populations using 10-year averages 2003-2012 (Garton 2012).

Year	Reconstructed Pop.
2003	79,090
2004	83,670
2005	79,896
2006	76,469
2007	47,549
2008	45,822
2009	51,264
2010	51,057
2011	55,036
2012	37,170
Avg.	60,702

Based on review of the available population information and analyses, the science committee recommended a range-wide population goal of 67,000 birds as an annual spring average over a 10 year-time frame, or an increase of 9.4% from the current 10-year average. The science team felt that this goal was both attainable and sustainable considering that the range-wide population had been above this level as recently as 2006. This goal was determined to meet the following population objectives:

- Increase populations to ensure a sustainable long-term population within each of the four delineated ecoregions for the next 10 years of the RWP implementation.
- Maintain and expand the current distribution of LPC across its estimated occupied range with some expansion into the area identified as current occupied range buffered by 10 miles
- Maintain higher population sizes in areas where they currently occur and are stable.

The science committee discussed distribution of the range-wide population goal. The committee agreed with a previous determination used in developing the monitoring protocol (McDonald

2012) that four ecoregions should be designated within the overall range. Population estimates will be developed annually using the aerial survey results described in the population status section. The four ecoregions and their goals were established as follows and will be adjusted, as appropriate, through adaptive management in order to maintain the species for the first 10 years of the RWP:

- Sand shinnery oak ecoregion—8,000 birds
- Sand sagebrush ecoregion—10,000 birds
- Mixed grass prairie ecoregion—24,000 birds
- Short grass/CRP mosaic prairie ecoregion—25,000 birds

HABITAT GOALS

To set habitat goals, the science committee considered the densities of LPC that might be expected in quality habitat. While empirical data on population densities of LPC are limited, past work has generally supported average density estimates of 5-10 birds/sq. mi. in the spring to be reasonable. In Texas, a mean density of 5.63 breeding birds/sq. mi ranging from 2.18-8.64 was reported (Davis et al. 2008). New Mexico estimated densities of 4.85 breeding birds/sq. mi (Neville et al. 2005), while Kansas used an estimate of 10 breeding birds/sq. mi (Davis et al. 2008). Additional analyses by state biologists have estimated population densities in quality LPC habitat within the Texas mixed grass ecoregion to be <4 birds/sq. mi., while in NM an estimate of 4 birds/sq. mi. in sand shinnery oak was deemed appropriate.

The science committee acknowledged density estimates reported in older studies but noted that the methods used in these studies were often not clearly reported or differed substantially from more recent techniques. The science committee also recognized that the maximum density estimates reported in the literature occurred during a short time period and are likely not sustainable at those levels. While the potential for higher densities of birds under the right circumstances, the high degree of annual variation is inherent to the species. Thus, it is reasonable to rely on recent average density estimates that have been developed for populations occurring in the best existing habitats. Based on these considerations, the science committee recommended using a density of 9/ sq. mi for the shortgrass ecoregion, five breeding birds/sq. mi for the sand sagebrush ecoregion and the Oklahoma and Texas areas of the mixed grass ecoregion, 9/ sq. mi for the Kansas portion of the mixed grass ecoregion, and 4/ sq. mi for the sand shinnery oak ecoregion. The science committee set a goal of having sufficient habitat in focal areas to sustain 75% of the desired population goal of 67,000 birds. This translated into the equivalent of 4,972,800 acres of quality LPC habitat as the initial focal area habitat goal for the RWP. The remaining 25% of the population goals will need to be maintained elsewhere within connectivity zones (1,243,136 acres) and the remaining estimated occupied range +10 miles.

FOCAL AREA STRATEGY

The focal area approach represents a mechanism to effectively translate ecoregional population goals to habitat goals at appropriate spatial scales for conservation implementation. Because of the anticipated effects of climatic conditions and stochastic events at local scales, it is expected

that populations will naturally exhibit greater variability at local scales than at ecoregional scales. Techniques to track population trends and monitor progress toward population goals (e.g., range-wide aerial surveys) are best applied at ecoregional scales, while programs to achieve habitat-based goals within focal areas should be implemented to progress toward goals tracked at that scale. The cumulative effects of achieving and maintaining habitat goals within focal areas are inextricably linked to population goals at ecoregional scales, as current local habitat conditions heavily influence ecoregional population fluctuations. For this species, it is reasonable to presume that as local habitat conditions improve, population numbers improve and vice versa.

Identifying focal areas directs conservation efforts into these areas, creating more contiguous blocks of habitat and minimizing small local patches of habitat that may not support desired population levels. Spreading conservation efforts across the range of the species (either within historical or estimated current occupied range) dilutes efforts and can result in "random acts of conservation" that, while applying good practices at numerous locations, doesn't provide for concentrated efforts that produce larger more contiguous blocks of habitat needed to support robust populations of the species. Further, delineation of focal areas will assist developers by prioritizing areas where avoidance of impacts is most needed and encouraging development in areas with minimal or reduced potential impacts to the species. In this way, focal areas define high priority areas needed for LPC persistence.

The science committee further defined its recommendations for focal areas. They based these recommendations on expert opinion using best available science on minimum sizes of LPC habitat, movements, survival, and population status and trends. They identified the following:

- Average size of focal areas should be at least 50,000 acres
- Goal of at least 70% good to high quality habitat within each focal area
- Focal areas should strive to be <20 miles apart to provide connectivity for genetic and population support
- Connectivity zones connecting focal areas should provide suitable habitat to support movements by LPC.

Focal area delineations include approximately 36% of the currently estimated occupied range. Focal areas will only be effective if conservation efforts can be concentrated in these areas, and if development can be avoided to the maximum extent possible. Focal areas should ensure a persistent and well distributed population into the future. The conservation strategy depends on the ability of incentive programs to engage landowners in implementing voluntary habitat improvements, especially within focal areas with large blocks of quality habitat. The conservation strategy also depends on the avoidance and minimization of impacts to LPC from developments especially within focal areas. As a component of mitigation, the strategy encourages the concentrated placement of compensation actions through off-site mitigation (habitat protections and improvement) in focal areas and connectivity zones, supported through a WAFWA Mitigation Framework.

The need for connectivity zones was also identified by the science team to allow linkage among focal areas. An exception is linkage between the sand shinnery oak ecoregion with the other three ecoregions, as the intervening area in Texas is considered unsuitable for restoring or maintaining as a connectivity zone due to a separation by >100 miles of unoccupied and unsuitable habitat. The LPC population in the sand shinnery ecoregion is relatively stable based on the last 10-15 years of available population data (Garton 2012). Should new information suggest that population interchange with the other ecoregions be deemed desirable (e.g., if genetic exchange were determined to be beneficial), translocations of birds could be considered and implemented through adaptive management at some time in the future, as appropriate.

The science committee made recommendations on connectivity zones based on their expert opinion using the best available science described in the RWP within the section titled *Minimum sizes of habitat blocks* and *LPC movements*. The identified goals for connectivity zones are as follows:

- At least 40% good to high quality habitat
- No greater than 2 miles between habitat patches
- Minimum of five miles in width
- Few or no barriers to LPC movement.

In addition to the habitat provided in focal areas and connectivity zones, additional LPC habitat will occur outside of these areas. Focal areas should provide the needed habitat to support at least 75% of the population goals, while connectivity zones will provide habitat for an additional component of the population goal. Other LPC habitat will still be present, and will support additional birds. Populations are likely to experience greater fluctuations in areas outside of the focal areas due to the lower quality of the habitat in these areas and the smaller sizes of habitat blocks (Roloff and Haufler 2002), but birds are expected to remain distributed throughout most of the current occupied range of the species.

DESCRIPTION OF QUALITY LPC HABITAT

Focal areas will only serve their function as source areas for LPC populations if they provide quality LPC habitat. Habitat conditions for LPC are often labeled as “suitable” habitat, implying that an area can support LPC. However, supporting LPC and providing quality habitat are not necessarily synonymous. Therefore, programs designed to maintain or improve habitat for LPC should have clear objectives for the desired conditions for the site. In all areas, desired conditions should provide a mix of nesting and brooding habitat with the majority of a home range-sized area (2000 acres) in nesting habitat intermixed with 25-35% in brooding habitat (Hagen et al. in review).

Management of the sites to produce quality LPC habitat conditions should include frequent disturbance (e.g. grazing, fire, etc.). For nesting habitat, grazing plans should recommend utilization rates that provide for the recommended cover and height of grasses and that leave substantial residual herbaceous vegetation for the next spring. Brood habitat should be

interspersed among nesting habitat and be created by the use of prescribed burning or grazing to maintain a high level of plant diversity.

The RWP establishes a goal of greater than 70% quality LPC habitat in focal areas and greater than 40% quality LPC habitat in connectivity zones. In general, quality LPC habitat is considered to have vegetation conditions that support greater than 35% canopy cover of grasses, shrubs, and forbs, consisting of greater than 50% composition of preferred species of shrubs and grasses, and have the appropriate structure to provide nesting and brooding habitat intermixed within it (Hagen et al. in review).

Preferred LPC habitats in native vegetation communities have been described within the sand shinnery oak, sand sagebrush, and mixed grass ecoregions from research findings. Those research findings are discussed in more detail in the *Nesting and brood habitat* sections of this RWP. The LPC population in the short grass ecoregion relies heavily upon the percent cover and structure created by the CRP. However, some ecological sites in that ecoregion also contain native vegetation that can produce quality habitat if managed appropriately.

<u>LPC habitat in plant communities with a substantial sand shinnery oak component</u>

- Nesting habitat
  - Canopy cover of sand shinnery oak: >20% but <50%
  - Canopy cover of preferred grasses (native bluestems, switchgrass, indiangrass, and sideoats grama): >20%
  - Canopy cover of a good mix of species of native forbs: >10%
  - Variable grass heights that average: >15”
- Brood habitat
  - Canopy cover of sand shinnery oak: 10-25%
  - Canopy cover of preferred native grasses: >15%
  - Canopy cover of a mix of native forbs: >20%
  - Variable grass heights that average: >15”
  - Shrub, grass and forb understory open enough to allow movements of chicks

<u>LPC habitat in plant communities with a substantial sand sagebrush component</u>

Nesting habitat
  - Canopy cover of sand sagebrush: 15-30%
  - Canopy cover of preferred native grasses: >30%
  - Canopy cover of a mix of native forbs: >10%
  - Variable grass heights that average: >15”
- Brood Habitat
  - Canopy cover of sand sagebrush: 10-25%
  - Canopy cover of preferred native grasses: >20%
  - Canopy cover of a mix of native forbs: >20%
  - Variable grass heights that average: >15”
  - Shrub, grass and forb understory open enough to allow movements of chicks

LPC habitat in native rangelands and CRP without a substantial sand shinnery oak or sand sagebrush component

- Nesting habitat
  - Canopy cover of preferred native grasses: >50%
  - Canopy cover of a mix of native forbs: >10%
  - Variable grass heights that average between 15-22”
- Brood habitat
  - Canopy cover of preferred native grasses: 30-50%
  - Canopy cover of a mix of native forbs: >20%
  - Variable grass heights that average between 15 -22”
  - Shrub, grass and forb understory open enough to allow movements of chicks.

It is also important to note that different ecological sites (http://esis.sc.egov.usda.gov/) have different potential to support high quality LPC habitat within an ecoregion. Ecological site descriptions (ESD’s) can be used to describe the best site conditions that can be obtained for each ecological site within LPC range. Site specific management RWPs are needed to identify the optimum conditions that can be produced for LPC at each location, and to implement habitat treatments to obtain these conditions. Thus, the habitat management goal for LPC should be to manage a site to produce the quality habitat conditions for that ecoregion, recognizing the variation in potential for the different ecological sites to produce these optimal conditions. Appendix C lists ecological site descriptions within the current occupied range of LPC, and provides a rating for the potential quality of these sites as nesting or brood rearing habitat.

DELINEATION OF FOCAL AREAS AND CONNECTIVITY ZONES

Focal areas are defined as a function of population goals while connectivity zones are not. Connectivity zone delineation is dependent on current potential for connectivity in a given location. Due to emerging science as it relates to habitat changes brought on by climatic condition, these boundaries need to be assessed and potentially adjusted to accommodate future conditions to conserve LPC through the adaptive management process.

Selection of focal area locations was based on a number of criteria. This criteria included: existing populations of LPC as indicated by known lek locations and sizes, existing habitat conditions (CHAT vegetation layer), amount of existing fragmentation (CHAT layer and NAIP imagery), presence of preferred ecological sites (NRCS soils layer), location of public lands or other conservation lands that can contribute to habitat goals, extent of conflicting demands for alternative land uses, and known receptivity of landowners to use incentive programs (local biologist knowledge). The existing population map was constructed using lek locations from various survey efforts, recognizing that not all lek locations are known. Information contained in the Oklahoma LPC Spatial Planning Tool was used as an additional information source in Oklahoma, including the vegetation layer, road and transmission line maps, and existing information on habitat fragmentation. Ongoing LPC conservation projects and locations of concentrations of CRP lands identified by implementation team biologists were additional

considerations for siting focal areas. Known locations of existing or projected energy developments were considered as well, and adjustments made to avoid conflicts with these developments where possible. However, presence of substantial existing LPC populations and habitat took precedence in some locations.

The implementation teams made recommendations on connectivity zone locations based on their expert opinion using the best available science described in the RWP sections on *Minimum sizes of habitat blocks* and *LPC movements*. The goal of connectivity zones will be to maintain at least 40% of the area in good to high quality LPC habitat. Habitat patches within connectivity zones should be no further than two miles apart. Connectivity zones can be variable in width, but optimally would be at least five miles in width. Connectivity zones should avoid or minimize the number of barriers they contain, including anthropogenic structures crossing connectivity zones that may serve as barriers. Where these must occur, they should be placed to minimize their effects LPC movements.
Each state was tasked with delineating focal areas and connectivity zones for the state. Based on the population goals allocated to each ecoregion, each state wildlife agency and their partners developed a map of focal areas and connectivity zones (Figure 4). Details of the focal areas within each ecoregion and state are presented in Tables 4 and 5. Due to the size of some of the focal areas and connectivity zones, it was decided to segregate them into smaller units to allow for more precise reporting as it relates to implementing conservation measures and compliance monitoring. Each focal area and connectivity zone within each ecoregion is numbered and evaluated for its existing conditions. Focal areas within each of the ecoregions are displayed in Figures 5-8. Information on the land uses and existing impacts for these focal areas and connectivity zones are listed in Appendices C and D.

Table 4. Focal area total acreage delineations for each state compared to acreage of estimated current occupied range.

State	Current Estimated Occupied Range (ac)	Current Estimated Occupied Range plus 10 mi buffer (ac)	Focal Area Delineation (ac)[a]	Connectivity Zones Delineated[a]	% Focal Area Delineated of Current Estimated Occupied Range
Colorado	1,101,545	3,236,480	622,720	538,240	56.5%
Kansas	8,997,133	16,994,560	3,929,600	500,480	43.7%
Oklahoma	4,018,883	6,231,040	812,160	503,040	20.2%
Texas	3,573,468	7,810,560	955,520	488,320	26.75%
New Mexico	2,084,979	6,878,720	784,000	704,000	37.6%
Total	**19,776,008**	**41,151,360**	**7,104,000**	**3,107,840**	**35.9%**

[a] The sum of the state acreage totals will be somewhat greater than the total acreage summed across ecoregions because the mapping units don't match up exactly with state boundaries. Some mapping units were intersected by multiple states in which cases the total acreage within the unit was assigned to more than one state

Table 5. Population and focal area delineation by ecoregion. Population data were from the 2012 range-wide aerial monitoring survey.

Ecoregion	Population Goal (% of total goal)	Focal Area Delineation (acres)	% of Focal Area Delineated	% of surveyed leks in ecoregion	% of surveyed pop. in ecoregion
Shinnery oak	8,000 (11.9%)	1,046,400	14.7%	13.5%	10.0%
Sand sagebrush	10,000 (14.9%)	1,583,360	22.2%	3.3%	3.5%
Mixed grass	24,000 (35.8%)	2,576,000	36.4%	27.6%	22.7%
Short grass	25,000 (37.3%)	1,872,640	26.7%	55.6%	63.8%
Totals	**67,000**	**7,078,400**	**100%**	**100%**	**100%**

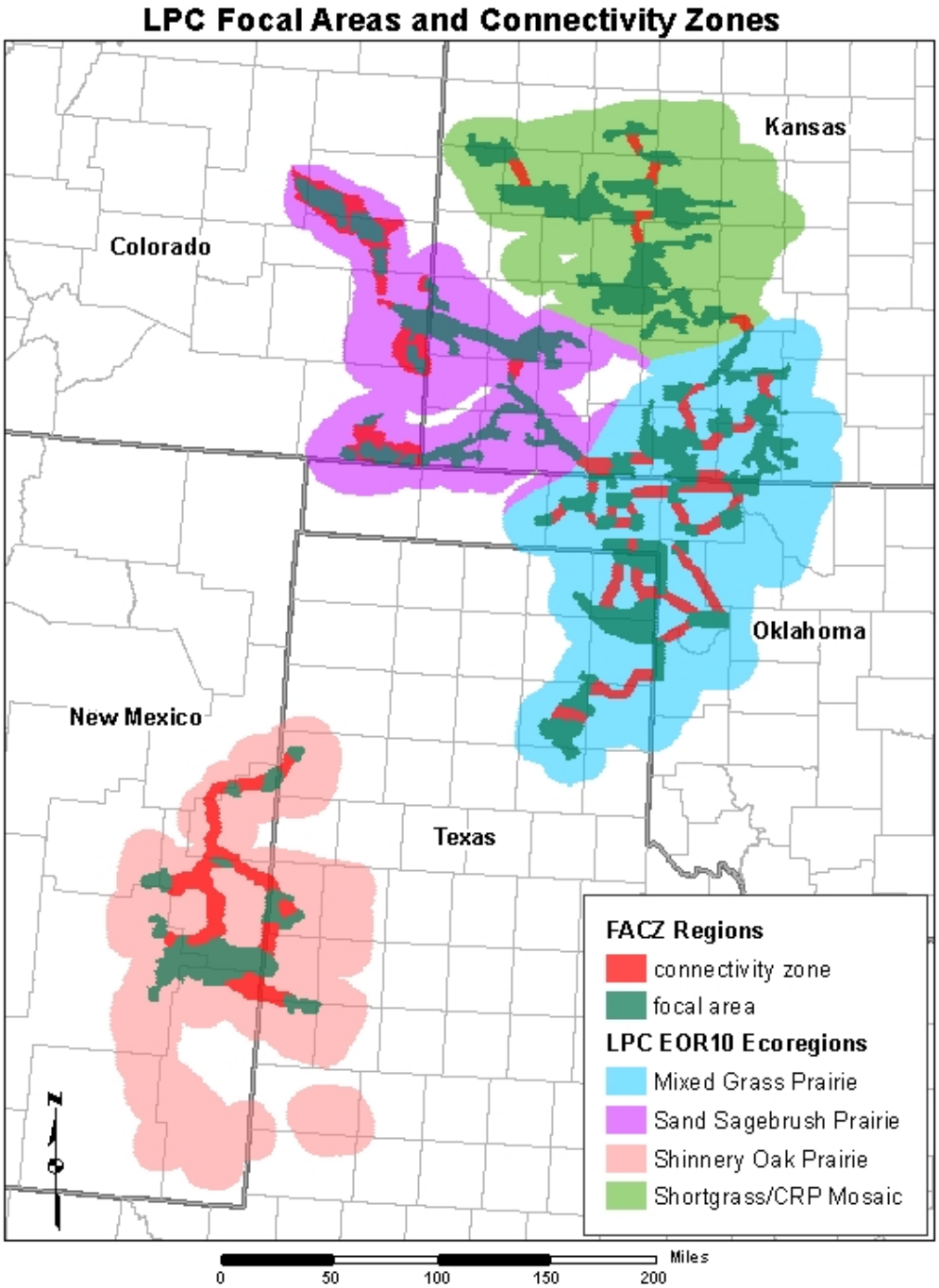

Figure 4. Map of focal areas and connectivity zones for range-wide LECP conservation.

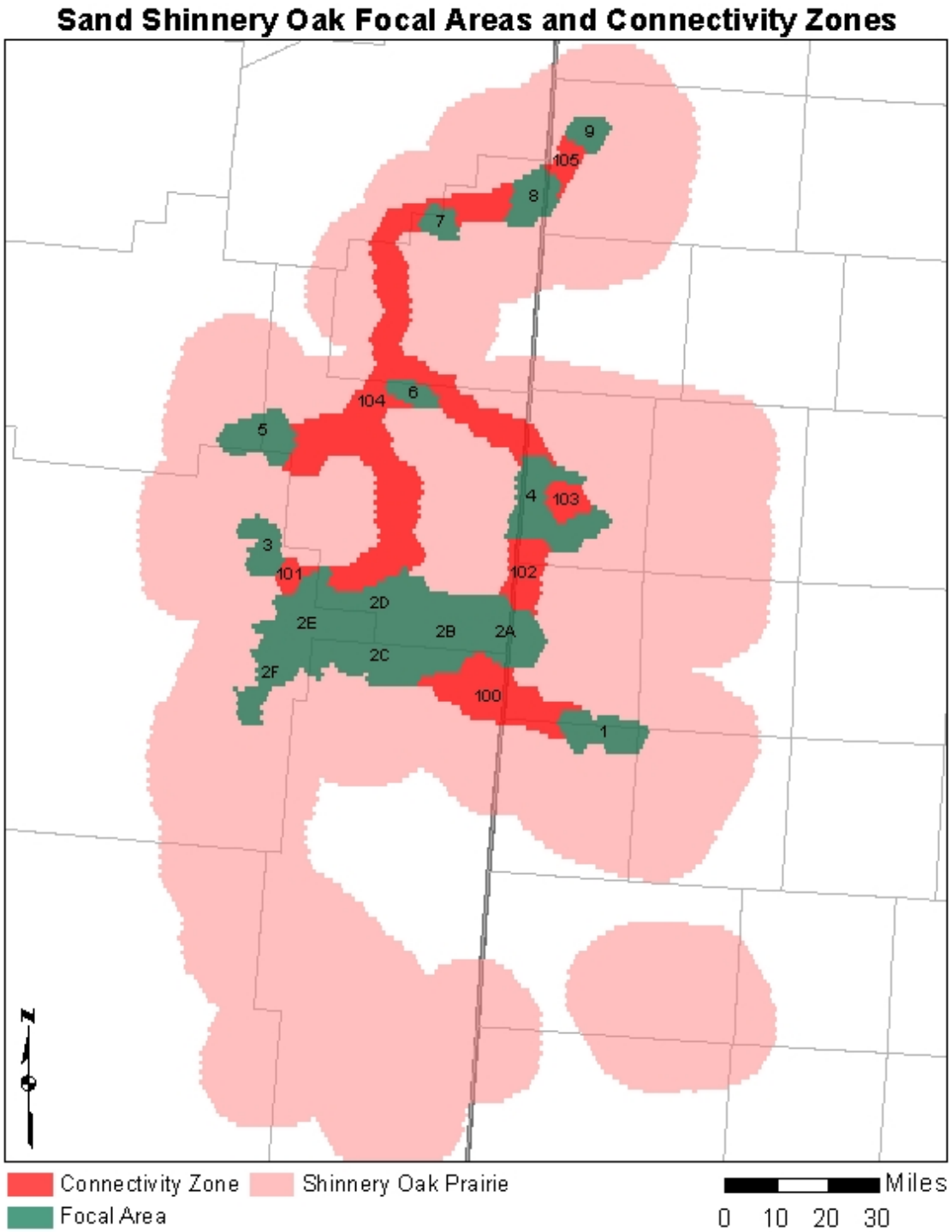

Figure 5. Map of focal areas and connectivity zones in the sand shinnery oak ecoregion.

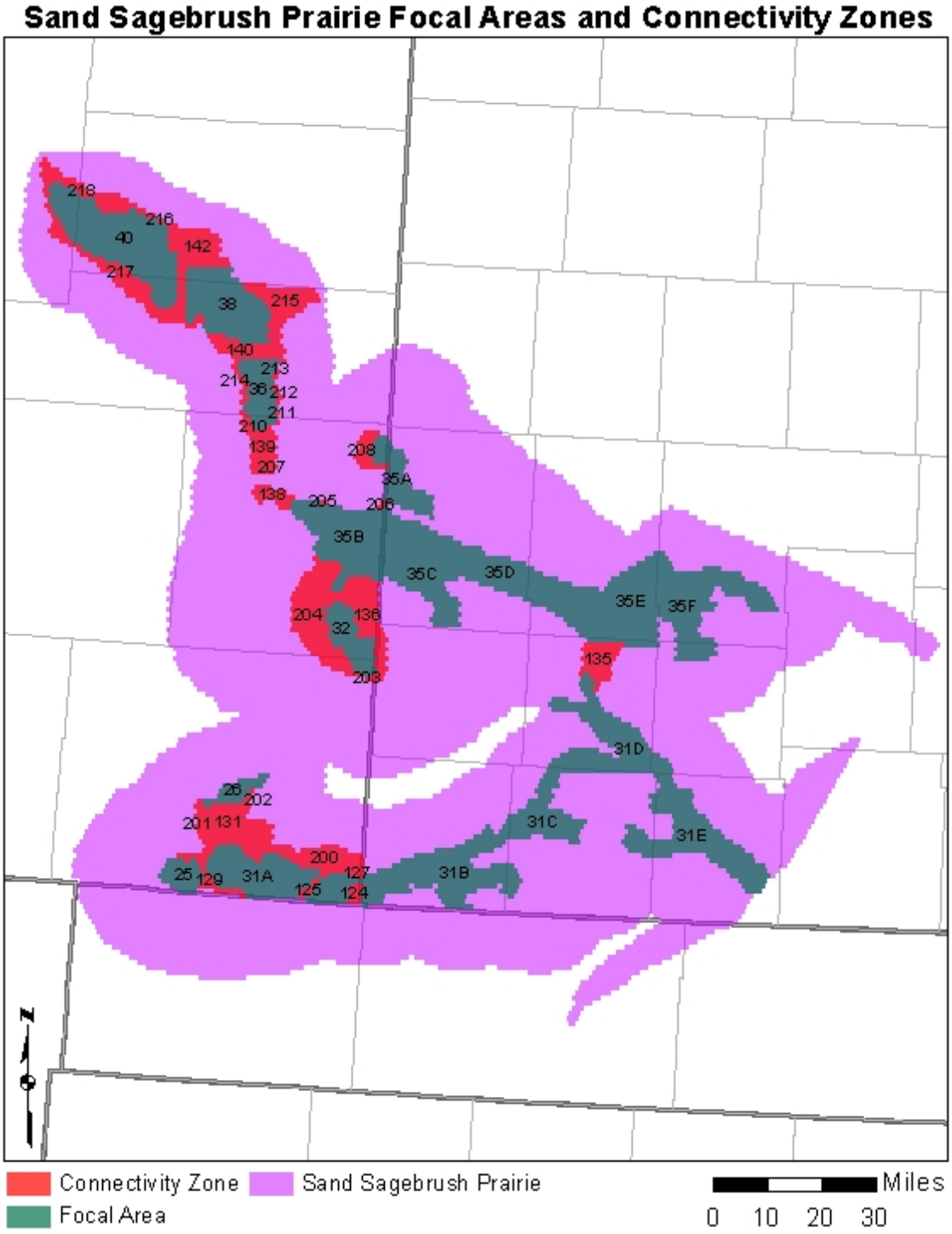

Figure 6. Map of focal areas and connectivity zones in the sand sagebrush ecoregion.

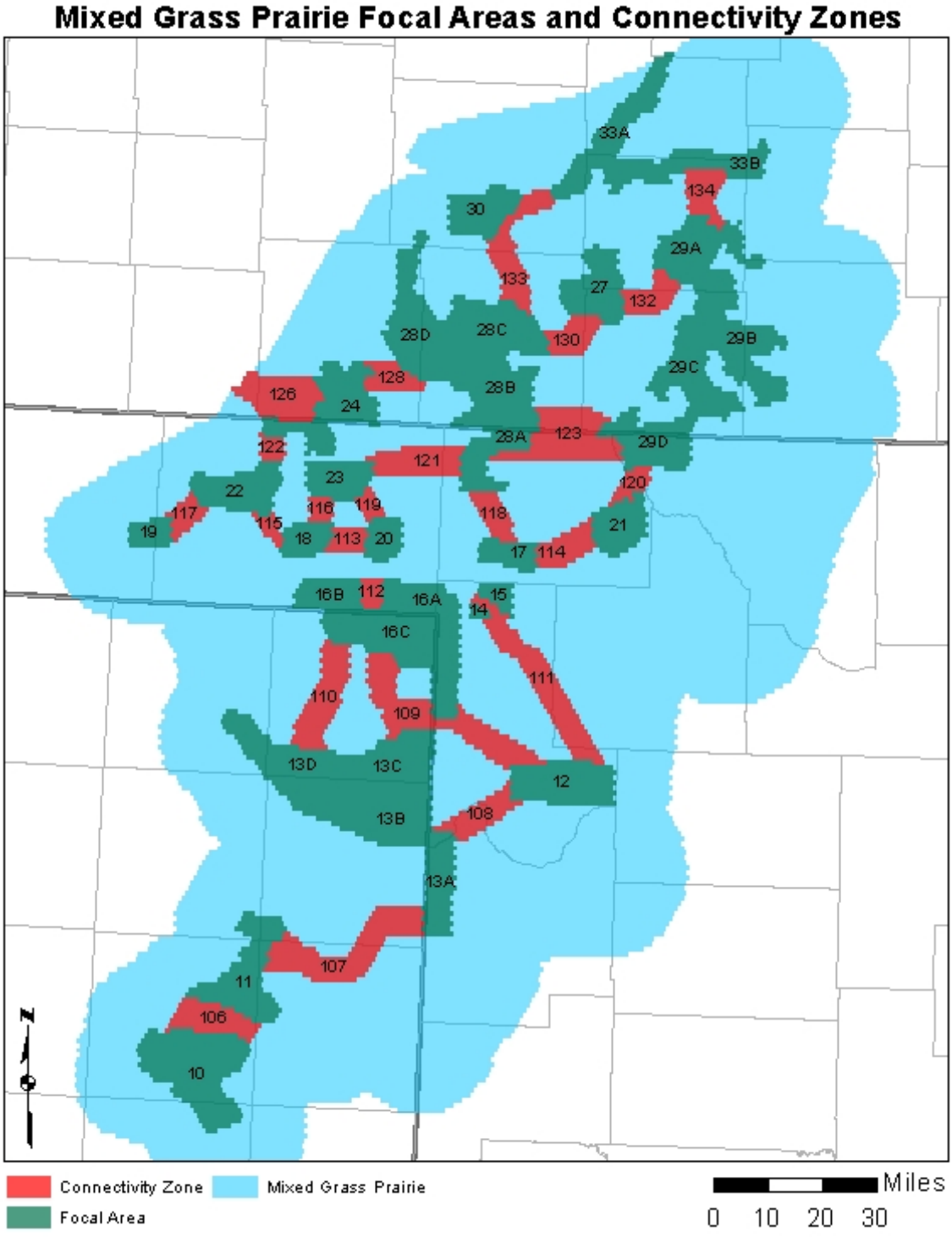

Figure 7. Map of focal areas and connectivity zones in the mixed grass ecoregion.

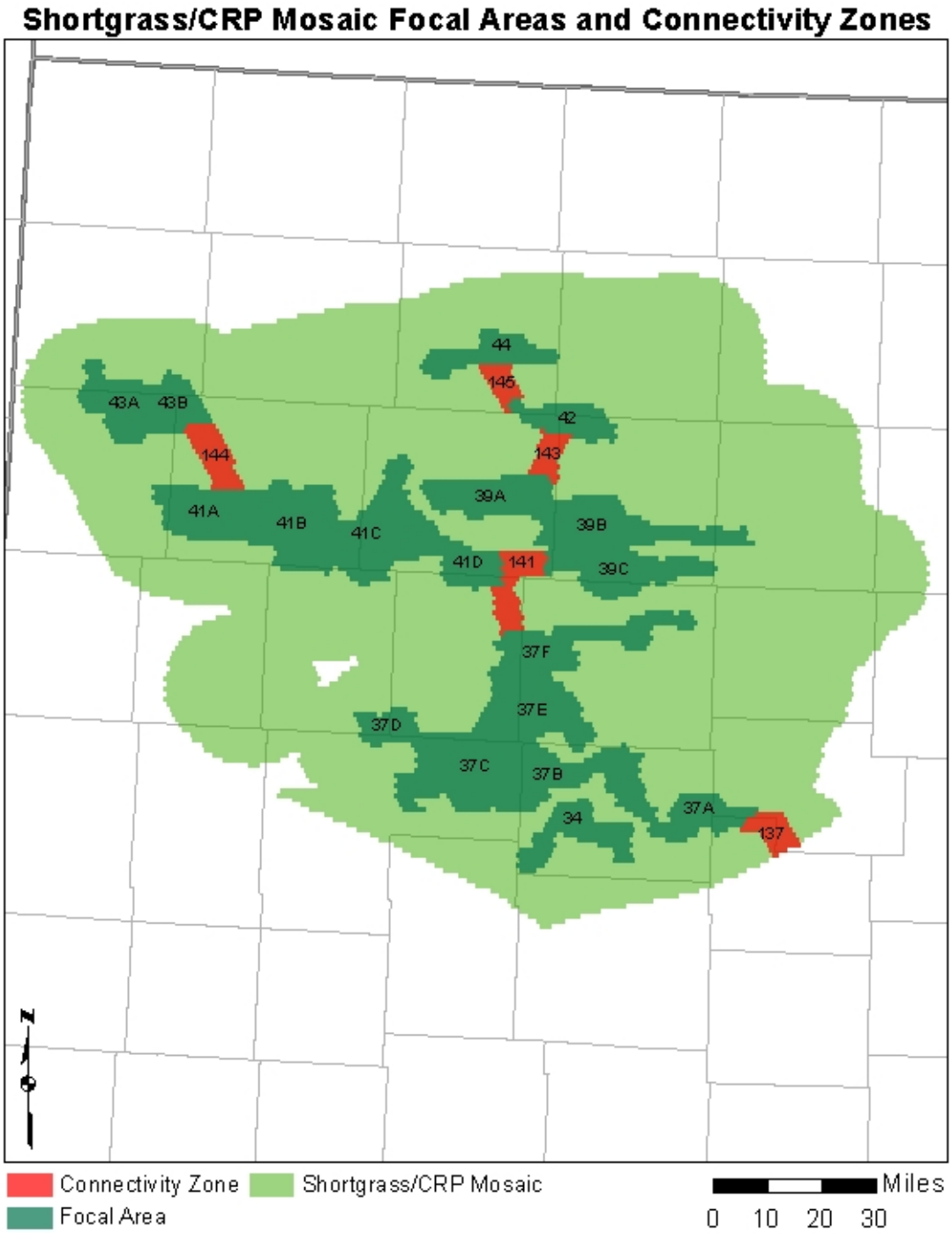

Figure 8. Map of focal areas and connectivity zones in the short grass ecoregion.

The National Fish, Wildlife and Plants Climate Adaption Strategy (2013) identifies seven adaptation strategies to assist resource managers and their partners necessary to provide safeguards in a world with changing climatic conditions. When fully implemented, the RWP will support this approach by using the focal areas and connectivity zones framework within the RWP to reduce stressors on the four ecoregions inhabited by the LPC while allowing economic development that supports people, communities and economies across the United States.

PRESERVATION OF HABITAT USING A STRONGHOLD CONCEPT

The USFWS (2012b) discussed the need for strongholds to support viable LPC populations and indicated that one or more strongholds should be established in each ecoregion. They defined strongholds as areas that are managed or set aside for long-term LPC conservation and of sufficient size to support a viable population of LPC. They recommended that for viable populations, strongholds should contain at least 6-10 leks, with at least 6 males/lek (Applegate and Riley 1998). They suggested a minimum size of 25,000 acres (10,118 ha), but that would only apply if all of the area were high quality habitat, with the need for up to 50,000 acres (20,236 ha) or more if lower habitat quality were interspersed in the area. High and lower quality habitats were not defined in this description. They noted that patches with <65% high quality habitat may not be able to support a viable population (Crawford and Bolen 1976a).

Strongholds should have long-term protection where threats are removed from the landscape. USFWS (2012b) stated that where split estates (different owners of surface and mineral rights) occur, to qualify as a stronghold, an area must have agreements in place that protect high quality habitat from impacts associated with the extraction of minerals. Establishment of these strongholds as a subset of focal areas will continue to contribute toward certainty for the continued persistence of LPC. The inclusion of habitat protection under long-term agreements (permanent or 30-year terms) will be encouraged in the RWP. Larger contiguous blocks of LPC habitat, to be prioritized by implementation teams, will be targeted for potential strongholds. Newly discovered occupied LPC habitat would also add to the known population and distribution of the species, and therefore, increase its conservation priority.

Table 6 lists strongholds and potential strongholds by ecoregion. The Sand Ranch in the Shinnery Oak Prairie ecoregion is the only site that meets all of the stronghold criteria set forth by USFWS. There are also 12 potential strongholds (5 in Shinnery Oak, 1 in Shortgrass, 3 in Mixed Grass, and 3 in Sand Sagebrush) spread throughout the ecoregions that meet various criteria. Maps of LPC strongholds and potential strongholds are shown in Figures 9-10.

Table 6. Potential strongholds and associated USFWS stronghold criteria.

	Ecoregion/Potential Stronghold												
	Shinnery oak						Shortgrass	Mixed Grass			Sand Sagebrush		
USFWS Stronghold Criteria	Grasslans Charitable Foundation	The Nature Conservancy	Gallina Wells	The Sand Ranch	Yoakum Dunes	Muleshoe NWR	Smoky Valley Ranch	Beaver River WMA	Cimarron Bluff WMA	Gene Howe WMA	Winship Ranch	Lowe Ranch State Habitat	Wilhite Ranch
Minimum of 25,000 acres of high quality habitat; 50,000 or more if non-habitat is interspersed	√	√	√	√				√			√		
Minimum of 6-10 leks with minimum of 6 males/lek (30-60 males) or approximately 72-120 birds at a 1:1 sex ratio	√	√	√	√				√			√		
≥ 65% native grass/shrubland; < 35% agricultural land	√	√	√	√	√	√	√	√	√		√	√	√
Verifiable long-term protection (> 10 years from identified threats)				√		√	√						
Surface / subsurface rights as a threat to the species is addressed to ensure long-term protection		√		√		√	√						
BMPs developed and implemented for all threats, as appropriate	√	√	√	√	√	√	√	√	√		√		
Stronghold provides full range of habitat needs for full life cycle	√	√	√	√	√	√	√	√			√		√
Certainty provided for maintenance / improvement of habitat quantity and quality	√	√	√	√		√	√	√	√		√		
Incorporates connectivity, as appropriate	√	√	√	√	√	√	√	√	√	√	√		√

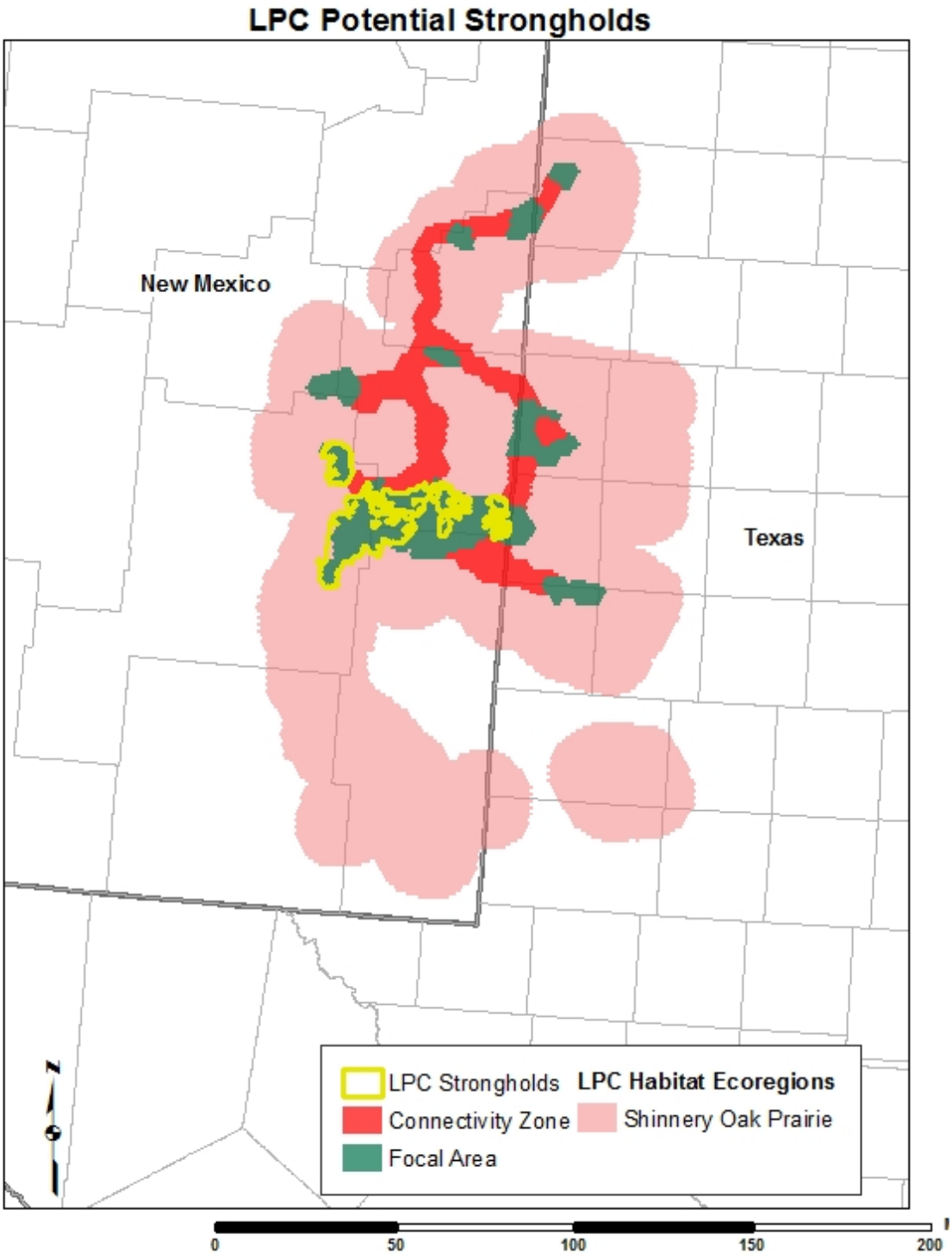

Figure 9. Potential LPC strongholds in shinnery oak ecoregions

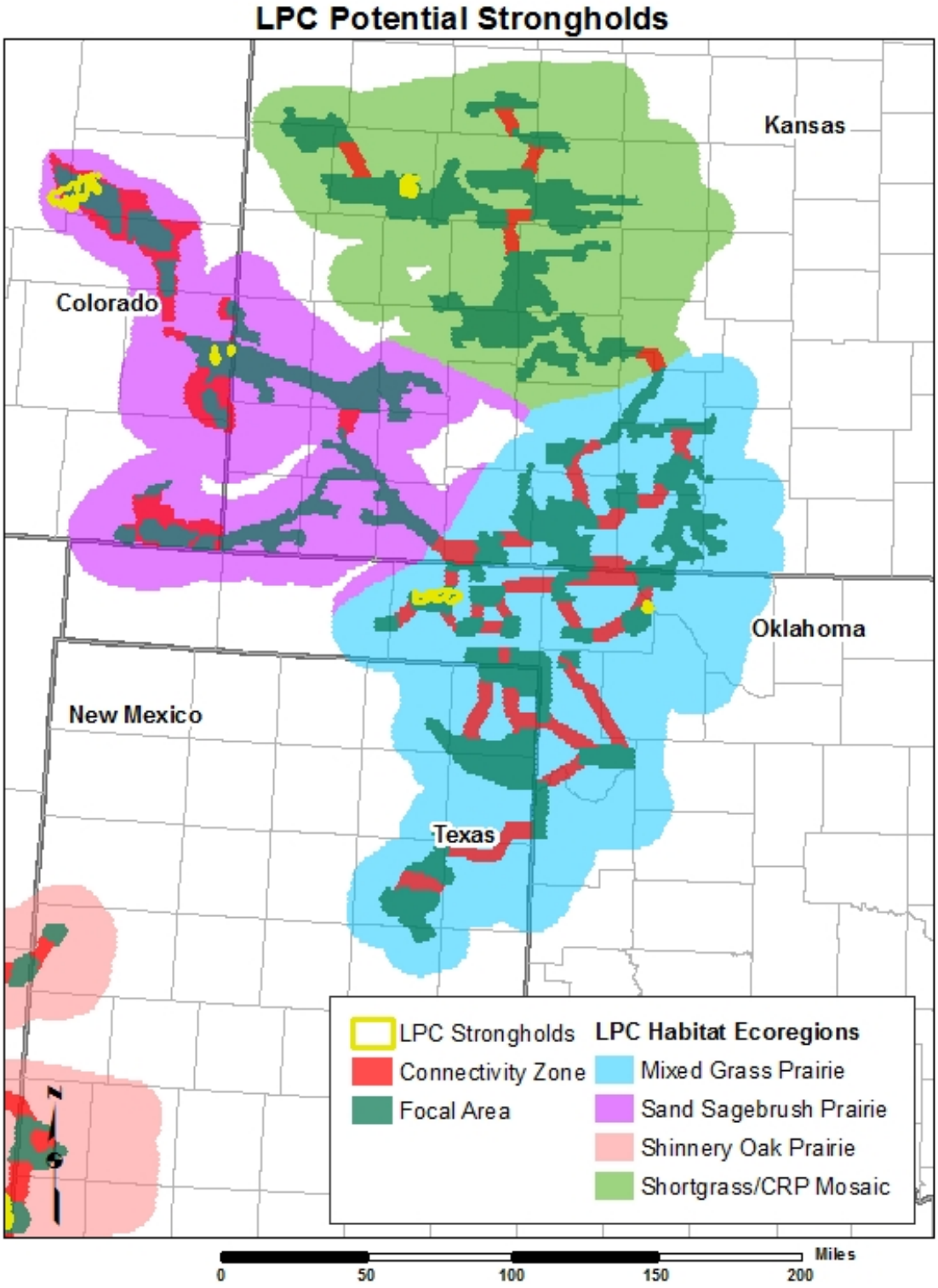

Figure 10. Potential LPC strongholds in three LPC ecoregions.

SAND SHINNERY OAK ECOREGION

The sand shinnery oak ecoregion has one stronghold and five potential strongholds. BLM's core management area (CMA) includes the Sand Ranch and is the only stronghold that meets all of the criteria set forth by USFWS (Table 6). It is closed to future oil and gas leasing and includes private lands enrolled under the New Mexico CCAA. Total area is 45,170 acres. The area consists of high quality habitat within the core area of LPC range in New Mexico and has many active leks.

The first potential stronghold consists of 19,150 acres owned and managed by the Grasslands Charitable Foundation which is enrolled in a CCAA, and seven Prairie Chicken Areas (PCAs) also enrolled in a CCAA that are managed by the NMDGF (Sandhills Prairie Conservation Area, North Bluitt, South Bluitt, East Bluitt, Bledsoe, Farmer's, and Antelope Flats). The PCAs total 8,015 acres. Total area is 27,218 acres. BLM manages 19,355 acres of federal mineral estate of which 11,326 acres are closed to future oil and gas leasing. Federal leases (8,029 acres) that expire will not be re-offered and the remainder of the federal mineral estate is closed to leasing.

The second potential stronghold consists of 27,966 acres owned and managed by the TNC and four Prairie Chicken Areas (PCAs) managed by the NMDGF (Blackhills, Johnson Ranch, and Crossroads 4-5). All acreage is enrolled in the New Mexico CCAA. The PCAs total 3,128 acres. The remaining acres (8,277) are made up of state land and ranches enrolled under a CCAA. Total area is 39,843 acres. BLM manages 19,736 acres of federal mineral estate and of that 13,676 acres are closed to future oil and gas leasing. Federal leases (6,060 acres) that expire will not be re-offered and the remainder of the federal mineral estate is closed to future leasing.

The third potential stronghold is the Gallina Wells area which consists of 4,727 acres in 10 Prairie Chicken Areas (PCAs) managed by the NMDGF (Gallina Wells 1A, 1B, 1-6, Marshall, Crossroads 2) which are all enrolled in the New Mexico CCAA. Adjacent lands consisting of 43,678 acres of additional private lands enrolled in the CCAA. This area is within the primary population area of LPC and contains many active leks. BLM manages 4,249 acres of federal mineral estate of which 3,251 acres are closed to future oil and gas leasing. Total acreage in stronghold #3 is 48,405 acres. Federal leases (998 acres) that expire will not be re-offered and the remainder of the federal mineral estate is closed to future leasing.

In Texas, the 7,200-acre Yoakum Dunes Preserve resides within the 69,760-acre potential focal area in northeastern Yoakum and southeastern Cochran counties. This property has been part of a TPWD LPC study area since 1999. There are an additional 12,924 acres within this focal area that are currently enrolled in the TPWD CCAA for ranching and farming practices. In Bailey County there is another stronghold opportunity associated with the 7,089 acre Muleshoe National Wildlife Refuge. The refuge is located within the southeastern portion of the focal area in the county and has a documented history of LPC use going back to the 1930's (Jude Smith, Muleshoe NWR Manager, personal communication). USFWS is working on a plan to expand the refuge by approximately 20,000 acres over the next few years.

SHORT GRASS ECOREGION

The approximately 17,000 acre Smoky Valley Ranch (SVR) is located about 20 miles southwest of Oakley, Kansas and is owned and managed by TNC. Although TNC possesses all mineral rights, a small portion of the ranch (less than 10%) was under an oil lease when purchased, and four active wells are currently located on the north end of the property. TNC restricts further energy development and conversion to cropland. If SVR were sold, a permanent conservation easement would first be placed on the land.

The SVR is located on the western edge of the mixed grass prairie, where loamy uplands are dominated by buffalo-blue grama and lower sites have a strong sideoats grama and little bluestem component. Drought, grazing pressure, and fire generally shift species composition toward short grass species. The ranch is bisected by 8 miles of the Smoky Hill River and associated 1,600 acres of sagebrush flats. The ranch is also home to about 2,000 acres of black-tailed prairie dogs and black-footed ferrets, which are managed in a central core area of the ranch, primarily dominated by buffalo-blue grama. In order to manage such varying habitats for these keystone and indicator species, the ranch is divided into management areas based on habitat potential and adjacent land use considerations.

Currently, there are approximately 4,500 acres of suitable LPC habitat with four active leks. These areas are managed with prescribed rotational grazing and rest, with the primary objective of maximizing nesting and brood-rearing habitat. In addition, 4,400 acres throughout the ranch have been identified as potential LPC management areas. These areas are currently and will continue to be managed with a properly stocked rest rotation grazing system. To expedite nesting habitat development in these areas within the next 10 years, TNC also plans to manage many of these areas with season-long deferment, and in some cases prescribed fire. In summary, SVR has long-term LPC management plans on suitable ecological range sites totaling approximately 8,900 acres. This area does not currently meet the requirements for a stronghold, but efforts will be made to build from this core area and expand this site into a stronghold.

MIXED GRASS ECOREGION

In Oklahoma, the Beaver River Wildlife Management Area is planned to be a designated LPC stronghold. Located in the panhandle of Oklahoma, Beaver River WMA is dominated by sand sagebrush and buffalo grass on upland sites interspersed with sand plum thickets and rolling sandhills. The total acreage managed by the ODWC is 26,711 acres; 23,441 acres of surface rights are owned by the ODWC, and an additional 3,270 acres is leased from the Commission of the Land Office. The leased land will be under ODWC management control until January 2042. ODWC is currently developing a LPC management plan for this area that will include prescribed grazing, prescribed burning, brush management and other LPC approved practices to provide quality LPC habitat. Currently, there are 53 active oil and/or gas wells located on the WMA. Because the ODWC only owns 1/16 of the mineral rights on approximately 88% of the WMA, ODWC will continue to work closely with all the oil and gas

companies with existing developments on the WMA to ensure disturbance is minimized. The ODWC will also attempt to limit the extent of development and fragmentation on areas leased for additional exploration. ODWC has entered into Memorandums of Understanding with several oil and gas companies, and will continue to encourage use of the existing Best Management Practices. ODWC Wildlife Commission passed a resolution stating "no wind facility infrastructure will be placed on any Wildlife Management Area." With this resolution, the threat of wind development has been removed for these 26,711 acres. ODWC will continue to work with landowners in close proximity to the Beaver River WMA in an attempt to improve LPC habitat and increase the size of the proposed stronghold. Management plans will be developed for interested landowners and CCAA's will be available to those landowners willing to implement specific LPC practices.

ODWC is also considering establishment of a second LPC stronghold in Harper County. They recently purchased a 3,430 acre property, Cimarron Bluff WMA, for LPC management. Upland sites of this WMA are dominated by mixed grass prairie vegetation with rolling hills and high bluffs overlooking the west side of the Cimarron River. ODWC is currently developing a LPC management plan for this WMA which will include prescribed grazing and burning. Since this property is less than 15 percent of the 25,000 acre stronghold requirement, success of this area as a stronghold would rely heavily on neighboring landowners. This area has high LPC habitat potential, and neighboring landowners have expressed interest in the recently approved agricultural CCAA.

The 5,886 acre Gene Howe Wildlife Management area is managed by TPWD. The majority of the Gene Howe is in the flood plain of the Canadian River, but 2,355 acres are located above the breaks of the river in sand sagebrush mixed grass habitat within a focal area in Hemphill County. In addition, the Gene Howe is surrounded by more than 50,000 acres of private land within 10 miles on the north side of the Canadian River that is enrolled in the TPWD CCAA for ranching and farming practices.

SAND SAGEBRUSH ECOREGION

In Cheyenne County, Colorado, approximately 29,500 acres of contiguous sand sagebrush are protected by TNC under permanent conservation easements through the Winship Ranch project and represent a potential stronghold. The easements were established in 2012 and require compliance in perpetuity with management plans which are beneficial to LPC and other priority species. The sand sagebrush portion of the Winship Ranch project is located in and adjacent to a focal area and known active leks occur on the easement. Although mineral rights remain in a split estate, TNC retains rights through the conservation easements to negotiate surface use agreements.

In eastern Prowers County, Colorado, two permanent conservation easements exist which form the nexus for a potential stronghold. Lowe Ranch State Habitat Area is 1,293 acres and is held under a permanent conservation easement by CPW. This easement was acquired with

the purpose of protecting LPC habitat. TNC holds a permanent conservation easement on the 4,183 acre Wilhite Ranch. Although not currently large enough to constitute a stronghold, these conservation easements are located in a focal area, which contains active LPC leks.

WAFWA Mitigation and Metrics System

The WAFWA Mitigation Framework incentivizes avoidance and minimization of impacts to LPC habitat from development. The metrics system within this framework provides a pathway to mitigate for impacts to habitat through a biologically-based system that incorporates space, time and habitat quality to define both habitat impact units and habitat offset units. It also utilizes a 2:1 mitigation ratio to ensure that offsets are greater than impacts, resulting in a net conservation benefit for the LPC. The value of 25% of the habitat offset units will be targeted towards permanent conservation to support long-term or dynamic conservation and population strongholds. The remaining 75% of the conservation efforts will be targeted towards short-term or static contracts (5-10 years), which represent permanent conservation that may shift around on the landscape within the targeting goals of the RWP and the CHAT (Figure 11). Finally the WAFWA mitigation system incentivizes the remediation of impacts that are not permanent on the landscape by providing the opportunity to generate offset units that can count toward new developments elsewhere. The 25/75 ratio of long and short-term offset units will be evaluated through the adaptive management process and may need to be adjusted in the future.

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

The costs for restoration of LPC habitat are much higher than costs for habitat maintenance, and some short-term contracts may not realize the benefits of that restoration. Therefore, in the case of property where habitat restoration is required, participants are required to sign up for a minimum 10-year contract. Habitat restoration may require a significant investment of capital and a longer contract term is required to ensure sufficient habitat offset units are generated to recoup the investment in the newly created habitat.

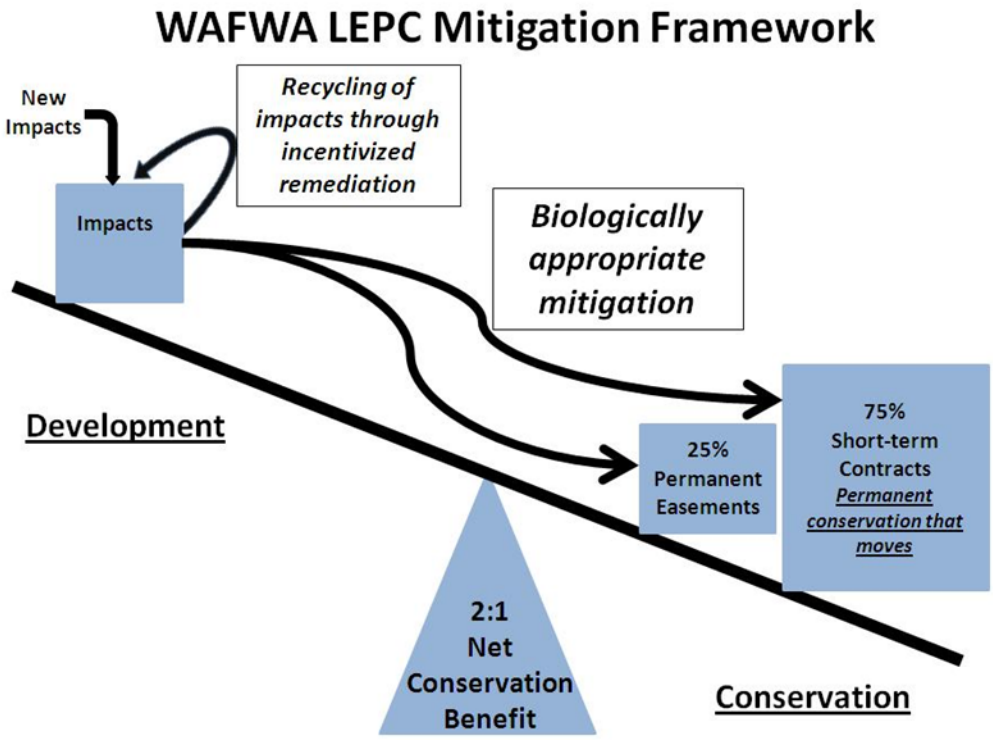

Figure 11. A conceptual model representing the WAFWA Mitigation Framework

The metrics system within the WAFWA Mitigation Framework is designed to achieve the following goals:

- Assure biologically appropriate mitigation for the species to support the goals of the RWP.
- Ensure a consistent definition of habitat units, quality and quantity for mitigation across all WAFWA-approved service providers under the RWP.
- Ensure a consistent net conservation benefit for all mitigation under the RWP that is 2:1 across all CHAT categories.

ONE SYSTEM FOR ALL SERVICE PROVIDERS

The WAFWA Mitigation Framework is a system that can be applied and used by any service provider. This system provides a common bar for all conservation efforts under the RWP to ensure that mitigation and resulting offsets effectively and consistently assess habitat quality for impacts and offsets. Service providers under the RWP must agree to use this metrics system and must be approved by the WAFWA LPC Initiative Council (LPCIC). In addition, those service providers will be required to report annually to the WAFWA LPC Program Manager, including summaries of

acreage enrolled by service area, CHAT category, and HEG scores for each evaluated unit. Service providers will also be required to provide certificates of participation and management plans for all enrolled properties they have enrolled themselves. Finally, service provider contracts must meet the requirements for inspections and verification.

All permanent habitat offset units must adhere to current USFWS conservation banking guidance and the LPC Conservation Banking Standards established in the RWP. Parties wishing to pursue approval of a conservation bank agreement must utilize the standard conservation bank agreement information approved by LPCIC and USFWS. Information which will be required in an application to be considered by the LPCIC and USFWS will include:

1. Bank Location Maps
2. Service Area Maps, Descriptions, and Narratives
3. Fiscal Management and Monitoring Documents
4. Real Estate Records and Assurances
5. Bank Crediting and Credit Transfers
6. Phase I Environmental Site Assessment
7. Biological Resources Survey

WAFWA may also serve as a service provider for this framework and has described a delivery system with associated cost structure and establishment of a non-wasting endowment in Appendices I and L.

MITIGATION MARKETS

The WAFWA Mitigation Framework will implement two separate mitigation trading markets, one based on short-term (5-10 year) contracts and another focusing on long-term conservation. The need for this two-market system is based on LPC biology, habitat stochasticity, and anticipation of population shifts brought on by changing climatic conditions. Unlike other grouse species, LPC appear to be adaptable to changing habitat conditions (i.e. structure, grass species composition etc.), which can be created in a relatively short time period (within 2-8 years). WAFWA recognizes this adaptability, and believes that by coordinating conservation efforts and reducing impacts through this RWP, populations can be anchored using strongholds and be moved across the landscape using focal areas and connectivity zones. This approach emulates how metapopulations function at landscape scales by having core population areas feeding satellite populations. While satellite populations may disappear and reappear over time, core population areas maintain the species existence.

This moving conservation concept is further supported by a recent study which cautions against using traditional conservation strategies involving static tools (e.g. protected areas that have fixed spatial boundaries). J.W. Bull et al. (2013) discuss the difficulty of implementing conservation for “moving targets” such as migratory species or landscapes subject to environmental change. The observations made by J.W. Bull and others about landscapes are

similar to those observed within the range of the LPC. They propose approaches for dealing with "moving" conservation targets by including mobile protected areas, which follow their targets across the landscape. The authors go on further and discuss the concept of biodiversity offsets gaining traction in the conservation community. Such offsets effectively replace biodiversity lost during current economic development projects, and are intended to ensure no net loss of biodiversity overall. Given their flexibility and unique no net loss requirement, these offsets provide a platform for testing dynamic new approaches to conservation like the one presented in this RWP.

USFWS has acknowledged temporary conservation efforts can contribute to a species' recovery goals, directly or indirectly, although such a contribution may be of varying duration and not permanent in nature. In the context of Safe Harbor Agreements, the contribution was directed toward the "net conservation benefit" standard. In the context of the Recovery Credit System developed for federal agencies under ESA Section 7, the contribution was directed toward a "net benefit toward recovery" standard. In both cases the USFWS acknowledged a net benefit to the species through the use of non-permanent protection. For LPC, CRP provides for non-permanent habitat protection benefiting LPC. At a minimum, the temporary protection of habitat through the term of the agreement provides benefit to the species where the quality and/or quantity of habitat may be threatened by other land use actions.

While the establishment of strongholds emphasizes population anchors for LPC, a key component of this system is to move animals around the landscape to reduce conflicts with development. To create a moving habitat mosaic market, a target of at least 25% impact units created by developments will be offset by long-term offset units, most likely within a population stronghold. A second market (75% of the impact units) will be for shorter term (moving habitat) agreements. A minimum 5 year agreement is required to enter the short-term mitigation market. However, if restoration is a component of the management RWP, than the minimum contract duration will be 10 years.

MITIGATION SERVICE AREAS

The WAFWA Mitigation Framework will utilize the four ecoregions in Figure 2 as mitigation service areas. Mitigation units must offset impact units within the same service area unless the WAFWA LPCIC determines otherwise through the adaptive management process.

METRICS AND THE DEFINITION OF HABITAT UNITS

The metrics system under the WAFWA Mitigation Framework is biologically-based and it defines habitat units specifically for the LPC as a function of habitat quantity and quality. All impacts are considered permanent, unless remediation back to baseline occurs. A habitat impact is defined as potential LPC habitat that has been rendered unusable by LPCs based on direct or indirect habitat loss related to development. Indirect habitat loss refers to avoidance of potential habitat by LPCs

around an impact. A habitat offset is defined as an area of potential LPC habitat that is conserved and managed or restored to compensate for impacted habitat.

Defining the Amount of Affected Acreage: The affected acreage is defined as the area enrolled in the framework minus the acreage within impact buffers applied to existing developments. Impact buffer distances were established based on the best available science (e.g., Robel et al. 2004, Hagen 2010, Hagen et al. 2011) and the opinion of the LPCIWG Science Team for the different types of impacts that affect or were believed to potentially affect LPC habitat suitability (Table 7), http://www.wafwa.org/documents/CompiledScienceTeamMinutes.docx). The IWG acknowledges some of these buffer distances are based on limited empirical data, and will be adjusted as new information becomes available under the adaptive management framework outlined within the RWP. The direct footprint associated with other types of activities can be used to assess their impact through this system if someone had the desire to voluntarily mitigate for a development or action not contained within Table 7.

Table 7. Buffer distances for different types of developments established under the WAFWA LPC Mitigation Framework to define impacts

Type of Impact	**Buffer distance feet (meters)**
Oil and gas pads and small compressor stations*	656 (200)
Wind turbines	2188 (667)
Transmission lines ≥69 kV	1312 (400)
Distribution lines <69 kV	33 (10)
Tall vertical structures (>150 ft.)	2188 (667)
Secondary roads	220 (67)
Primary roads	1640 (500)
Industrial buildings and other compressor stations**	2188 (667)
Residential buildings (houses)	436 (133)
Private roads (ranch roads, etc.)	33 (10)

**Includes compressor stations with foot prints of <5 acres that are muffled to <75dB at 30 feet*
***Includes all other compressor stations and electrical substations*

Just as the scientific information on the response of LPCs to these anthropogenic impacts may change, the types of impacts will also change as new technology is developed. Therefore, the impact types and the definition of those impacts may change over the life of this RWP. However, until new information arises, those impact types will be defined as follows:

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 ≤5 acres and a noise limitation of 75dB or less at 30 feet from the source. 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, use the extent of the footprint of the pad after completion as a basis for the impact buffer.

Small compressor stations – Represents pipeline compressor stations with a footprint of 5 acres and a maximum noise level of 75dB or less at 30 feet from the source. If the noise restrictions are met, but the footprint is > 5 acres, apply the oil and gas pad buffer to the footprint.

Other compressor stations – Represents all pipeline compressor stations with a noise level that exceeds 75 dB at 30 feet from the source. If the footprint is ≤5 acres, apply the buffer to the centroid of the footprint. If >5 acres, buffer the footprint.

Wind turbines – For wind turbines >150 ft. tall measured to the tip of a blade perpendicular to the ground pointing toward the sky. Utilize the wind turbine location as the basis for the buffer.

Transmission lines ≥69 kV – Use the centerline of the right-of-way as the basis for the impact buffer.

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.

Tall vertical structures (>150 ft.) –Cell and radio towers or other structures. Utilize the center point of the tower as a basis for the impact buffer.

Primary roads – Public roads maintained by state or federal entities or privately-maintained public toll roads. Use the center line of the roadway as the basis for the impact buffer.

Secondary roads – Public roads maintained by counties or municipalities. Use the center line of the roadway as the basis for the impact buffer.

Industrial buildings – Includes office buildings, commercial garages, distribution centers, large compressor stations, and electrical substations. For sites with footprints ≤10 acres utilize the centroid as a basis for the impact buffer. Use the perimeter of the building as the basis for the buffer if the footprint is >10 acres.

Residential buildings – Private homes and barns. Utilize the centroid as a basis for the impact buffer.

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.

The impact buffers are used to identify new acreage and existing acreage being impacted by a development. Newly affected acreage within prior impacts does not result in new impact units. Therefore, siting new impacts where those impact buffers overlap pre-existing impact buffers results in avoidance and or minimization of new impacts and directly reduces mitigation costs under this system. Conversely, acreage within pre-existing or new impact buffers cannot generate habitat offset units.

For example, on the property shown in Figure 12, pre-existing impact buffers are represented in white cross-hatch. A new well is sited such that its impact buffer overlaps pre-existing wells, thereby reducing both the acreage of new impacts and the mitigation costs by approximately 44%. This property can only produce habitat offset units from acreage that is outside of impact buffers**.**

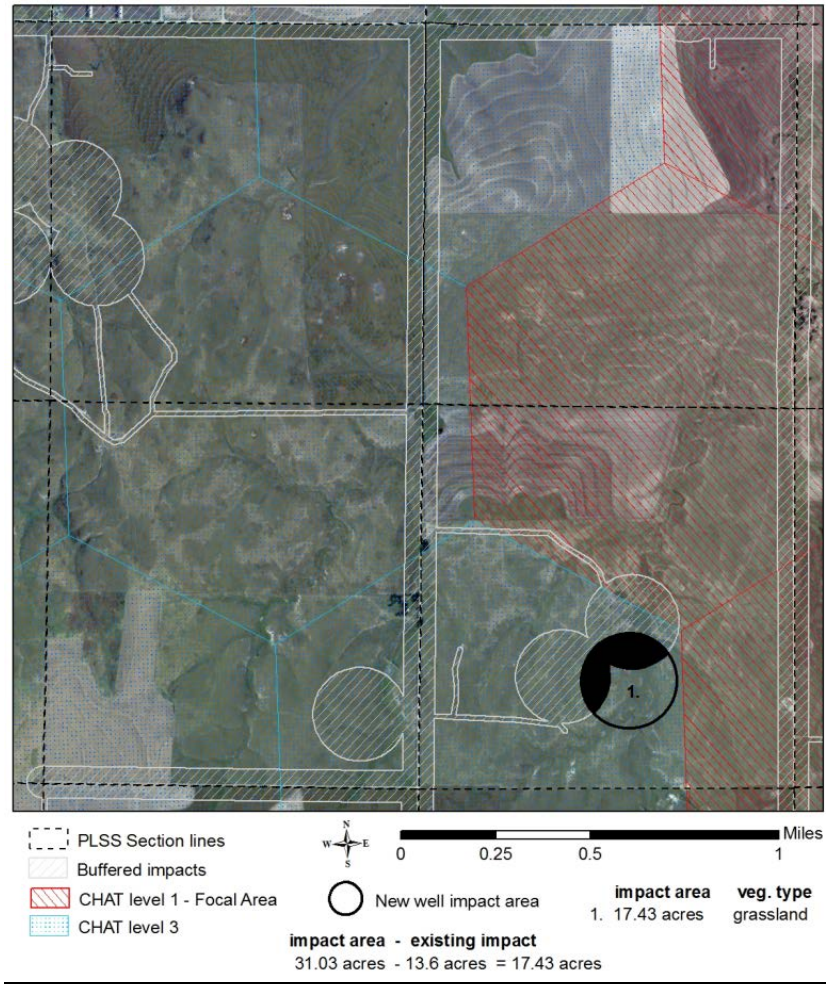

Figure 12. An example showing how impact buffers will be applied and used to quantify newly impacted acreage.

Defining Habitat Quality: The WAFWA HEG utilizes four consistent categorical variables to assess habitat quality. These variables were specifically chosen because they can accurately describe LPC habitat quality and are not greatly affected by annual variation in weather patterns. A HEG must be completed for all affected areas with homogenous vegetation under similar management and requires on-site vegetation sampling within each defined unit. The variables chosen for the HEG and their respective scoring are as follows:

1. Vegetative cover—Non-overlapping canopy cover of herbaceous plants and shrubs
    a. >45% Score 1.0
    b. 31-45% Score 0.85
    c. 15-30% Score 0.60
    d. <15% Score 0.25
    e. Tilled Score 0.05
2. 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
    a. >75% Score 1.0
    b. 51-75% Score 0.85
    c. 25-50% Score 0.60
    d. <25% Score 0.25
    e. Tilled Score 0.05
3. Percent cover of tall woody plants > 3 ft. in height in upland sites
    a. 0% Score 1.0
    b. <1% Score 0.85
    c. 1-5% Score 0.60
    d. >5% Score 0.25
    e. Tilled Score 0.05
4. 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
    a. >90% Score 1.0
    b. 80-89% Score 0.9
    c. 70-79% Score 0.8
    d. 60-69% Score 0.7
    e. 50-59% Score 0.6
    f. 40-49% Score 0.5
    g. 30-39% Score 0.4
    h. 20-29% Score 0.3
    i. 10-19% Score 0.2
    j. 1-9% Score 0.1
    k. <1% Score 0.0

Habitat quality is then calculated from these four variables as the minimum score for questions 1-3 multiplied by the score of question 4.

HEG questions 1-3 each represent limiting factors for LPC habitat. In the case of low vegetative cover, but with appropriate composition and no trees, the site would provide poor nesting and brooding cover. If management practices that produced those conditions are not changed, the site will ultimately shift into undesired grass and shrub species or would be invaded by tall woody shrubs or trees. Whereas a site with inappropriate vegetative composition, but high vegetative cover and no trees, has little potential to provide adequate nesting and brooding habitat and may take years of direct management for restoration to occur. LPCs will avoid sites with significant tree cover, even if that site has sufficient vegetative cover and appropriate vegetative condition. These sites require habitat restoration in the form of brush control and changes in habitat management practices to prevent the return of tall trees and shrubs.

HEG question 4 values each tract based on the condition of the surrounding landscape at a standardized scale. LPCs are an area-sensitive species and require landscapes dominated by grassland. Thus, a small parcel of land with suitable vegetative characteristics may not provide habitat if it is surrounded by agriculture. However, that same parcel may provide very good habitat if it is in close proximity to other grasslands. The 1-mile radius was chose as the scale for HEG question 4 because it encompasses roughly 2,000 acres which approximates the average annual home range size of a LPC.

The final HEG score is a proportion from 0-1 and when multiplied by the affected acreage, the result is the equivalent acreage of high-quality habitat as defined by the 4 chosen variables.

Impact and Offset Duration: The temporal component of the metrics system uses the duration of the impact or the offset agreement in years. Different types of impacts in LPC habitat may vary widely in duration. Oil and gas wells and other anthropogenic structures defined under the RWP may exist on the landscape for one year to several decades, while impacts such as roads may be considered permanent in many cases. Therefore impact duration is an important variable to be accounted for within the WAFWA mitigation metrics. However, mitigation for temporary impacts based on an estimated duration could leave the participant at risk for litigation for take of a potentially listed species if the duration ends up being longer. To address this, the WAFWA mitigation framework considers all impacts as permanent, and those impacts must be assessed at a temporal scale that provides for permanent conservation. Service providers must be able to fund a non-wasting endowment to pay for offsets of impact units in perpetuity.

Remediation of inactive impacts is important for landscape level management of LPCs. Inactive developments remaining on the landscape continue to affect LPC habitat use, so it is important that the WAFWA Mitigation Framework provide incentives for timely remediation of those impacts. If remediation of those impacts is done according to the conservation measures outlined by WAFWA (Appendix F, Exhibit C) the resulting units may be credited towards new impacts within the same service area created by that participant. To receive these credits, both the remediated impact and the new impact must be enrolled under a WAFWA conservation agreement

MITIGATION RATIOS:

The WAFWA Mitigation framework utilizes a mitigation ratio based on impact and offset multipliers for each CHAT category (Figure 13). The impact and offset multipliers for each category were selected to produce a 2:1 mitigation ratio within each CHAT category (Table 8). The offset multipliers correspond to the percentage of the conservation practice costs that WAFWA intends to offer landowners in each CHAT category under its delivery system (i.e. 1.25 corresponds to 125% of the conservation practice costs, Appendix I). The multipliers also increase disproportionately with an increase in LPC priority (as identified by CHAT) which provides a progressive disincentive for developing in a higher priority location.

Table 8. Impact and offset multipliers by CHAT category for the RWP.

CHAT Category	Impact Multiplier	Offset Multiplier	Mitigation Ratio
CHAT 1	2.5	1.25	2:1
CHAT 2	2.1	1.05	2:1
CHAT 3	1.8	0.9	2:1
CHAT 4	1.6	0.8	2:1
Avg.	2	1	2:1

GENERATION AND ALLOCATION OF IMPACT AND OFFSET UNITS

Offset units will be generated by enrolling a property into an agreement with WAFWA or one of its technical service providers. Participants may enroll in short-term (5-10 year) agreements or in long-term agreements requiring an easement. In addition, an area enrolled to generate offsets for mitigation must be at least 160 acres in one block under a WAFWA agreement to assure that an area is of sufficient size to provide a meaningful contribution of LPC habitat. Multiple landowners may cooperate to produce a management area meeting the size requirement. A WAFWA approved LPC management plan will be developed for the property utilizing the practice specifications outlined in Appendix G. The property must be managed in compliance with the management plan to generate offset units. Each year a property is in an agreement, it will generate offset units based on the LPC habitat quality and the acreage of unimpacted LPC habitat. This system is performance-based which means higher quality habitat generates more offset units per acre. This will result in higher payments for landowners who manage their property well. The maximum rate that offset units may be generated is one unit per year for an unimpacted acre where the HEG score is equal to one.

Impact units generated use the same metrics as offsets, and are a function of the acreage impacted, the quality of the habitat, and the mitigation multiplier. Under the WAFWA Mitigation Framework, all impacts are considered permanent, but are generated and mitigated annually. Once a mitigation transaction is completed between a participant and WAFWA or a WAFWA-approved service provider, then WAFWA or the service provider is responsible for providing and documenting offset units for those impacts on an annual basis, in perpetuity. WAFWA-approved service providers must report to WAFWA annually on the number of impact and offset units generated.

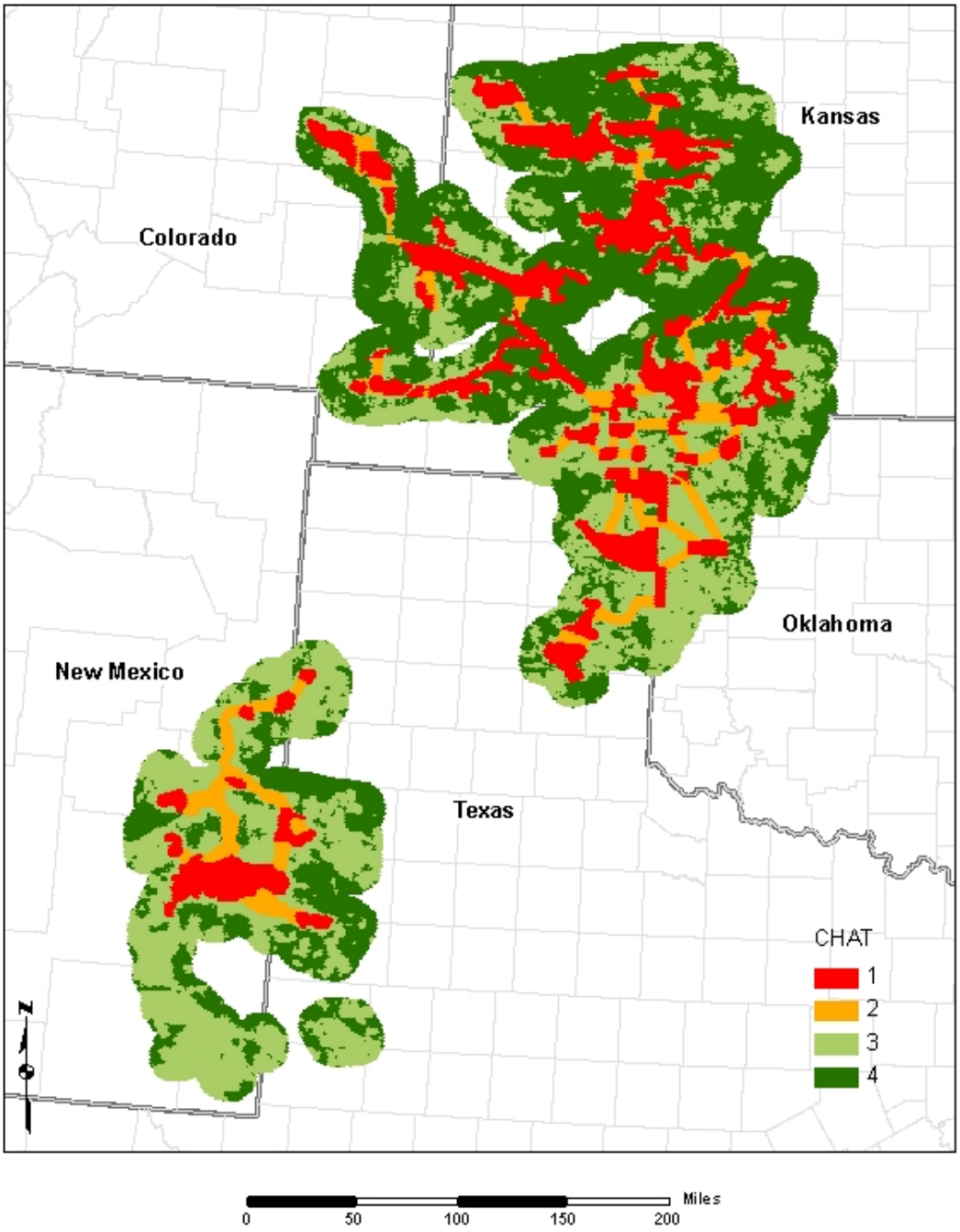

Figure 13. Visual representation of the CHAT categories used in the mitigation ratio multiplier.

MINIMIZING IMPACT UNITS

The WAFWA Mitigation Framework is designed to incentivize the minimization of impacts to LPC and their habitat, and there are several strategies that participants can follow to accomplish this and reduce potential mitigation costs. For example, reducing activities during crucial life cycle periods such as breeding, nesting, and brooding will minimize impacts to LPCs and contribute to increasing LPC numbers. Modifying development footprints and location will minimize impacts to the habitat LPC are dependent upon. These pathways are not independent, and developments that are able to apply multiple minimization pathways will generate the fewest impact units and the lowest mitigation costs.

Siting development by CHAT category:

Utilizing the CHAT should be the first tier of decision-making for site selection and minimization of impacts for new developments. The impact multipliers in Table 8 are defined based on CHAT categories. Therefore if habitat quality and impact acreage are equal, developing in CHAT categories 3 and 4 will result in fewer impact units and lower mitigation cost than developing in CHAT categories 1 and 2.

Siting development by prior impacts:

Potential development sites may also be weighted based on the acreage of prior impacts that are present. Any development contained within previously impacted habitat generates no impact units and results in no mitigation costs beyond enrollment costs. This effectively reduces the acres of new impact. New impact acres that extend outside of prior impact buffers generate habitat impact units and resulting mitigation costs.

Siting development by habitat quality:

Potential development sites may also be weighted by habitat quality, and this may be assessed on a cursory basis using aerial imagery and land cover, but a site visit and assessment will be required to confirm site quality. Sites with more native prairie will have higher quality and will result in more habitat impact units. Conversely, sites with less native prairie and more cropland will have lower quality and result in fewer impact units. A good source from cropland information is the USDA Cropland Data Layer, which is publically available through the USDA Geospatial Data Gateway (http://datagateway.nrcs.usda.gov/).

In rangeland or CRP sites, tree cover is often visible from aerial imagery and sites with more tree cover will result in fewer impact units than sites with less or no tree cover. Species composition is also an important variable in habitat quality, but it is often difficult to determine without a site visit. One potential indicator of site quality on rangeland species composition is the USDA ecological site descriptions (ESDs), and this data is publically available through the USDA Geospatial Data Gateway. ESDs use soil data, precipitation and topography information to estimate the climax plant community for each ESD. Appendix C provides a ranking of those ESDs for LPC habitat quality. It is important to note that the management history of a site can alter species composition.

THREAT AVOIDANCE, MINIMIZATION, AND MITIGATION PROGRAMS

A component of the LPC conservation strategy is to identify management actions to address the threats to the species identified by the USFWS (2012a). In particular, the threat of impacts from new developments has been identified as a significant concern. While conversion of native rangelands has been a significant impact in the past, conversions within LPC range have slowed significantly, starting in the mid 1990's, as a result of the landowner habitat incentive programs designed to offer economic alternatives to stem or reverse this conversion and water use restrictions.

Focal areas identify locations where habitat improvements are desired and impacts from development are to be avoided to benefit the conservation of LPC. Connectivity zones are areas identified to facilitate individual movements among focal areas which will assist with maintaining genetic diversity for the species. The identification of focal areas and connectivity zones within the CHAT will inform developers of the areas of highest priority for LPC habitat conservation, and encourage development into areas where impacts to LPC will be minimal or completely avoided. In this way, developments are encouraged to be placed in areas with lower CHAT ratings while off-site mitigation actions are encouraged to occur in more highly weighted CHAT categories. The CHAT will also function by steering conservation programs to concentrate benefits in the most important areas.

Several programs discussed in the current LPC program section already exist to help reduce impacts to LPC from development. These include the BLM LPC Special Status Species Resource Management Plan that includes best management practices for oil and gas development, an existing CCAA in New Mexico that addressed oil and gas development, a draft best management practice agreement between ODWC and OIPA, wind development guidelines developed by the USFWS (USFWS 2012c), wind development guidelines for Colorado and New Mexico developed by the Colorado Renewables and Conservation Collaborative and the New Mexico Wind and Wildlife Collaborative with assistance from PLJV, and on-going efforts for a WEHCP. In addition, a new range-wide oil and gas CCAA is under development by a number of oil and gas companies and associations with WAFWA and USFWS complimenting the RWP.

This RWP provides several avenues to maintain, enhance, or restore LPC habitat and populations to meet its objectives. Understanding and tracking progress towards those objectives is paramount. There are two types of monitoring relative to outputs and outcomes. Reporting outputs is relatively straightforward, quantifying the number or areas treated with specific practices across the various programs. WAFWA will compile these data on an annual basis, and summarize actions and accomplishments by ecoregion, state, and range-wide, as appropriate. In total, the existing and proposed programs address the threats identified by the USFWS in their threat analysis associated with the proposed listing (USFWS 2012a). Table 9 summarizes the existing and proposed programs and what threats they address.

Table 9. Threats that are addressed by the LPC programs described in this RWP.

REGION/CONSERVATION EFFORTS	THREATS ADDRESSED																
	Oil & Gas Development	Wind	Transmission Lines	Cell Towers	Roads	Ag Conversion	Loss of CRP	Grazing	Woody Invasives	Shrub Control	Altered Fire Regimes	Collision	Climate Change	Extreme Weather	Predation	Disease	Estimated Acres in LEPC Range
RANGE-WIDE																	
Conservation Reserve Program (See pages 24-27)						X	X	X	X		X		X	X	X	X	5,500,000
LEPCI, WHIP, EQIP, GRP (See pages 22-23)						X	X	X	X	X	X	X	X	X	X	X	942,000
USFWS Partners for Fish and Wildlife (See pages 27-27)						X	X	X	X	X	X	X	X	X	X	X	Not reported
WAFWA Mitigation Framework	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	In development
MIXED GRASS ECOREGION																	
Oklahoma LEPC WMAs		X						X	X	X	X	X	X	X	X	X	30,141
ODWC Voluntary Offset Program and OIPA BMPs	X	X	X									X					Not applicable
TPWD voluntary BMPs and Mitigation Guidelines		X	X	X	X												Not applicable
US Forest Service lands								X	X	X	X	X	X	X	X	X	582,175
TPWD Landowner Incentive Program						X	X	X	X	X		X	X	X	X	X	15,000
TX and OK Ranching CCAAs (See pages 28-29)						X	X	X	X	X	X	X	X	X	X	X	600,000+
ODWC LEPC HCP, SWHIP,& Quail Enhancement Program						X	X	X	X	X	X	X	X	X	X	X	Not reported
SHINNERY OAK ECOREGION																	
TPWD Landowner Incentive Program						X	X	X	X	X		X	X	X	X	X	15,000
NM oil-gas-ranching CCA/CCAA and BLM management (See pages 30-31)	X	X			X	X	X	X	X	X	X	X	X	X	X	X	1,964,776
NM PCAs & TNC Milnesand Preserve								X	X			X	X	X	X	X	55,182
TNC/TPWD Yoakum Dunes Preserve								X					X	X	X	X	10,884
TPWD voluntary BMPs and Mitigation Guidelines		X	X	X	X												Not applicable
TX and OK Ranching CCAAs (See pages 28-29)						X	X	X	X	X	X	X	X	X	X	X	600,000+
SAND SAGE ECOREGION																	
CGCC and CRCC BMPs	X	X															Not applicable
US Forest Service lands								X	X	X	X	X	X	X	X	X	582,175
CO LPC Habitat Improvement Program						X	X	X			X		X	X	X	X	25,427

MITIGATION AND HABITAT GOALS FOR FOCAL AREAS AND CONNECTIVITY ZONES

The habitat goals for focal areas and connectivity zones defined in the Focal Area Strategy section 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, 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 unitthat 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. Remediation must be done in accordance with the WAFWA conservation measures.

MITIGATING FOR EXTENSIVE PROJECTS IN FOCAL AREAS AND CONNECTIVITY ZONES

Extensive projects, in particular, can have a significant impact on our ability to meet the habitat conservation goals within focal areas and connectivity zones. We define an extensive project as one that impacts 10% or more of the acres that were previously unimpacted by development within a given reporting unit, and where some or all of the resulting impacts will surpass the reporting unit goals of 30% or 60% development impacts for focal areas and connectivity zones, respectively.

In the case of these extensive projects, WAFWA must consider the following criteria:

1. If all the required remediation for the proposed project can be applied within the affected reporting unit, can the habitat goals still be met?
2. If the required remediation for the proposed project cannot be applied within the affected reporting unit, can the siting of the project be adjusted to utilize more previously impacted acres and meet the habitat goals within the reporting unit?
3. If the required remediation is applied outside of the reporting unit, can the boundaries of that reporting unit be re-drawn through the RWP adaptive management process such that the overall habitat goal for the affected focal area or connectivity zone can still be met?

As project sizes increase, the amount of required remediation also increases and the onus for the remediation of impacts remains with the project proponent. Developers pursuing projects requiring remediation will have to assess their holdings within focal areas and connectivity zones and determine if any of those existing infrastructures are available for removal. Remediation of that infrastructure would be required before moving forward with the new development. If the developer does not hold sufficient infrastructure to be remediated in the focal areas or connectivity zones, they will have to acquire it from another entity and remove and remediate it before beginning the new development. Project proponents should seek appropriate state wildlife agency to discuss project options.

PROCESS FOR AVOIDANCE, MINIMIZATION, AND MITIGATION OF THREATS

The following process includes the stepwise progression of project evaluation for avoidance, minimization, and mitigation of threats. The standard for avoidance is that no impacts are expected to occur wherever feasible alternatives are available to avoid the impacts. The standard for minimization is that impacts will be minimized through design, siting and other available methods, but some impact is expected to remain. Mitigation will be utilized to offset any remaining impacts.

To remove the threats to LPC, the primary conservation action is avoidance. The initial phase of avoidance is pre-project planning, to site the development or activity in an area to avoid impacts to LPCs and minimize any impacts the action may have on LPCs.

PRE-PROJECT PLANNING

Utilize the CHAT (http://kars.ku.edu/geodata/maps/sgpchat/) for initial LPC-related project siting review along with impact area maps, ecological site maps, land cover maps, and aggregated CRP maps provided in the CHAT. It is also recommended developers examine the WGA west-wide CHAT and contact state fish and wildlife agencies for information related to other state or federal threatened, endangered, or candidate species and species of greatest conservation need that may occur in potential development sites.

Once potential project sites are identified, developers shall consult with cooperating state fish and wildlife agency and WAFWA staff to assess the potential impacts to LPC habitat associated with each site. These agencies have 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 LPCs and their habitat and to reduce potential mitigation costs.

If surveys of proposed project sites have not been conducted within the previous 5 years, and the project sites are within a focal areas, connectivity zones, or within areas identified as high probability lek habitat based on the CHAT (categories 1-3), the developer has the option of conducting surveys themselves according to WAFWA protocols, allowing state or WAFWA affiliated personnel to conduct surveys of the site prior to project initiation, or considering the sites as occupied with active leks. A knowledge of lek presence is required for implementing avoidance measures.

Once a project site is selected through consultation with state wildlife agency staff, the developer will contact WAFWA staff to enroll that site in the mitigation framework. As currently designed, enrollment in the WAFWA mitigation framework will provide regulatory certainty should LPC be determined to be warranted for listing.

Enrollment is recommended for sites that are within a ten mile buffer around the estimated occupied range (EOR+10) as represented in the CHAT, or where the impact buffer of a new project extends into the EOR+10, as these projects have potential to impact LPC habitat. Not enrolling these lands could result in areas considered by USFWS to be LPC habitat warranting

protection, should a warranted decision be determined. Therefore anyone considering enrollment in this program will have to weigh the risk of potential take for their actions and could be held responsible for those actions not enrolled in the WAFWA Mitigation Framework. For those sites identified in the pre-project planning that are within the EOR+10, one should consider which avoidance, minimization and mitigation requirements would be required under this RWP to remove or reduce project related threats to LPCs. The following are Conservation Measures that are anticipated for issuance of a WCP.

CONSERVATION MEASURES

Enrollment or participation under this RWP is voluntary. Once enrolled, in order to provide the appropriate level of threat protection and gain the coverage of the RWP, participants must fully implement the RWP's conservation strategy, including all aspects of any WCP. Specific requirements for enrollment of landowners, oil and gas interests, wind energy interests, and transmission and distribution interests are spelled out below and in the WCA (Appendix F).

HABITAT LOSS AND FRAGMENTATION

Habitat loss and fragmentation are primary threats to the LPC. Any action that could further negatively impact LPC habitat or connectivity between blocks of LPC habitat shall apply the following measures to receive coverage under the plan. Normal cropping activities occurring on existing tilled acreage do not create any further negative impacts and do not require avoidance, minimization, or mitigation. The primary activities associated with habitat loss and fragmentation are conversion or development of native rangeland and the addition of vertical structures or roads. Examples of these actions include, but are not limited to, oil and gas wells and associated infrastructure, wind development and associated infrastructure, electric transmission or distribution lines, various types of towers, i.e. cell towers, towers, buildings, etc.

Avoidance

- 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 project sites dominated by tracts of native grass and shrublands (see CHAT and state fish and wildlife agency staff for more information).

- 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 LPC habitat potential over sites with greater habitat potential. The NRCS Ecological Site Descriptions, where available, are a good indicator to use (see Appendix C).

Minimization

- Where avoidance is not possible, use common rights of way for multiple types of infrastructure in locating new roads, fences, power lines, well pads, flowlines, compressors, and other associated infrastructure.
- Site projects to minimize new habitat disturbance by increasing the amount of overlap between existing fragmentation and associated impact buffers.
- For oil and gas development, reduce impacts through the use of directional drilling and clustering where feasible or in locating facilities to reduce habitat loss and fragmentation of habitat.
- Minimize use of herbicide treatments and limit this use to the footprint or right of way for the project. 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.
- For crop production, use practices identified under the NRCS LPCI and the NRCS and FSA conferencing opinions.

Mitigation
Habitat loss will be mitigated following the procedure explained in Appendix I when complete avoidance is not possible.

COLLISION AND OTHER DIRECT AND INDIRECT SOURCES OF MORTALITY

LPC 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 LPCs. It is also possible for LPC to get caught and drown in human-made water sources (e.g. tanks).

Avoidance

- Locate roads, fences, power lines, well pads, turbines, vertical structures, flowlines, compressor stations, and other 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.
- Bury new distribution lines within 1.25 mi of leks active within the previous 5 years.

Minimization
- Use common rights of way for multiple types of infrastructure.
- To minimize transmission line footprint, utilize mono-pole construction for new electrical transmission lines within CHAT categories 1-3.
- For oil and gas development, 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.

- 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.
- During the breeding season (March 1-July 15), minimize traffic volume, control vehicle speed, control access where feasible, and avoid off-road travel in rangeland and planted grass cover within focal areas and areas identified as by the CHAT 1-3.
- If new distribution lines are constructed within 1.25 mi of leks active within the previous 5 years, and those lines cannot be buried (justification must be provided as to the reason), participants must site them to minimize potential collision risk, and if appropriate, mark the lines.
- Within 1.25 mi of leks, it is recommended but not required 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. This recommendation is contingent upon further studies being completed demonstrating the benefits to LPC.
- Provide escape ramps, rafts or ladders, depending on configuration, in exposed, human-made water containment sources under the control of the enrolled participant.

Mitigation

- Mitigate for new structures following the procedures outlined in the WAFWA mitigation and metrics section of the RWP.

DISTURBANCE OF BREEDING, NESTING, AND BROODING ACTIVITY

Disruption of courtship displays and nesting hens in the form of construction and maintenance activities or equipment and infrastructure that emit loud noises may have direct impact on LPC reproductive output. Avoidance and minimization are required for disturbance of breeding, nesting, and brooding activity. Failure to meet these avoidance and minimization measures will result in a notification of non-compliance.

Avoidance

- Avoid non-emergency operations, construction and maintenance activities, where humans are present, during lekking, nesting, and brooding season (Mar 1–Jul 15) within 1.25 mi of leks recorded active within the previous five years.
- Avoid conducting seismic activities and similar activities that require off road travel in rangeland or planted grass cover during the lekking nesting and brooding season (Mar 1–Jul 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 activities.
- Emergency operations that are meant to address direct human or environmental safety concerns or that relate directly to operational continuity are allowed. Such emergency operations may include, but are not limited to, spill response and cleanup, response to well control incidents (i.e., incidents related to down hole pressures during drilling, completion, recompletion, or production operations), equipment repairs, flowline/pipeline/power line repairs, unloading of one or more tanks to prevent the

tank(s) from overflowing, patrol to locate known breaks in electrical service, security-related activities (e.g., activities to prevent theft and vandalism), and well problems requiring a workover to make a well productive again), and unplanned construction and maintenance activities. Participants must also record the dates, duration and purpose of any emergency operations, construction and maintenance activities within 1.25 miles of leks recorded as active within the previous 5 years and must provide that documentation with their annual reporting.

Minimization

- 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 3:00am and 9:00 am in areas within 1.25 mi of leks that have been recorded as active within the previous five years.
- Institute noise abatement year-round for new facilities 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 the permit holder'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, this conservation measure may be amended for both new and existing participants. In the event of changes in noise limits for existing participants, WAFWA and the participants will agree upon a timeline for effecting those changes.
- Seismic activities that minimize off road travel will be considered on a case by case basis for application within the lekking, nesting, and brooding season (March 1-July 15) within 1.25 miles of leks recorded active within the previous five 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.

RESPONSIBLE PARTIES FOR RWP ADMINISTRATION

The WAFWA was founded in 1922. It currently consists of 23 member states and provinces that have primary responsibility and authority for protecting and managing fish and wildlife in the western United States and Canada. The 19 member states encompass over 2.5 million square miles. The Fiscal Year 2012 budgets for the member states were over $1.7 billion. The chief executive officer of each fish and wildlife agency are on the Board of Directors of both the Western Association of Fish and Wildlife Agencies and its fund-raising arm, the Foundation for Western Fish and Wildlife (FWFW).

WAFWA/FWFW promotes the principles of sound resource management, as well as strengthening partnerships and cooperation among local, state, and federal agencies, non-government conservation organizations, and private industry. The interagency coordination of fish and wildlife conservation activities are promoted by WAFWA initiatives. Each initiative has

a coordinator that organizes the fish or wildlife conservation actions among the affected states and provinces. The current WAFWA initiatives include Wild Sheep; Western Native Trout; Sage Brush Steppe, and Western Grassland. The Sylvatic Plague project is part of the Western Grassland Initiative. WAFWA has a long and successful history of coordinating range-wide conservation plans and actions. Implementation of the RWP will be consistent with past efforts.

Of all the various non-governmental organizations, WAFWA and FWFW are unique, as they bring the state and provincial governmental agencies and their CEOs that have management responsibility and control for their respective fish and wildlife species together in a manner where they can apply their collective expertise and other resources in a coordinated fashion. This capability enhances the overall impacts of their actions and improves the prospects for success. Moreover, this kind of approach helps ensure that retaining state management authority over resident fish and wildlife will remain one of the underlying objectives of this work by WAFWA. This approach is also consistent with the intent of the ESA as described in Sections 6 (a) and (b). For further WAFWA LPC Conservation Delivery Business Plan details see Appendix L.

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

The LPCIC will establish an Advisory Committee and associated subcommittees and will maintain the Interstate Working Group (IWG). The Advisory Committee and IWG will be strictly advisory in nature and will provide recommendations to the LPCIC for final approval. The intent of these groups is to support the RWP, promote effective communication between the parties, resolve disputes, revise cost structures, and make adaptive management decisions. The Advisory Committee with be supported by two subcommittees: (1) Fee Structure Subcommittee and (2) Science Subcommittee

COMMITTEE COMPOSITION

Committees will be developed or maintained to guide progress toward the goals of the RWP. The committees will provide the necessary expertise and a diverse representation of the affected stakeholders.

Interstate Working Group

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

Advisory Committee

- The WAFWA LPC Program Manager will coordinate and facilitate the Advisory Committee as an ex officio member
- An additional 17 representatives will compose the committee
  - One representative from 3 of the 5 state fish and wildlife agencies, to serve on a rotating schedule
  - One representative from each of the 2 primary federal agencies closely involved with LPC conservation (USFWS and NRCS)
  - Three representatives from industry organizations (e.g. oil & gas, wind, transmission, etc.)
  - Three representatives from agricultural and landowner organizations (e.g. Cattlemen's Association, Corn Grower's Farm Bureau etc.)
  - Three representatives from conservation organizations (e.g. The Nature Conservancy, North American Grouse Partnership, National Audubon Society, etc.)
  - Three representatives from local government or municipalities

Fee Structure Subcommittee

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

Science Subcommittee

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

COMMITTEE APPOINTMENTS AND TERMS

All committee membership will be approved by the LPCIC.

Interstate Working Group

- Representation will be appointed by state fish and wildlife agencies.

Advisory Committee

- Representation from state and federal agencies will be appointed by their respective agencies.
- Representation from industry, agricultural/landowner, and conservation organizations and municipalities. Stakeholder groups will be considered by nominations submitted to the Board of Directors. Nominations will be reviewed by the Board of Directors and representatives selected.
- Upon initiation, one half of the appointments will initially serve one-year terms, and one half of the appointments serve two-year terms. This will result in one half of the membership of the committee being replaced or reconsidered for membership annually. After the first year, committee appointments will be for two years and may be renewed.

Fee Structure Subcommittee

- Representation from state and federal agencies will be appointed by their respective agencies for two-year, renewable terms.

Science Subcommittee

- Representation from state and federal agencies will be appointed by their respective agencies.
- Additional members will be nominated by the Interstate Working Group for two-year, renewable terms. Members will have expertise or experience working with or on elements of LPC biology or needs and/or range management.

COMMITTEE RESPONSIBILITIES

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

Interstate Working Group

The Interstate working group will:

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

Advisory Committee

The Advisory Committee will:

- Review annual reports from Ecoregional Implementation Teams and Technical Service Providers concerning enrollment, monitoring and conservation delivery related to the RWP

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

Fee Structure Subcommittee
The Fee Structure Subcommittee will:

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

Science Subcommittee
The Science Subcommittee will:

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

COMMITTEE MEETINGS

The committees will meet, at minimum, annually. Additional meetings of these committees may be scheduled as requested by members of the committees or the LCPIC. The general timeframe for the meetings will be from mid-fall through mid-winter. This allows time for the population survey and vegetation monitoring data to be summarized and available for discussion at the meetings. The order of the meetings will be as follows: 1.) Science Subcommittee, 2.) Fee Structure Subcommittee, 3.) IWG, 4.) Advisory Committee, and 5.) LPCIC.

As with developing different components of this plan, the state implementation teams will play an important role in helping achieve the goals of the RWP. While composition of the implementation teams varies among states, they are usually composed of the NRCS the state resource conservationist, the affected area resource conservationist(s), the state biologist, the state range conservationist, the affected regional range conservationist(s), and a GIS professional. Others typically included on the teams are the FSA conservation program Director, the affected USFWS PFW biologist(s), numerous representatives from the state fish & wildlife agencies, and representatives from land trusts that deliver easements in LPC range. These groups will continue to meet annually and will likely be facilitated by either the LPC Program Manager or one of the Ecoregion Coordinators. They meetings will occur following the LPCIC meeting so they will be able to identify any gaps that they could potentially fill.

PROPOSED STAFFING

There is flexibility built into this RWP as to the location of personnel associated with this effort. Field personnel will need to be located within the five-state range of the LPC (Kansas, Texas, Oklahoma, Colorado, and New Mexico), but administrative services can occur from remote locations. Field personnel can work either from their homes or from shared offices with state partners. Having dedicated WAFWA field staff housed within the state fish and wildlife agency offices would promote coordination with the states to ensure that projects support state planning efforts identified in their Comprehensive Wildlife Conservation Strategies, also called State Wildlife Action Plans (SWAPs). Essential equipment would include a lap top computer and cell phone. Initially, field staff will use rented state vehicles or their own vehicles and be reimbursed mileage. A GIS specialist will be needed to track impact and conservation units and provide information to industry representatives for planning purposes. This position can be housed similar to field personnel. Besides the existing Western Grassland Coordinator position, the following additional personnel may be considered by the LPCIC to help implement the RWP:

- The Lesser Prairie Chicken Program Manager (LPC Program Manager) will direct operations, supervise staff, be responsible for annual reports to USFWS, and report to the WAFWA Grassland Coordinator. The LPC Program Manager will be responsible for ensuring thorough communication and coordination among affected state, federal, and local agencies for the RWP. This position will staff the various committees and subcommittees as described in the RWP and will be responsible for annual monitoring and reporting related to the RWP. To the extent consistent with applicable state law, information in annual reports will include, but not be limited to, the following:

    1. Number of participants enrolled under the WCA over the past year, including copies of the completed WCP, excluding any identifying information related to participants
    2. A summary of habitat management and habitat conditions in the covered area and on all enrolled property over the past year with any identifying information related to participants removed
    3. Effectiveness of habitat management activities implemented in previous years at meeting the intended conservation benefits

4. Population surveys and studies conducted over the past year with any identifying information related to participants removed
5. Any mortality or injury of the species that was observed over the previous year
6. A discussion of the funds used for habitat conservation within the states

- Eight technical/biologist positions (two in each ecoregion) who will be responsible for working with industry and private landowners to enroll and monitor leases, working with landowners to direct conservation funding, and coordinating with local state fish and wildlife, NRCS, and USFWS Partners for Fish and Wildlife Program staff.
- Two Lesser Prairie Chicken Eco-regional Coordinators would be considered, one per two eco-regions. These positions would supervise the two biologist positions in each ecoregion and would be responsible for holding ecoregional meetings for identifying priorities for their eco-region.

FWFW administrative staff will report through the Treasurer and consist of:

- One accountant, who will prepare, analyze, and/or audit financial records and documents, accounting systems, financial statements, work papers, budgets, tax and payroll records, and other related documents.
- Two accounts payable technicians, who will analyze, research, forecast, and reconcile financial documents, ensure compliance with laws, rules, and policies, and prepare invoices for payment.
- Two contract/grant administrators, who will maintain records on incoming funds, expenditures for conservation, travel costs, and salary
- One GIS coordinator, who will ensure that the field staff is producing data in a consistent fashion and will maintain a central database of all enrolled leases and conservation efforts, and coordinate with the Software-as-a-Service supplier.

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

ADAPTIVE MANAGEMENT

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

Adaptive management is a dynamic process that helps reduce uncertainty in natural resource management by incorporating into flexible conservation plans new information as it becomes

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

Starting in 2014, some of the factors that will be evaluated regularly by the various committees include LPC population sizes, progress toward habitat goals, conservation practice costs, avoidance of high priority conservation areas, management prescriptions, etc. Among the items being evaluated, breeding population sizes will be annually assessed by drawing comparisons between the 3-year average and 50% of the population goal for each ecoregion. The 3-year average is being utilized to smooth out the erratic annual fluctuations that commonly occur within populations of gallinaceous game birds that are due solely to weather variations. Comparisons for the first 5 years will be drawn to 50% of the population goals, because achieving those levels would require an increasing population in each ecoregion. After the fifth evaluation, the science subcommittee will re-evaluate that portion of the trigger to determine if comparisons need to be drawn to a greater percentage of the population goals. All RWP cooperators will take action to identify and address the factor(s) limiting population growth if the current trigger is eclipsed in any ecoregion.

Every five years, a more rigorous review will occur to assess each WAFWA prescribed conservation practice, the appropriateness of the reporting area locations, and progress towards achieving the stated population and habitat goals of the RWP. The conservation practices prescribed during the previous five years will be evaluated by the WAFWA committees based on their ability to achieve the desired vegetation parameters. New standards will be considered for 1) practices that have not maintained habitat quality in at least three of five years where it existed at baseline and 2) practices that have not resulted in at least a measurable level of improvement in habitat quality where such improvements were the desired outcome of a management plan. The composition of each reporting unit will also be evaluated to assess progress towards achieving the stated habitat goals of 70% and 40% quality habitat for focal areas and connectivity zones, respectively. Those goals will be evaluated using the 5-year revision of the impact analysis (Table 10) and occupancy models (McDonald et al., *in preparation*). Modifications to priority area (reporting units) boundaries will be considered if the amount of impacted acreage will prevent the goals of the RWP from being achieved or landowner participation has been poor and stagnant.

Table 10. Identified activities or situations that will trigger the adaptive management process or a specific conservation action.

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
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

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
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)
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 ≥ 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

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
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)	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
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 LPC 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

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
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

RESEARCH PRIORITIES

Various components of LPC ecology remain poorly documented by empirical data. Additionally, the effects of anthropogenic development and prescribed conservation actions on LPC habitat use and productivity are generally poorly understood. The following list identifies priority research projects by the IWG:

- Improved understanding of anthropogenic impacts on LPC habitat use, productivity, and gene flow
    a. Can some impacts be minimized by sound suppression?
    b. What are the thresholds for cumulative impacts?
- What is the potential of using drones for aerial surveys?
- Improved techniques for restoring agricultural land to sand sagebrush and shinnery oak communities
- Better understanding of population level responses to currently prescribed management practices; especially grazing prescriptions, tree shearing, fence marking, etc.
- Effect on LPC habitat use and vegetative communities from various types of chemical treatments for reducing shrub cover (especially for sand sagebrush)
- Improved understanding of LPC habitat use and movements relative to juxtaposition of specific native vegetation communities and cropland
- Better understanding of LPC density and variability in high quality habitats within each ecoregion and exploration of standardization of ground surveys
- The hybridization rates of LPC with GPC and the reproductive viability of the offspring from these crosses
- Increased information evaluating population reconstruction analysis assumptions and application within the plan, including:
    a. Census to effective population size ratio
    b. Percent of males contributing to breeding
    c. Key determinants of population dynamics
- Specific effects of climate change on LPC distribution, survival, and productivity
    a. Can the effects be remediated somewhat by management practices?
    b. Are there locations outside current conservation priority areas that can be identified as having a high likelihood of becoming more climatically suitable in the future?
    c. Vulnerability assessment

OVERALL MONITORING

This RWP calls for three different types of regular and consistent monitoring that will guide adaptive management decisions. First, range-wide population monitoring will occur annually using the aerial survey methodology described in the population status section. Second, detailed vegetation monitoring and habitat assessment will occur on all sites enrolled under a WAFWA management plan. The amount of suitable habitat will be tabulated at the scale of focal areas and connectivity zones. These data will include the acreage being managed under approved management agreements, acreage in each land cover category (grassland, cropland, urban, etc.), and number of impacted acres due to development. Finally, there will be a subset of agreements selected for compliance monitoring generating either impact or offset units.

POPULATION MONITORING

All five states have committed to continuing the range-wide aerial survey of LPC discussed in detail in the population status section. This survey will provide population estimates on an annual basis as well as population trend information. Thus, it will be an excellent monitoring tool for the overall trend status of LPC populations. However, each state also conducts additional monitoring of LPC populations. The methodology utilized for these surveys varies from state to state so the data are generally not comparable across state lines. However, the state-specific data sets provide some of the longest and most consistently collected trend information at that scale. Thus, the state-specific survey methods still have a great deal of value, and for that reason, all five state wildlife agencies have committed to continuing their state-specific monitoring. The general methodology used by each state wildlife agency is provided in the following paragraphs.

The ODWC uses a mixture of both road based and aerial surveys to monitor Oklahoma's LPC population. Surveys are typically conducted from late March through early May, and span the estimated occupied range (EOR). ODWC biologists have been monitoring known historic lek locations since 1968. In 1996, six ten-mile routes were established in select counties to extend monitoring efforts and potentially identify other lek sites. Each ten-mile route has ten listening locations; one listening location per mile. At each of these locations, surveyors listen for lekking LPC for three minutes. When a lek is detected, the surveyor flushes the lekking birds and counts the total number of birds visiting the lek, including females. The road-based survey is conducted twice annually. Flush counts are only conducted once annually. This survey provides ODWC with a lek density trend and shows the average number of birds per lek. ODWC increased LPC road-based monitoring efforts in 2010 to include saturation surveys throughout the region. The surveys were conducted by the Sutton Avian Research Center in 2010 and 2011. Because of personnel limitations, Oklahoma's EOR was divided into two survey blocks; western and eastern. The western block included Beaver and Texas Counties and was surveyed in 2010. The eastern block included Dewey, Ellis, Harper, Woods and Woodward Counties and was surveyed in 2011. To continue these surveys, ODWC utilized funding contributed by the Oklahoma City Zoo. Zoo volunteers surveyed 18 routes in the western survey block in 2011 and 28 routes in the eastern block in 2012. Over 450 listening locations were surveyed each year. This survey is expected to continue until 2017.

New Mexico has been conducting annual ground based surveys in some capacity since 1996. They currently conduct surveys along 40 established roadside routes as well as on their 29 State Game Commission-owned Prairie Chicken Areas (PCAs). Survey routes for roadside surveys are located within the known occupied and potential range of LPC in eastern NM. Routes are 12.8 km (8 mi) long with 9 listening points located at 1.6 km (1 mi) intervals. All routes are located on public roads. Each route is surveyed once so that the number of routes, and thus as much LPC range as possible, can be surveyed. Each survey begins approximately one half-hour before and concludes one to two hours after local sunrise. At each stop, the observer shuts off the vehicle's engine, moves at least ten meters from the vehicle, listens, and observes for five minutes. At the conclusion of the survey, each observer backtracks and attempts to locate lek sites, count the number of LPC observed, and map the locations of leks. For PCAs, the goal is to locate all the LPC leks over the entire area of each PCA, i.e., a "saturation" survey. Listening points are located along established roads. The first listening point is located at the entrance point of a PCA and each additional listening point is 0.5 to one mi (0.8 to 1.6 km) apart, depending upon terrain and noise disturbance. Number of leks, method of detection (audibly or visually), and the direction in which the lek is detected are recorded. The observer documents all leks heard during five minute listening periods, but count birds on only those leks that can be seen from public access or are on public land. Additionally, TNC of Eastern New Mexico conducts annual ground-based surveys on their Milne sand Prairie Preserve. Also, both the BLM Roswell Field Office and Carlsbad Field Office conduct annual surveys for LPC within their respective jurisdictions.

Colorado annually monitors all known existing and historical leks. The number of known leks is so few that all of them can be counted without the need for standard survey routes. Additional effort is expended each spring by CPW personnel to monitor other areas that have been identified as potential LPC habitat through various efforts (e.g. habitat modeling).

In 1967, KDWPT initiated LPC monitoring when three survey routes were created in southwestern Kansas. Over the years, the KDWPT has added routes and now annually surveys 17 routes within the range of the LPC. The routes are generally ten miles in length and the estimated survey area is approximately 325 square miles. Observers traverse each survey route twice between March 20 and April 20, stopping at approximately one mile intervals and listening for booming prairie chickens for three minutes. After all of the listening stops have been completed, the observers backtrack along the route and flush all the lek sites that they identified up through 90 minutes after sunrise. Observers record the geographic coordinates of each lek they locate and the total number of birds flushed from each site. Observers are instructed to get two flush counts from each lek they identify. Flush counts collected from within each survey area are used to develop density indices for each route.

The KDWPT also maintains an online lek reporting system that was initiated in spring 2009. This system allows anyone to enter lek locations and associated information (e.g. bird counts). Each spring, instructions are sent out to all KDWPT personnel and numerous conservation partners asking them to submit their observations of prairie chicken leks (both species). The

observations that are reported online are pooled with data collected along the KDWPT standard survey routes so that all lek data are maintained in one database. There are columns in the database that allow it to be queried by the source of information, certainty of location, county, species, etc. Up through the spring of 2012, the database contained 917 observations of 126 unique LPC leks and 226 observations of 19 unique mixed leks. Most of these observations (>90%) are from 2009-2012 because little pre-2009 data has been digitized.

TPWD monitors LPC population trends by conducting annual lek counts on designated study areas in the mixed grass and shinnery oak ecoregions, and has been conducting these surveys since 1958 (Sullivan et al. 2000). Locations and surveys of these study areas have varied over the years as a function of both landowner access and changes in the range of the species. The current study areas are in Gray, Yoakum, Hemphill, and Wheeler Counties, and TPWD plans to continue these surveys. These study areas are surveyed to ensure complete coverage of each site to detect leks, and birds are counted on each lek on a minimum of one occasion. In addition, TPWD conducts annual road surveys for lek inventory on an opportunistic basis within the shinnery oak ecoregion.

Compliance and Vegetation Monitoring

WAFWA will conduct compliance monitoring to confirm adherence to the RWP. Landowners entering into a mitigation agreement will grant WAFWA personnel, with appropriate notification, access to properties generating offset units to confirm compliance with RWP specifications. Compliance monitoring will verify quantification of existing impact units, compile acres of land and their habitat quality enrolled in LPC mitigation agreements, practices and improvements applied to these lands, and increases in habitat quality and amounts produced by the mitigation framework.

For an evaluation site, the HEG must be used and a score sheet must be filled out the prior year or during the construction of development sites, and each year that a mitigation site is enrolled in the Mitigation Framework. Vegetation monitoring is required as part of the mitigation tracking system. The vegetation monitoring required for the NRCS LPCI program is the minimum vegetation sampling required for offset monitoring.

For impact assessment, the existing LPC habitat quality must be documented using a WAFWA-approved sampling design for the development area. Impact vegetation sampling is only required once, at the time that the development is initiated. For offset generation, vegetation monitoring must be completed following the sampling design and frequency described in the WCA. Any increases in offset units will be based on vegetation sampling data.

Non-Compliance with Avoidance and Minimization Measures

Any participant who does not comply with agreed-upon avoidance and minimization measures that are appropriate for their impacts in their signed WCA will receive a notice of non-compliance from the RWP Administrator and/or state wildlife agency. This notice will include a detailed list of measures that the participant must address and a reasonable timeline in which to address them. If,

during the duration of the agreement, the participant receives a total of three notices of non-compliance and fails to address those measures within the allotted timeframe, it will constitute grounds for the termination of the WCA and RWP coverage.

REPORTING

WAFWA will be responsible for producing three annual reports related to the RWP. The reports will be provided to all RWP cooperators annually and made publicly available. The data contained within the reports will assist plan cooperators with targeting of conservation programs and guide the WAFWA committees as they develop recommendations for adaptive management activities (Table 10). To the extent consistent with state law, the annual reports will contain but are not limited to the following information:

- Number of participants enrolled in the WCA over the past year, including copies of the completed WCP, excluding any identifying information related to participants
- 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
- Effectiveness of habitat management activities implemented in previous years at meeting the intended conservation benefits
- Population surveys and studies conducted over the past year with any identifying information related to participants removed
- Any mortality or injury of the species that was observed over the previous year
- A discussion of the funds used for habitat conservation on private/state lands in the states

More specifically, the annual WAFWA Affected Acreage Report will contain a tabulation of all the affected acreage within each reporting area and the remaining CHAT categories. The report will include a summary of all the impact acres enrolled in the RWP in addition to the managed acres enrolled in the CRP, LPCI, PFW, state programs designed to improve LPC habitat, and the WAFWA mitigation system. The report will also include a current summary of the acreages of remediated impacts, existing impacts, and habitat evaluation scores collected from WAFWA-contracted sites. Starting with the second report, trends will be presented at the reporting unit scale for all affected acreages (managed and impacted) and habitat evaluation scores from sites enrolled in a WAFWA management plan. After every fifth year, the report will also contain a revised impact analysis created with the most recent spatial data. That impact analysis will contain revised restoration acreage goals that will be used to evaluate progress of the conservation efforts over the subsequent 5-year segment. The 5-year report will also contain a tabulation of the structural vegetation data collected from WAFWA-contracted sites summarized by each conservation practice. An occupancy model similar to the one created in 2013 (McDonald et al., *in preparation*) will also be developed and presented on that same 5-year schedule using the most recent spatial data sets.

The second report annually produced by WAFWA or one of its contracted partners will summarize the results from the aerial population survey at the ecoregion and range-wide scales. The report will contain estimates of population size, number of leks, and the variance associated with each of those estimates.

The third report produced will be a summary of all financials associated with the implementation of the RWP. Some of the figures contained in this report will include the endowment balances, the annual real rate of return, the average annual real rate of return since inception of the endowments, and transaction totals for each ecoregion.

Reports will be provided by WAFWA no later than March 31 of each year to the USFWS and all participants. This information will assist with planning efforts for the upcoming year.

CONFIDENTIALITY

The cooperating parties in the RWP recognize that fee leasehold and mineral ownership information is confidential and sensitive business information held and not routinely disclosed by a Participant and may be exempt from disclosure by the USFWS under the Freedom of Information Act. 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 USFWS, employees or agents of WAFWA, and the Participant that provided the information; provided, however, unless 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 USFWS, employees or agents of WAFWA, or the Participant to view the particular information for monitoring and reporting, as described herein, but not to download, possess, or distribute it. USFWS and the State fish and wildlife agency shall take all necessary steps to maintain the confidentiality of such information under the relevant public information laws.

AVAILABILITY OF FUNDS

A full description of funding mechanisms, including habitat conservation and enrollment fees, administrative costs, incentive payments, mitigation fees, and habitat management costs and payments to landowners is included in the WAFWA delivery system (Appendix I). Also, any service providers signed up under the RWP will provide this information for producing and generating offset units.

CHANGED AND UNFORESEEN CIRCUMSTANCES

In the event of changed or unforeseen circumstances, WAFWA will not require the commitment of additional land, water, or other natural resources beyond the level otherwise agreed to or for the species in this WCA. WAFWA may request additional conservation but since it is voluntary on the part of Participants, consent of the affected parties must be in writing.

"Changed circumstances" are those alterations in circumstances that can reasonably be anticipated and planned for in the WCA. Changed circumstances might include minor wildfires that temporarily alter suitability of available breeding or winter habitat across portions of the landscape. "Unforeseen circumstances" are changes in circumstances that could not reasonably have been anticipated by WAFWA at the time of the WCA'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 WCA. Changed circumstances are defined in this agreement for enrollments of property prior to the listing decision as any potential changes resulting in a maximum 3% annual change in maximum mitigation costs or maximum offset payments related to inflation or deflation in practice costs and a maximum 4% annual change in other factors identified under the Adaptive Management section under the RWP. The total annual change in maximum mitigation costs or offset payments may not exceed 7%. All changes in mitigation costs are relative to the maximum mitigation costs within each CHAT category for each development type on Dec. 31 of the previous year. The conservation measures that the participant is responsible for implementing are defined at enrollment in in Exhibit D for impacts and in the agreed upon management plan for offsets.

If additional conservation measures not provided for in the WCA are necessary to respond to the changed circumstances listed herein, WAFWA will not require any conservation measures in addition to those provided for in the WCA and associated WCP without the consent of the Participant, provided the WCA and associated WCP are being properly implemented.

Extreme weather events and wildfire also have the potential to create changed circumstances on the landscape at the scale of individual ranches, habitat focal areas, ecoregions, and the entire range of the LPC. However, these events will be addressed under individual management plans for offset unit generation.

Technology associated with oil and gas exploration and production, wind power, electrical transmission, and other industrial and civil infrastructure technology 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 so dramatically that the new technology results in impacts to the LPC 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 the Participants will consult to determine the

changes in impacts, positive or negative, to the LPC and identify adjustments would be made through the mitigation framework in the RWP within the maximum annual changes in mitigation costs identified above.

Changed circumstances not provided for in the WCA. If additional conservation measures not provided for in the WCA and associated WCPs are necessary to respond to changed circumstances, WAFWA will not require any conservation measures in addition to those provided for in the WCA or the associated WCP without the consent of the Participant, provided the WCA and the associated WCP are being properly implemented.

Unforeseen circumstances. If additional conservation measures are necessary to respond to unforeseen circumstances, WAFWA may require additional measures the Participant, but only if such measures maintain the original terms of the WCA and associated WCP. 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 WCA and associated WCP without the consent of the Participant.
Unforeseen circumstances under the WCA are defined as anything defined in the adaptive management section of the RWP that exceeds the maximum annual rates of change for mitigation costs defined under Changed Circumstances above.

IMPACT ASSESSMENT OF IMPLEMENTING THE RWP

Under the ESA Sec. 3(18), "take" is defined as harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or 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 the LPC is found to be warranted for protection 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 LPC, direct mortality from development may occur from collisions, but habitat loss due to the species tendency to avoid developments poses a higher likelihood of take. Several sources have documented avoidance of many types of infrastructure by nesting hens (Pitman et al. 2005, Hagen et al. 2010, 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 such as common grazing management practices, prescribed burning, tree

removal, and harvest all have the potential to result in take. We do not consider normal cropping practices on tilled acreage and normal farming and management practices described in covered activities to be a significant impact to analyze take. These activities are usually short lived and do not extensively impact LPC.

This section is intended to analyze potential take of LPCs as a result of the development of energy and civil infrastructure, and habitat. However, there are several challenges related to estimating take that are unique to the LPC. 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, the LPC 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. Ultimately, these challenges make a spatially-explicit analysis of take extremely difficult. 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 LPC density. In the case of energy and civil infrastructure development, this analysis considers everything that is not within an impact buffer, including cropland, as potential habitat. Cropland is ranked as low quality habitat by the HEG.

The intent of this analysis is to estimate take on 10, 20, and 30 year timeframes. However, we fully recognize the variability in energy markets and technology, climatic conditions, land use patterns and practices, and ultimately in LPC populations. We recommend reviewing take levels at five- and ten-year intervals under the RWP adaptive management framework.

GENERAL METHODOLOGY

Analyzing the potential impacts of development on LPCs 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 discussed in this RWP
3. An estimate of population density to define the effects of those direct impacts on LPCs

The plan area for the RWP is defined by the estimated occupied range of the LPC plus a 10 mile buffer (EOR+10) which encompasses 62,733 mi^2 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 LPC range.

Existing infrastructure or developments were identified based on publically-available GIS data for Colorado, Kansas, New Mexico, Oklahoma and Texas. The sources and dates for these data

sets are summarized below in the section titled Data Sources. These datasets represent the best available information on developments within the region, but in many cases, the spatial and attribute error rates of these datasets are undefined. We expect that the mitigation framework 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 Southern Great Plains 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 LPC populations across the range by Garton (2012). This reconstruction used LPC 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. 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 11). It conservatively represents all potential take resulting from development or habitat and population management actions within that suitable habitat. The MaxEnt lek habitat model estimates that approximately 30% of the areas within the EOR+10 is currently suitable habitat for LPCs. We also assume that take of LPCs is a function of the average lifespan or generation time for the species. Mean lifespan is calculated based on Farner (1955) as 0.4343/log10(S) = 1.95 years (95%CIs = 0.99 to 5.6 years), where S represents the estimated annual yearling survival rate of 60%.

Table 11. This table represents the estimated density of LPCs 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.

LPC Suitable Habitat Density per 640 acres

	MIXED GRASS (1990-2012)	**SAND SAGE (1990-2012)**	**SHORTGRASS (1999-2012)**	**SHINNERY OAK (1999-2012)**	**Suitable Habitat Avg**
Population Estimate	32,117	6,118	24,271	4,967	67,473
Suitable Habitat Acreage	3,823,650.82	1,661,175.92	1,169,141.06	5,409,080.10	12,063,047.9
Suitable Habitat Density	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 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 and July 15. This distance roughly represents the area containing 85% of LPC nests (Hagen et al. in review). It is not possible to calculate potential take from these activities because their distribution on the landscape related to leks is unknown.

DATA SOURCES

The following is a description of the data sources utilized in in the impact assessment.

Vertical structures:

- The Digital Obstacle File describes all known obstacles of interest to aviation users in the U.S.
- Source - Federal Aviation Administration, Data downloaded 05/26/13 https://nfdc.faa.gov/tod/public/TOD_DOF.html
- Vertical structure points were buffered by 667 meters.

Roads:

- ESRI Data & Maps and StreetMap North America for ArcGIS 10
- StreetMap North America, streets layer (SM_NA)
- *Primary roads – State and county highways*
    - Primary roads data was extracted from the ESRI Data & Maps and StreetMap North America for ArcGIS 10 dataset, specifically the StreetMap North America, streets layer. Primary roads were identified as roads with "render class" <= 3 (state and county highways). The Primary roads were then buffered by a distance of 500 meters.
- *Secondary roads – Named roads, not state and county highways*
    - Secondary road data was extracted from the ESRI Data & Maps and StreetMap North America for ArcGIS 10 dataset, specifically the StreetMap North America, streets layer. Primary roads were identified as roads with "render class" > 3 and having a street name. The ESRI roads data for Kansas was lacking names for

most roads, so for Kansas a roads layer from the Kansas Department of Transportation (2010) was used. Kansas Non-State roads were selected, and then the buffered Primary roads layer was used to erase selected road segments that were redundant of the Primary Roads. The remaining road segments in Kansas were merged with the named roads with a "render class" >3 from CO, OK, NM, TX to create a region-wide Secondary roads layer. The Secondary roads were then buffered by a distance of 67 meters.

- *Private roads – Unnamed and/or private routes*
    - Private road data was extracted from the ESRI Data & Maps and StreetMap North America for ArcGIS 10 dataset, specifically the StreetMap North America, streets layer. Primary roads were identified as roads with "render class" > 3 and having no street name or a street name of "driveway". For Kansas, the region-wide buffered secondary roads layer was used to erase the incorrectly un-named roads from Kansas, leaving just the un-named roads that were indeed unnamed/ private roads. The Private roads were then buffered by a distance of 10 meters.

Transmission and distribution lines

- Data from Platts, received 2011, http://www.platts.com/Products/gisdata
- Electrical transmission line data was sorted by line voltage.
- Lines greater than or equal to 69kV (Transmission) buffered by 400 meters
- Lines less than 69kV (distribution) buffered by 10 meters
- This dataset significantly underestimates distribution lines across the plan area.

Oil and gas wells

- All wells were buffered by 200 meters.
- Well point data from each state.
- Data from each state were selected to represent total active wells, and new wells completed or spudded in each years.
- Data for wells that were plugged, temporarily abandoned, or classified as inactive in Kansas, New Mexico, and Texas were summarized by year to represent a minimum estimate of wells going out of production that might be plugged and remediated. These data were unavailable for Colorado and Oklahoma.

Colorado – 04-18-13

OGCC_WellSurfaceLocations_04182013_wDates (cropped to EOR10) – 2421 points Selected - "facility_s" = 'AC' OR "facility_s" = 'DG' OR "facility_s" = 'DM' OR "facility_s" = 'IJ' OR "facility_s" = 'PR' OR "facility_s" = 'SI' OR "facility_s" = 'WO' OR "facility_s" = 'SU' OR "facility_s" = 'XX' OR "facility_s" = 'UN' OR "facility_s" = 'TA' to ID active wells = 440 points

OGCC_WellSurfaceLocations_04182013_wDates_active.shp = 440 points in EOR10

Kansas – 05-12-13

Raw point file – 450,658 points

Selected "PLUG_DATE" > date '1800-01-01' (234,234 points), inverted selection

Non-plugged wells = 216,424 points, still many with no spud or completion date….

Select "SPUD_DATE" > date '1800-01-01' OR "COMPLETION" > date '1800-01-01'

KS_ActiveWells_051213.shp - **127,948 well points with either a spud/completion date and no plug date. Subset to EOR10 – 40,299 active wells.**

Oklahoma – 02-2010

Raw point file - Ok_wells_Feb 2010.shp - 178,899 points

Select "PLUG_EXIST" = 'N' - 177,775 points - OK_wells_feb2010_noPlug.shp
Subset to EOR10 – 14,262 active wells.

New Mexico – 06-27-13

downloaded from: https://wwwapps.emnrd.state.nm.us/ocd/ocdpermitting/Data/Wells.aspx

select county, and at bottom select for expanded report format to get Lat/long….

export to Excel.

Downloaded Lea, Eddy, Chavez, Roosevelt and Quay Counties with quarry status set to "Active"

No records for Curry or DeBaca

Merged points from 5 counties into NM_**EOR10cnty_ActiveWells_062713.shp 32,904 points**

Subset to EOR10 – 21,348 active wells.

Texas – 12-31-12

Data from Texas railroad commission,

TxWells2012_LPCRange.shp - 427190 points

subset of points with no plug date - 273019 points

selected wells believed to be active based on "Symnum" attribute

page 46 of "Map Manual"

reselected to focus on "active wells" - Symnum =

4	Oil Well
5	Gas Well
6	Oil/Gas Well
11	Injection/Disposal Well
21	Injection/Disposal From Oil
22	Injection/Disposal From Gas
23	Injection/Disposal From Oil/Gas
73	Brine Mining Well
104	Injection/Disposal from Storage
105	Injection/Disposal from Storage/Oil
106	Injection/Disposal from Storage/Gas
107	Injection/Disposal from Storage/Oil/Gas
124	Injection/Disposal from Brine Mining
125	Injection/Disposal from Brine Mining/Oil
126	Injection/Disposal from Brine Mining/Gas
127	Injection/Disposal from Brine Mining/Oil/Gas
144	Inj/Disposal from Storage/Brine Mining
145	Inj/Disposal from Storage/Brine Mining/Oil
146	Inj/Disposal from Storage/Brine Mining/Gas
147	Inj/Disposal from Storage/Brine Mining/Oil/Gas

"SYMNUM" =4 OR "SYMNUM" =5 OR "SYMNUM" =6 OR "SYMNUM" =11 OR "SYMNUM" =21 OR "SYMNUM" =22 OR "SYMNUM" =23 OR "SYMNUM" =73 OR "SYMNUM" =104 OR "SYMNUM" =105 OR "SYMNUM" =106 OR "SYMNUM" =107 OR "SYMNUM" =124 OR "SYMNUM" =125 OR "SYMNUM" =126 OR "SYMNUM" =127 OR "SYMNUM" =144 OR "SYMNUM" =145 OR "SYMNUM" =146 OR "SYMNUM" =147 **results in identification of 199604 "active" wells. Subset to EOR10 – 32,666 active wells.**

CURRENT LEVEL OF IMPACTS

The RWP represents the range-wide effort to affect industry siting decisions and mitigation of impacts for LPCs. Colorado has some siting regulations for oil and gas development and Kansas has some general siting guidelines for oil and gas that minimize well densities and site wells along section lines. These are described within the RWP. However, on the scale of the EOR+10 for current extent of infrastructure impacts, there is little evidence to suggest a significant pattern of avoidance of LPC habitat by industry.

We assessed the current level of impacts by infrastructure type within each ecoregion within the EOR+10. We used all available spatial data for active oil and gas wells, wind turbines and cell

towers, transmission and distribution lines and roads. Each type of development was buffered in ArcGIS 10, using the appropriate impact buffer distance defined within the RWP. We dissolved all overlapping buffers for each impact type and for all impacts together. We then summarized the total acreage of impacted habitat for each development type within each focal area (CHAT 1) and connectivity zone (CHAT 2) reporting unit (Appendices D and E). We also summarize the total number of acres impacted by each development type and unique acreage summarized across all types within each ecoregion and across all ecoregions (Table 12).

Table 12. Summary of the total number of acres impacted by various types of development within each LPC 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.

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

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 by the mitigation framework within the RWP. Siting new impacts within preexisting impacts or clustering developments results in less new impacts to LPC habitat and will result in lower mitigation fees. We expect collocation 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 we examined 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), preexisting and adjoining new impacts reduced the overall impact acreage by about 42%. Much of this overlap is related to in-field development in high-density crude oil fields and well spacing guidelines that site wells along section lines where roads and power lines are commonly located.

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 13). However, this reflects the fact that the best remaining habitat for LPCs is the least impacted by infrastructure. It also reflects the fact that the delineation of focal areas and connectivity zones was done by considering existing infrastructure to minimize selection of existing infrastructure.

Table 13. 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.

Infrastructure Type	**CHAT 1**	**CHAT 2**	**CHAT 3&4**
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
% Impacted Acres	**15.8**	**16.4**	**26.6**

ESTIMATES OF FUTURE IMPACTS

All industries have the potential to affect take in the form of harm or harassment as a result of daily construction and maintenance activities as well as surveying or seismic operations. Seasonal use restrictions within the plan are designed to minimize the harassment related to those actions 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, but some harassment on unrecorded leks may occur. We recognize that 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 harassment on leks where survey effort is less than desired. Ultimately, assessing levels of take related to these activities is dependent on the frequency and scale of those activities, and we cannot estimate that take at this time. A variety of impacts have been identified that may directly affect LPC populations through habitat loss or as a result of habitat avoidance related to

development. For the analysis of habitat loss and avoidance, we will assess the impacts by individual industry or impact type.

Oil and Gas

There is extensive, spatially and temporally explicit well drilling data available through the various state permitting agencies as well as private organizations such as Information Handling Services (IHS). While these data are more than adequate for describing where and when oil and gas development has occurred, the cyclic nature of oil and gas development and advances in new technology make these data unsuitable for forecasting the location and rate of future development. We utilized the well permitting data from each state to define the number of current wells within each ecoregion 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 these have 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 LPCs. However, there are 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. We used the lowest and highest price scenarios and calculated annual growth rate under each as the sum of 2040 production estimates for each resource divided by the current estimate, divided by two, and divided the result by 30 years. The annual growth rate under the low oil and low gas price scenario is 0.0375 and the annual growth rate for the high oil and high gas price scenario is 0.0549. We then forecasted the number of wells for 10, 20 and 30 year durations in each ecoregion as: projected wells = existing wells + (existing wells X annual growth rate X years). The results are represented in Table 14.

Table 14. The projected number of new wells in each ecoregion and the LPC EOR+10 over 10, 20, and 30 year periods based on low and high price scenarios projected from the AEO 2013.

Ecoregion	Projected New Wells Drilled					
	EIA Low Price Scenario			EIA High Price Scenario		
	10 Year	20 Year	30 Year	10 Year	20 Year	30 Year
Short grass	6,087	12,175	18,262	8,905	17,811	26,717
Sand Sage	7,013	14,027	21,040	10,260	20,520	30,780
Mixed Grass	11,898	23,797	35,695	17,407	34,813	52,221
Shinnery Oak	15,881	31,761	47,642	23,232	46,464	69,698
TOTAL	**40,880**	**81,759**	**122,639**	**59,804**	**119,608**	**179,416**

To estimate the number of acres impacted by each well, we selected the new wells drilled within each ecoregion for the most recent year available. We buffered each well by 200 m and calculated the total number of acres within those buffers. We then removed any existing or overlapping new impacts from that total and divided by the total number of new wells. Each well impacted an average of 17.94 acres of habitat. We used that average level of impact and the density of LPCs in suitable habitat for each ecoregion to calculate the acres of habitat and numbers of LPCs taken by projected oil and gas development in each ecoregion, for lowest and highest cost oil and gas scenarios from the AEO2013. For multi-year estimates of birds taken, we included an average lifespan of 1.95 years in the calculation. Those results are listed in Table 15.

Table 15. Estimation of the acres impacted by new wells based on an average 17.94 acre impact, and potential number of LPCs taken by development by ecoregion, given an average lifespan of 1.95 years. These estimates represent low and high oil and gas price scenarios from AEO2013.

Ecoregion	Acres of Potential Habitat Impacted					
	EIA Low Price Scenario			EIA High Price Scenario		
	10 Year	20 Year	30 Year	10 Year	20 Year	30 Year
Shortgrass	109,208	218,415	327,623	159,763	319,527	479,300
Sand Sage	125,818	251,635	377,453	184,063	368,126	552,200
Mixed Grass	213,457	426,914	640,371	312,273	624,546	936,838
Shinnery Oak	284,896	569,792	854,689	416,784	833,568	1,250,378
TOTAL	**733,378**	**1,466,756**	**2,200,135**	**1,072,883**	**2,145,767**	**3,218,716**
Ecoregion	**Number of LPCs Potentially Taken**					
	EIA Low Price Scenario			**EIA High Price Scenario**		
	10 Year	**20 Year**	**30 Year**	**10 Year**	**20 Year**	**30 Year**
Shortgrass	1,163	2,326	3,489	1,701	3,403	5,104
Sand Sage	238	476	714	348	696	1,044
Mixed Grass	920	1,840	2,761	1,346	2,692	4,039
Shinnery Oak	135	269	404	197	394	591
TOTAL	**2,456**	**4,912**	**7,367**	**3,593**	**7,185**	**10,778**

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. We did not attempt to project where development might occur within the EOR+10 in relation to suitable habitat or otherwise. Furthermore, we did 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 RWP because it reduces the total impacts. The RWP mitigation framework also incentivizes siting new well pads within prior impacts. Horizontal drill techniques increase siting flexibility which may decrease the number of acres of habitat impacted by a well or pad. This framework incentivizes siting in unsuitable or low quality habitat by directly reducing mitigation fees over siting wells in higher quality habitat. As drilling and production technology improves, producers will continue to increase production per surface location, which results in meeting future demands for energy with fewer surface and habitat impacts.

Wind Turbines and Vertical Structures

This category pools together very different industries that have very different growth potential. The FAA data used to estimate these impacts includes vertical structures such as radio towers and cellular phone towers that are tall enough to become obstacles for aviation (Figure 14).Cell and radio towers are dispersed, single point occurrences on the landscape. Their distribution is dispersed on the landscape because it is determined largely by the distance a signal can travel from one tower to another. There is little data available to track the rate of development for cell and radio towers, so we are assuming a 30% increase in these structures across the EOR+10 or approximately 300 additional towers over a 30 year period. We will assume a fixed rate of 10 towers per year with an impact buffer of 667 m and an average impact buffer overlap of 20% which corresponds to the average across the entire EOR+10. We calculated an estimate of acres impacted and the LPCs taken given a 1.95 years lifespan. Results are summarized in Table 16.

Table 16. The projected acres and LPCs taken based on projected radio and cell tower development.

Duration	Estimated Variable	Tower Development
10 Years	# of towers	100
	Acres	27,630
	LPC Take	**793**
20 Years	# of towers	200
	Acres	55,259
	LPC Take	**3,170**
30 Years	# of towers	300
	Acres	82,889
	LPC Take	**30**

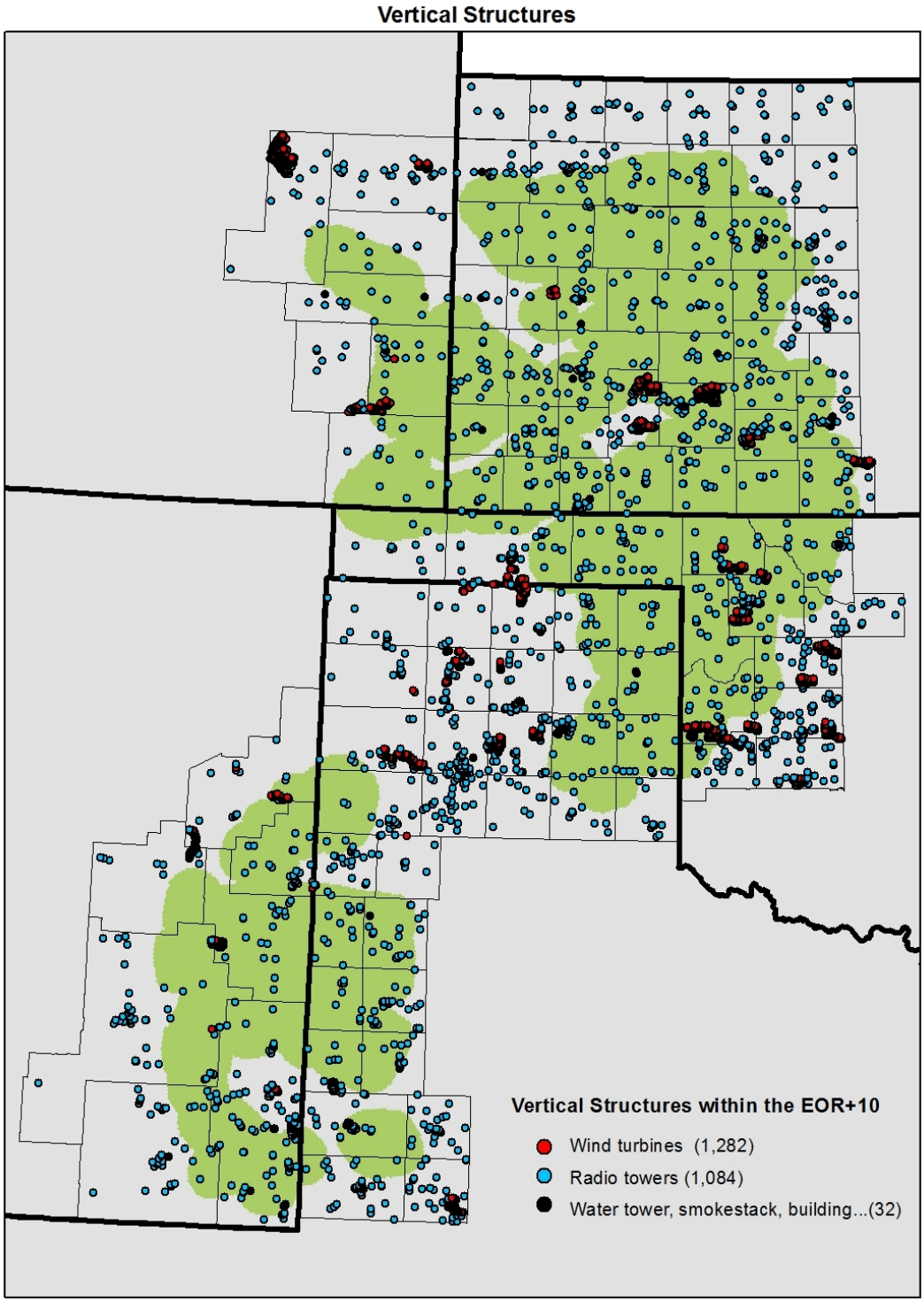

Figure 14. This map details the breakdown of vertical structure types across the EOR+10.

Wind energy is a growing industry worldwide and across the region. While wind turbines are a fairly recent addition to the Southern Plains landscape, they already out-number radio and cell towers across the EOR. They are also distributed in a more clumped pattern, which results in more impact within a given area. Wind energy is considered a source of 'green energy' that does not produce carbon dioxide or other greenhouse gasses that contribute to global climate change. The US government has sought to promote wind energy development through production tax credits, and the US Department of Energy published a report in 2008 that set a goal for 20% of the total US energy production to come from wind by the year 2030 (DOE 2008). The AEO2013 forecasts that U.S. wind energy generation will grow at an annual rate of 2.6% per year through 2040 (p.75). The Southern Great Plains is well suited for wind energy development, primarily due to high average wind speeds and relatively low real estate values.

The limiting factor for wind energy development in the region is primarily access to transmission lines that can carry wind-generated electricity to the more populace, urban markets outside the region. There are several electrical transmission projects underway across the region to support future wind development and, as a result, much of the development within this infrastructure category is expected to come from wind turbines.

Because wind is a relatively recent addition to the energy portfolio of the region, we have little existing data to analyze where that development will occur across the plan area and at what rate. Some of the factors that drive siting of new developments are in direct opposition with LPC habitat conservation. For example, 80 m wind speeds are a key factor in siting wind developments and some of the highest average wind speeds in the country overlap much of the current range of the LPC and the EOR+10 (Figure 15). Surface land values for undeveloped grassland in the region are also among the lowest in the Great Plains region (Figure 16). However, other factors, like the proximity to a transmission line are negatively correlated with LPC habitat. Utilizing the mitigation framework within the RWP for siting decisions for new wind developments will incentivize the avoidance and minimization of impacts to LPC habitat and population. In addition, the CHAT will provide valuable resources to help developers make improved siting decisions early in the development process.

The DOE set a goal for wind energy of 20% of the US energy production by 2030 (DOE 2008). The IEA estimates the total US power generation in 2030 to be roughly 1,300 GW (IEA 2010:229). Twenty percent of that is a goal of 260 GW for the entire US. The plan area accounts for a mere 1.7% of the area of the US. But given the wind speeds in the region, we can expect the plan area and the remainder of the Great Plains to carry a disproportionate amount of the wind energy to meet that goal. How much wind energy the plan area will be asked to shoulder over that period is not known. However, the Electrical Reliability Council of Texas (ERCOT) is planning for a minimum of 5.4 GW of wind energy generation from Texas by 2022 http://www.ercot.com/content/news/presentations/2013/2012%20Long%20Term%20System%20Assessment.pdf). In addition, High Voltage Direct Current projects by companies such as Clean Line and Tres Amigas are focused on exporting wind energy from the High Plains Region to external markets as far away as California and the southeastern US.

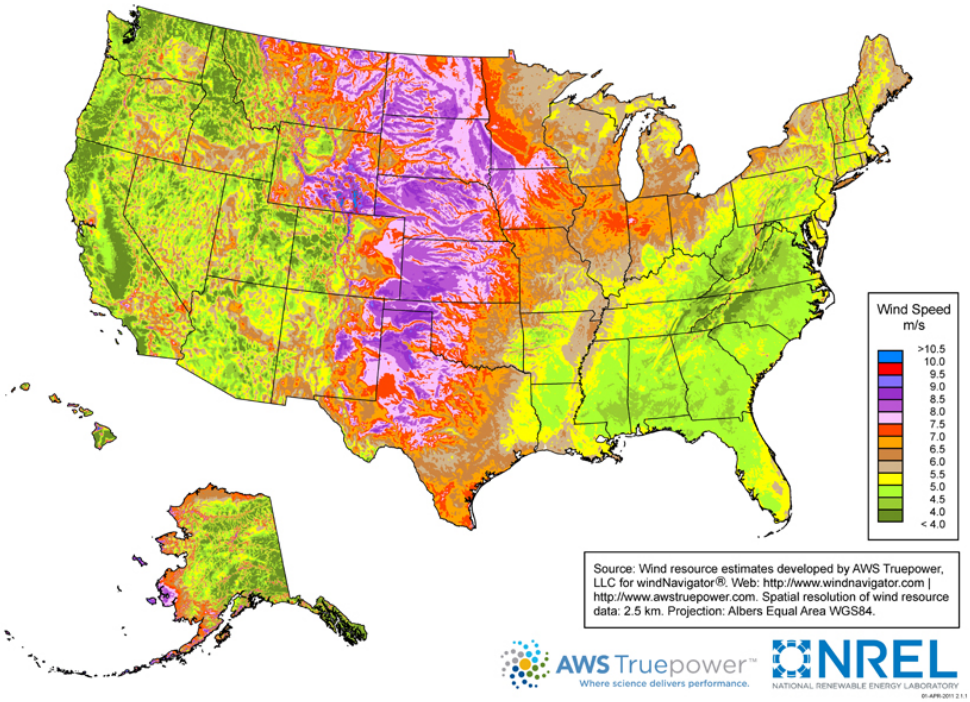

Figure 15. US 80m wind speeds.

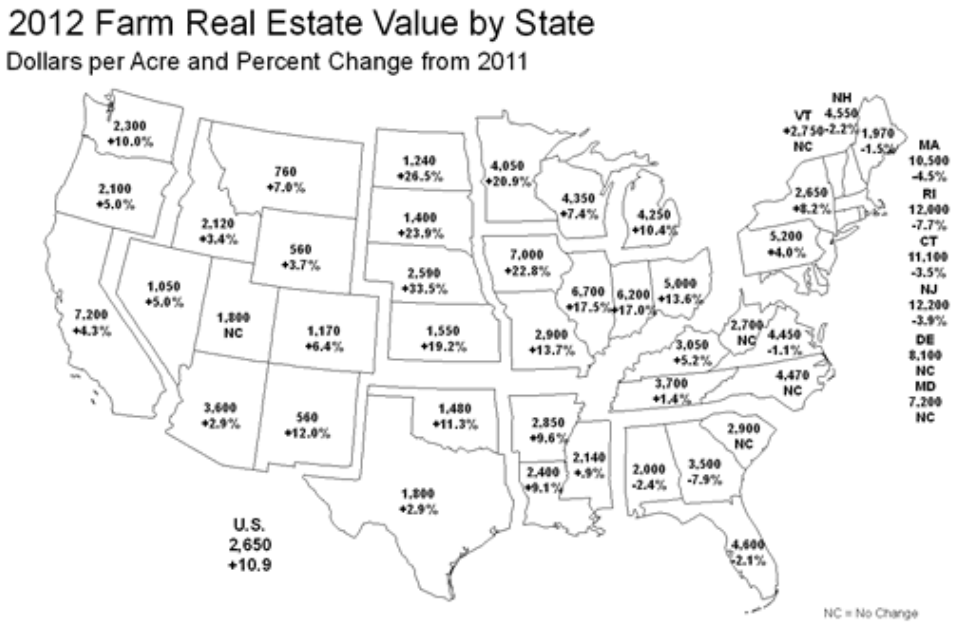

Figure 16. 2012 farm real estate values from the USDA National Agricultural Statistics Service.

To estimate the potential for take resulting from wind development we will use the following assumptions:

- We assumed the average wind project to include one hundred 3 MW turbines for a total production of 300 MW. We used an average turbine spacing of 345 m within rows and 1035 m between rows, to estimate an approximate 7,000 acre footprint for a project.

- Based on a 667 m impact buffer for wind turbines and other vertical structures (over 150 ft. tall) as defined in the RWP, a five-row development with 20 turbines per row, would result in approximately 10,670 acres of impact for that roughly 7,000 acre development.

- We do not assume that wind developments will be dismantled and remediated.

- While there is additional infrastructure such as roads and power lines that are required for wind energy development, this infrastructure will generally result in little or no additional impact acres because of the large size of the impact buffer for turbines and other tall vertical structures.

- We conservatively assumed that any development that was outside of pre-existing impact buffers may result in potential take of LPCs, although siting in unsuitable or poor quality habitat may greatly reduce that take.

- The number of wind farms developed is assumed to be three per year multiplied by the scenario duration.

- The number of impact acres is calculated as the number of wind farms multiplied by the assumed number of impact acres per farm (10,670 acres). In the case of the 3 duration scenarios, the number of impact acres is calculated as the product of the number of wind farms for a given scenario duration, the estimated number of impact acres per farm and 0.6 to represent the 40% improvement in turbine technology.

- The estimated number of LPCs taken as a result of wind energy development across the EOR+10 is calculated as the product of the number of impact acres and the LPC density estimate divided by the estimate lifespan of a LPC as calculated under the oil and gas scenarios (1.95 years).

We assumed 27,000 MW of development within the plan area over the next 30 years at an annual rate of 900 MW per year with little or no voluntary avoidance of LPC habitat. We assumed 16% buffer overlap for this scenario which represents the current average proportion of impacted acres within all focal areas. Finally, we assume that turbine technology in terms of the production of megawatts and spacing of turbines is static (Table 17).

Table 17. Estimated take of acreage and LPCs by wind development in LPC range for 10, 20, and 30 year time frames.

Duration	Estimated Variable	Wind Development
10 Years	# of Farms	30
	Acres	320,100
	LPC Take	**918**
20 Years	# of Farms	60
	Acres	640,200
	LPC Take	**1,836**
30 Years	# of Farms	90
	Acres	960,300
	LPC Take	**2,755**

Electric Transmission Lines

The National Energy Reliability Corporation (NERC) oversees the three reliability coordinators across the LPC plan area (Figure 17). The three reliability coordinators encompassing the LPC plan area are: Electrical Reliability Council of Texas (ERCOT), Southwest Power Pool (SPP), and Western Electrical Connectivity Council WECC. There are no spatial boundaries between these coordinators, and portions of the electrical grid for which each is responsible may overlap (Figure 17). The focus of these organizations is grid reliability. Siting decisions for new developments and related environmental concerns are not a part of the oversight process by NERC, nor are they generally part of the planning reports regularly produced by the individual reliability coordinators. To further complicate the issue, each reliability coordinator has its own process and delegation of decision-making for planning. Each reliability coordinator represents numerous member companies, cooperatives, and corporations from power generation, transmission, and marketing, as well as state agencies and municipalities. In short, there is no single, regional electrical transmission and distribution entity that sets or enforces guidelines related to project siting in relation to endangered species issues or other natural resource related issues.

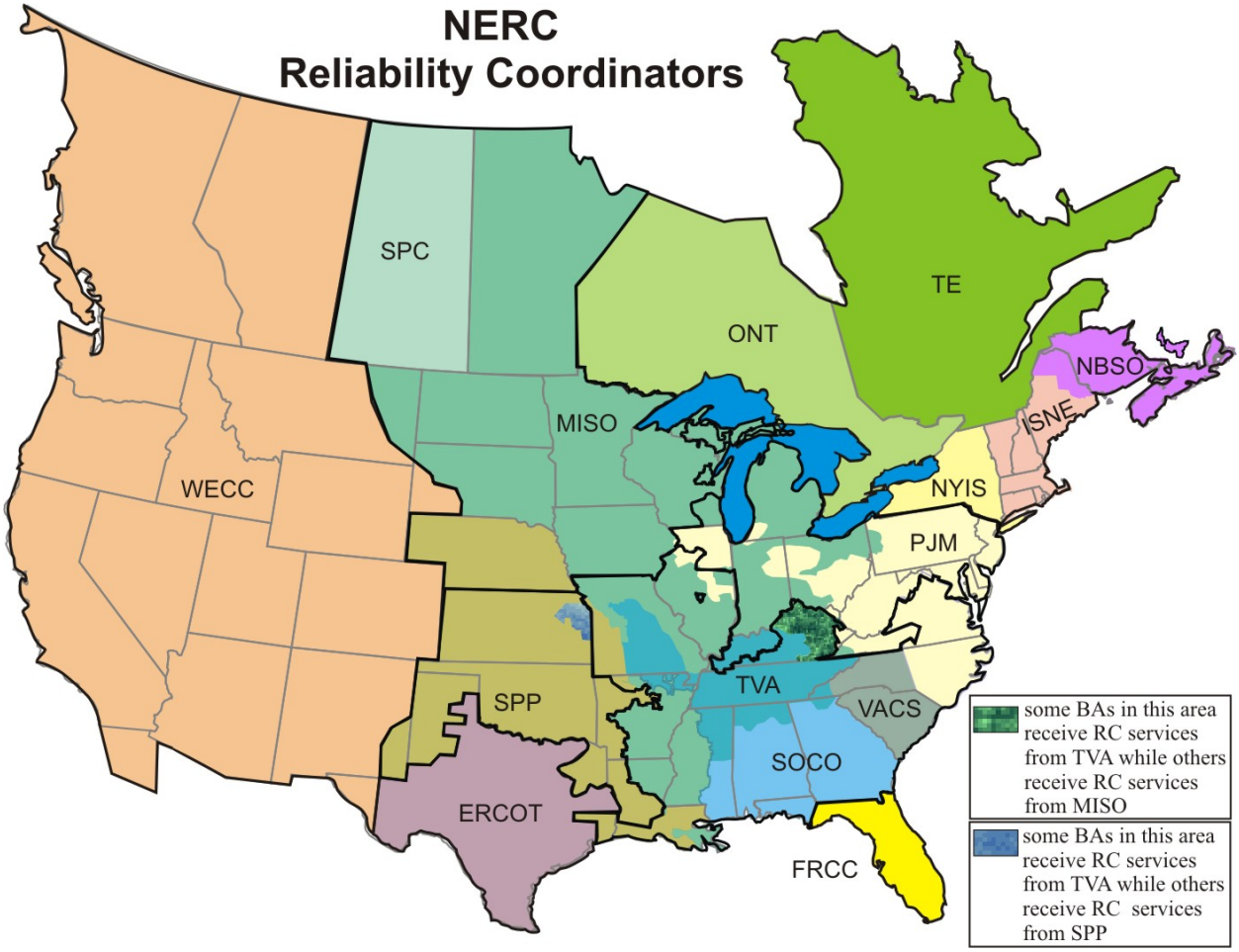

Figure 17. This map represents the reliability coordinators that oversee the electrical transmission and distribution grid in the US and Canada. The three reliability coordinators that encompass the LPC plan area are the Electrical Reliability Council of Texas (ERCOT), the Southwest Power Pool (SPP), and the Western Electrical Connectivity Council WECC.

The planning process for electrical grid projects is also highly variable from year to year and is wholly responsive to changes or planned changes in power generation. Many of these proposed generation projects or upgrades to existing generation sources may be in flux for years. As a result, the long-term and short-term planning documents produced by these organizations can vary significantly from year to year.

As with the oil and gas and wind industries, this planning variability means making spatially-explicit, long-term projections about impacts from development on LPCs is very difficult, even at the ecoregional scale. Therefore our analysis of potential take related to electrical transmission and distribution development will also focus on trends summarized across the EOR+10.

However, there are several recent or planned projects that may set the stage for future transmission and wind developments. These projects are all large-scale (345kV+) transmission lines such as the Competitive Resource Energy Zone lines in the Texas Panhandle, Oklahoma Gas and Electric lines in the western part of that state, Clean Line HVDC lines in Kansas and Oklahoma, and the Tres Amigas HVDC superstation in New Mexico. All of these projects are focused on deriving energy from current and future renewable energy projects (wind and potentially solar) in the Southern Plains region and exporting that energy to more populated regions of the US. These lines will likely determine the extent and location of future renewable energy generation and the transmission lines required to connect those projects to the grid. There are also occasional smaller scale transmission projects to address localized overloads and reliability issues within the region. These are generally 115-230 kV and are often upgrades of existing lines.

With all of these projects, relatively minor changes of the final location by as much as a few miles may have major effects on the amount of LPC habitat that may be affected. Ensuring that developers have access to appropriate siting tools as early in the process as possible is key to ensuring avoidance and minimization, and the CHAT is critical to that strategy. Version 2.0 of the CHAT is a spatial representation of the RWP and mitigation framework, which means the web-based maps now represent not just habitat for LPCs, but also potential mitigation costs for siting decisions. Implementation of that plan is critical to future trends in transmission and related renewable energy development as well as LPC conservation.

For estimating take related to transmission lines, we followed a similar approach as with oil and gas and wind based on the following assumptions:

- We reviewed the most recent planning documents for the three NERC interconnections across the EOR+10 and available planning documents and estimated the potential number of miles of large-scale transmission projects within the region. We then doubled that figure to account for additional reliability projects. Finally we assumed these upgrades to the grid would occur over the next 10 years.
- We also assumed that additional transmission projects would be built to connect wind and other renewable energy projects to the grid with an assumed average distance of 10 miles from the development to the grid.
- We used the impact buffer distance of 400m that was defined in the RWP to estimate impacts to LPC habitat. This distance is applied to all transmission lines >69 kV.
- We used the same LPC density figures to estimate take of LPCs related to those habitat impacts.
- We calculated the number of acres impacted as the estimated length of line for a given scenario times the number of acres per mile of line given a 400 m impact buffer on both sides of the line (318.141 acres).

- We calculated the number of LPCs taken as the product of the acres impacted, the appropriate density estimate and, for durations of more than one year, the estimated lifespan of the LPC (1.95 years).
- We assumed 1000 miles of transmission lines will be built to address the transport of renewable energy produced in the region to populated energy markets outside the region within the plan area over the next 10 years at an annual rate of 100 miles per year.
- We also assumed that three wind energy developments will be connected to the grid per year over the next 30 years with an average distance to connect of 10 miles.
- We assumed 20% buffer overlap for this scenario which represents the current average proportion of impacted acres across the EOR+10.

Table 18. Estimated LPC take associated with projected transmission development.

Duration	Estimated Variable	Transmission Development
10 Years	Miles of line	1,300
	Acres	413,583
	LPC Take	**1,186**
20 Years	Miles of line	1,600
	Acres	509,026
	LPC Take	**1,460**
30 Years	Miles of line	1,900
	Acres	604,468
	LPC Take	**1,734**

Roads and Distribution Lines

Roads and distribution lines are the most common impacts to LPC habitat. However, spatial data is limited for many of these anthropogenic features. This is particularly true of distribution lines and privately maintained roads. In addition there is little information on which to base a rate of development for any of these structures. These two infrastructure types are highly spatially correlated, i.e. most distribution lines are sited along roads and the majority of development in

these categories is either within existing corridors or supporting other industrial development within existing impact buffers. Much of this infrastructure supports local populations, and population trends in the rural Great Plains have been trending downward over the last several decades. However, some local population increases have been recorded around urban areas due to increased energy development. Energy development requires roads and electricity, but these requirements are included in estimates of take for many of the infrastructure described above. The impact buffers for oil and gas wells, vertical structures, and transmission lines should encompass the majority of impacts associated with privately-maintained roads and supporting distribution lines.. Given the fact that roads are categorized based on the entity responsible for their maintenance, we expect that upgrades to that network will result in few, if any, instances in which mitigation is required. Construction of new public roads in the rural areas of the LPC range is a relatively rare occurrence.

We conservatively estimate that 2,000 miles of new private road and/or distribution line may be developed within the EOR+10 outside of existing impact buffers over the next 30 years. We also conservatively estimate 1,000 miles of new secondary road may be developed within the EOR+10 over the next 30 years. Given the level of uncertainty with these infrastructure types, we assessed potential take for the entire 30 thirty year period without any build-out time as a conservative estimate. The results are summarized in Table 19.

Table 19. Estimated take of acres and birds associated with projected new development of primary and secondary roads and distribution lines across the EOR+10 over the next 30 years.

Duration	**Estimated Variable**	**Secondary Roads and Distribution Lines**	**Primary Roads**
30 Years	Miles of Road or Line	2,000	1,000
	Acres	15,904	53,277
	LPC Take	**1,369**	**4,585**

Management Actions

Incidental take in the form of harm or harassment may result from disturbance incidental to habitat improvement projects required to benefit the LPC, and from other ongoing otherwise lawful agricultural, recreational, limited development, and other related activities. Direct take, in the form of incidental killing of adults, juveniles, chicks, or eggs, also may result from the implementation of conservation measures such as brush management practices, prescribed fire and grazing, fencing, and the collection of injured animals. Direct take, in the form of mortality, also may occur due to ongoing otherwise lawful agricultural, recreational, and other related activities such as the operation of vehicles and/or farm equipment. 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 under the RWP. Application of a specific conservation measure at

the local or landscape scale is expected to produce overall net benefits, though it may simultaneously create a potential temporary source of risk to individual birds. For example, removal of encroaching eastern red cedar is likely to result in a positive population response by LPC over the long term, despite the potential for some level of temporary disturbance to the bird from the machinery used. The overall net impact of these actions is positive and will result in beneficial effects to the species. Typically, implementation of conservation and management efforts will result in fewer short-term adverse impacts to LPC than would have otherwise occurred had those efforts not been implemented.

The conservation practices applied under the RWP utilize standards and specifications of NRCS management practices under LPCI (Table 20). Each of these practices was addressed in the Draft LPCI Conference Opinion between NRCS and USFWS (2013). There are two instances where the RWP utilizes standards and specifications that are more restrictive than the NRCS practices, but these more restrictive standards are invoked only where offset units are generated and where additional mitigation payments are awarded. In the case of prescribed grazing, where offset units are generated and mitigation payments are awarded, the RWP will require a stocking rate that results in, at most, an average 33% forage utilization rate. The RWP also uses the same LPCI standards and specifications for brush management, but in the case where offset units are generated and mitigation payments are awarded, that funding under the RWP can be applied to chemical suppression of shinnery oak, but not sand sagebrush. Chemical application rates for brush suppression are consistent with LPCI and local variances.

Table 20. LPCI Conservation Practice by names, numbers, and definitions

Conservation Practice Name	Conservation Practice Number	Conservation Practice Definition
Upland Wildlife Habitat Management	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.
Prescribed Grazing	528	Managing the harvest of vegetation with grazing and/or browsing animals.
Restoration and Management of Rare and Declining Habitats	643	Restoring, conserving, and managing unique or diminishing native terrestrial and aquatic ecosystems
Access Control	472	The temporary or permanent exclusion of animals, people, vehicles, and/or equipment from an area
Forage Harvest Management	511	The timely cutting and removal of forages from the field as hay, green-chop or ensilage
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
Firebreak	394	A permanent or temporary strip of bare or vegetated land planned to retard fire
Cover Crop	340	Crops including grasses, legumes, and forbs for seasonal cover and other conservation purposes
Critical Area Planting	342	Establishing permanent vegetation on sites that have, or are expected to have, high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices

Forage and Biomass Planting	512	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production
Range Planting	550	Establishment of adapted perennial or self-sustaining vegetation such as grasses, forbs, legumes, shrubs and trees.
Watering Facility	614	A permanent or portable device to provide an adequate amount and quality of drinking water for livestock and/or wildlife
Spring Development	574	Collection of water from springs or seeps to provide water for a conservation need
Pumping Plant	533	A facility that delivers water at a designed pressure and flow rate. Includes the required pump(s), associated power unit(s), plumbing, appurtenances, and may include on-site fuel or energy source(s), and protective structures
Water well	642	A hole drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer for water supply
Pipeline	516	Pipeline having an inside diameter of 8 inches or less
Grade Stabilization Structure	410	A structure used to control the grade and head cutting in natural or artificial channels
Fence	382	A constructed barrier to animals or people
Obstruction Removal	500	Removal and disposal of buildings, structures, other works of improvement, vegetation, debris or other materials
Herbaceous Weed Control	315	The removal or control of herbaceous weeds including invasive, noxious and prohibited plants
Pond	378	A water impoundment made by constructing an embankment or by excavating a pit or dugout. In this standard, ponds constructed by the first method are referred to as embankment ponds, and those constructed by the second method are referred to as excavated ponds. Ponds constructed by both the excavation and the embankment methods are classified as embankment ponds if the depth of water impounded against the embankment at the auxiliary spillway elevation is 3 feet or more
Tree and Shrub Planting	612	Establishing woody plants by planting seedlings or cuttings, direct seeding, or natural regeneration
Heavy Use Protection	561	The stabilization of areas frequently and intensively used by people, animals, or vehicles by establishing vegetative cover, surfacing with suitable materials, and/or installing needed structures
Woody Residue Treatment	384	The treatment of residual woody material that is created due to management activities or natural disturbances
Well Decommissioning	351	The sealing and permanent closure of a water well no longer in use
Conservation Cover	327	Establishing and maintaining permanent vegetative cover

The impact assessment estimating the level of impact can be used for an incidental take assessment associated with the RWP or any other permitting document like a CCAA. The level of take is directly related to the number of landowners and amount and habitat quality of acreages covered under the management plans tiered to the RWP and other agreements. Accurately estimating the total number of participants is impossible at this time.

Since the acreage extent of the practices under the RWP is unknown, we will use the acreage figures from the Draft LPCI Conference Opinion (2013) as a surrogate in lieu of better

information. Bird density (per eco-region), as estimated by range-wide aerial surveys in 2012 (McDonald et al. 2012), was then multiplied by acres affected to estimate the total numbers of birds at risk of being affected. Finally, known rates of nest loss or mortality were multiplied by the total "at risk" birds to estimate a minimum number affected.

The acres for each practice type across the EOR were subdivided into each of the 4 eco-regions identified by the range wide plan (Table 21). Using the numbers provided, i.e., 1,296,663 acres of habitat practices and an annual take of 355 birds, it was determined that 1 bird per 4000 acres would be incidentally taken annually.

Table 21. Acreages of practices implemented though Lesser Prairie-Chicken Initiative, LPC density (birds/acre) used to estimate numbers of individuals "at risk" of adverse effect, and estimated incidental take.

		Acres and Miles of Practices						
	Birds/acre	Brush Mgmt	Pres. Burn	Pres. Graze	Range Plant	Forage Harvest	Fence	Total
Mix Grass	0.0017	56,369	36,694	495,718	3,355	56,369	27	--
Short grass	0.0063	6,684	30,683	110,069	3,050	6,684	49	--
Shin-Oak	0.0016	90,837	49	335,277	4,885	90,837	7	--
Sand Sage	0.0015	737	2,243	116,915	3,099	737	10	--
Total		154,627	69,669	1,057,979	14,388	154,627	93	--
		Estimated numbers of adversely effected LPC						
Mix Grass	0.0017	96	62	843	6	96	17	1,120
Short grass	0.0063	42	195	698	19	42	32	1,029
Shin-Oak	0.0016	145	0	535	8	145	5	838
Sand Sage	0.0015	1	3	175	5	1	6	191
Total		284	261	2,252	37	284	59	3,178
		Estimated Incidental Take Annually						
Mix Grass	0.0017	1	14	34	0	1	34	83
Short grass	0.0063	0	43	28	0	0	63	135
Shin-Oak	0.0016	1	0	21	0	1	9	33
Sand Sage	0.0015	0	1	7	0	0	12	20
Total		2	57	90	0	2	119	272
Adjusted [a]		20	66	90	20	20	119	335

[a] Adjusted totals based on assuming at least 5 incidents of take occur in cells where calculations resulted in <5 incidents

HARVEST

The LPC is classified as a game bird by four of the five states in which it occurs. The States currently have the responsibility for setting season dates and bag limits where appropriate for all game birds that occur within their boundaries. Colorado, New Mexico, Oklahoma, and Texas have each suspended harvest of LPC's due to declining or low population levels. Kansas has maintained a hunting season due to a relatively robust population averaging roughly 40,000 birds over the last decade. Hagen et al. (2009) reported that hunter harvest in their study contributed only 3% to overall mortality, and experimentally removing it had no significant effect on subsequent population growth. The harvest of LPC in Kansas for the past five reported years was 750 in 2008, 910 in 2009, 633 in 2010, 378 in 2011, and 155 in 2012, reflecting the general population fluctuations that have occurred with weather patterns (KDWPT, *unpublished data*). The USFWS (2012a) stated, "Given the low number of lesser prairie-chickens harvested per year in Kansas relative to the population size, the statewide harvest is probably insignificant at the population level." Thus, if a federal listing of the LPC is found to be not warranted, the KDWPT will continue to regulate harvest using the existing mechanisms. However, if the LPC becomes a federally listed species, the hunter harvest of LPC will only be permitted incidental to legal hunting of greater prairie-chickens where the ranges of the two species overlap.

Other Potential Sources of Take

Beyond the actions listed above, there are currently other actions related to agriculture, industrial development, and civil infrastructure that could result in take of LPCs through harassment, direct mortality, and direct habitat loss or indirect habitat loss resulting from avoidance. If the bird is listed, these activities will be evaluated by the USFWS to determine if take has (or will) occur.

EXPECTED BENEFITS OF THE RWP

Implementation of this WCA will result in a variety of conservation benefits to the LPC in the form of avoidance of negative impacts and enhancement and restoration of habitat. These actions are intended to contribute to establishing, augmenting and maintaining viable populations of LPCs. Conservation measures that minimize new surface disturbance thus minimize habitat fragmentation will preserve contiguous expanses of LPC habitat. Conservation measures that require the removal of existing equipment and infrastructure and reclamation of existing disturbance restore and enhance LPC habitat. LPC reproductive behavior is promoted by conservation measures that limit activities and operations during lekking, nesting, and brooding season. Similarly, threats to the LPC are removed by conservation measures that require removal of existing vertical structures and other features which may fragment habitats, limit the possibility of LPC becoming trapped in open water sources, and require marked fences. Furthermore, the conservation activities implemented with funds contributed by Participants are expected to further enhance LPC habitat. When considered together, the conservation measures and provisions of the WCA are expected to preserve, enhance, and restore LPC habitat and remove threats to the LPC, which are expected to yield increases to LPC populations. In addition, conservation of LPCs would be enhanced by improving and encouraging cooperative management efforts between WAFWA, USFWS, and Participants who own and control LPC

habitat. This WCA is intended to provide incentives to property and company owners to initiate conservation measures for this species.

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APPENDICES

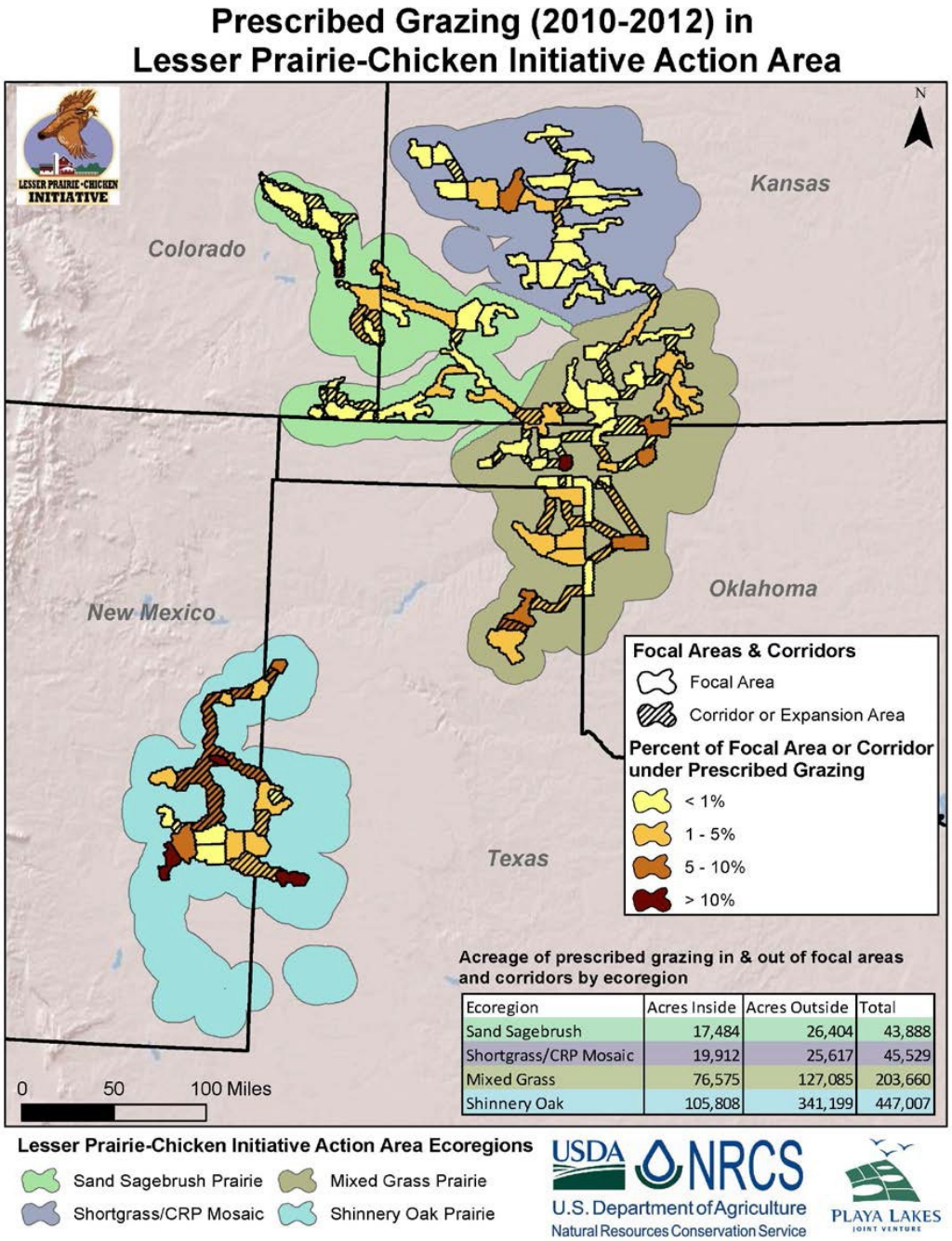
APPENDIX A. LESSER-PRAIRIE CHICKEN RANGE-WIDE PLAN OUTREACH EFFORT.

Interstate Working Group and WAFWA			
Date	Location	No. Participants	Participants
June 11, 2012	Edmond, OK	90	Energy Interest and public
September 5, 2012	Fort Worth TX	30	Oil and Gas and Agencies
November 6, 2012	Denver, CO	20	Great Plains HCP,
November 23, 2013	Conf. call	12	AWEA, Wind Coalition
December 7, 2012	OK City, OK	20	Oil and Gas and Agencies
January 14-15, 2013	Wash D.C.	30	Congressmen and staffers
January 23-24, 2013	Edmond, OK	90	Energy and Ag Interests, public
March 6-7, 2013	Wash D.C.	25	Senate and congress staffers
March 7, 2013	Denver, CO	20	EDF
March 25-28, 2013	Arlington VA	50	North Amer. Conf.-Agencies
May 1-3, 2013	Wash D.C.	20	NRCS, FSA, EDF, USFWS
Texas			
August 10, 2012	Austin, TX	60	LPC Stakeholders
November 27, 2013	Lubbock, TX	12	TX Imp. Team -Agencies
February 1,2013	Amarillo, TX	35	TX Ag agency and Assoc.
February 5, 2013	Canadian, TX	50	RWP Landowner Work Group
February 6, 2013	Morton, TX	50	RWP Landowner Work Group
February 15, 2013	Canadian, TX	50	PPROA meeting-Oil and Gas
April 24, 2013	Austin TX	60	varied Stakeholder interest
May 9, 2013	Austin, TX	50	Energy Stakeholders
May 10, 2013	Lubbock, TX	25	Ag Stakeholders
May 23, 2013	Midland, TX	100	Permian Basin Reg Sem.-Oil
May 31, 2013	Lubbock, TX	20	RWP Ag interest
June 11, 2013	San Antonio TX	75	TX and SW Cattle Raisers mtg
Kansas			
September 24, 2012	Salina, KS	10	KS Imp Team-Agencies NGOs
November 13, 2012	Ness City, KS	25	Interested Landowners mostly
November 14, 2012	Ulysses, KS	21	Interested Landowners mostly
November 15, 2013	Greensburg, KS	28	Interested Landowners mostly
February 27, 2013	Topeka, KS	8	Farm Bureau/Livestock Assoc.
March 5, 2013	Wakeeny, KS	34	Interested landowners mostly
March 6, 2013	Lakin, KS	33	Interested Landowners mostly
March 7, 2013	Greensburg, KS	34	Interested Landowners mostly
April 4, 2013	Emporia, KS	1	Jim Carlson rep 14 counties
April 30, 2013	Manhattan, KS	200+	Statewide webinar
May 17, 2013	Topeka, KS	2	CGC and KS Ranchland Trust
July 17, 2013	Emporia, KS	3	Wind interest, consultant

Appendix A cont. Lesser-prairie chicken Range-wide RWP outreach effort.

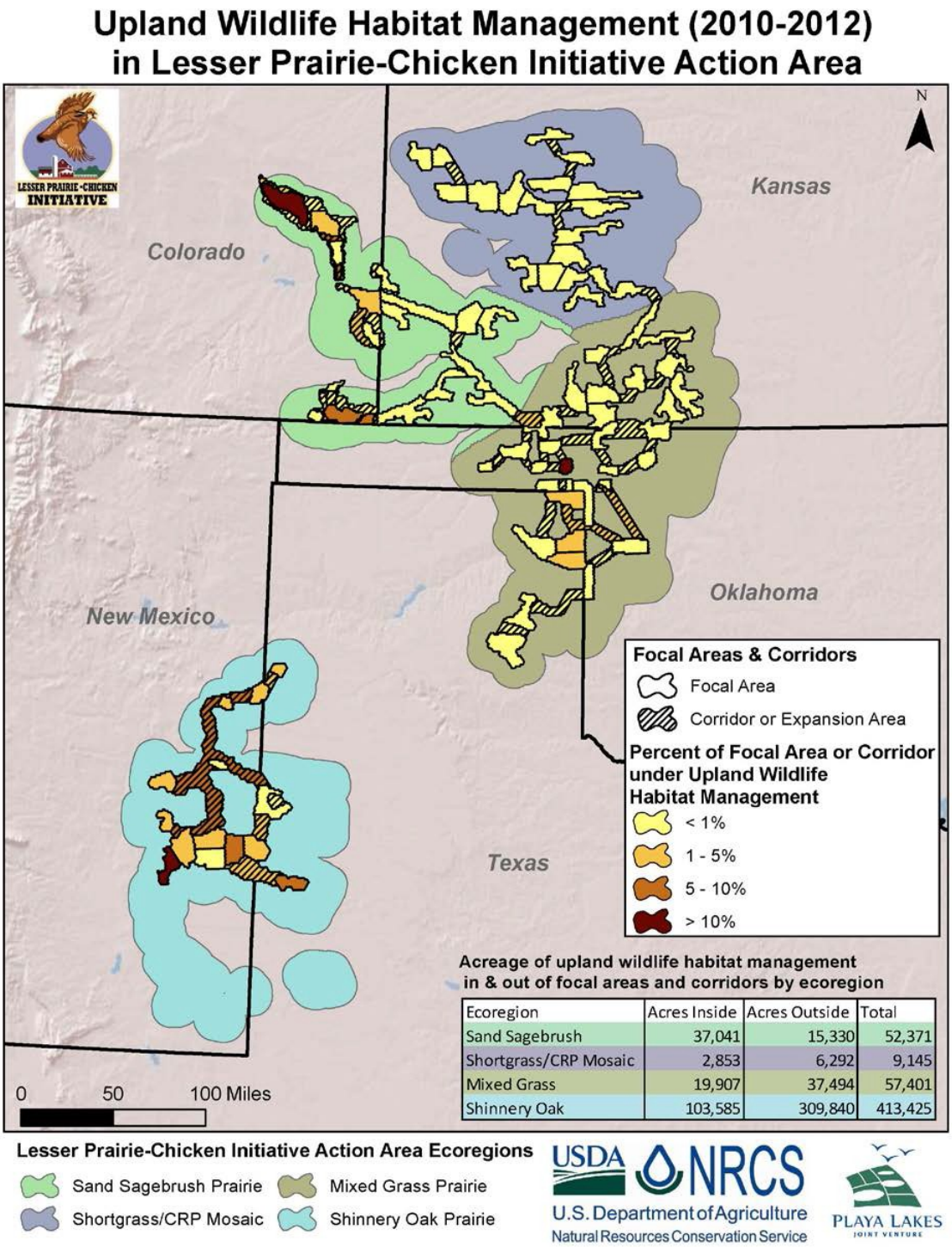
New Mexico			
Date	Location	No. Participants	Participants
October 30, 2012	Roswell, NM	20	Imp Team Mtg –Agencies NGO
January 8, 2013	Roswell, NM	40	Energy Stakeholders
January 8, 2013	Milnesand, NM	32	Interested Landowners
January 9, 2013	Elida, NM	15	Interested Landowners
January 10, 2013	Grady, NM	16	Interested Landowners
February 4, 2013	Carlsbad, NM	12	Interested Landowners
February 6, 2013	Roswell, NM	25	Interested Landowners
February 7, 2013	Portales, NM	65	Interested Landowners
May 29, 2013	Ruidoso, NM	50	Rural Electric Coops
June 4, 2013	Clovis, NM	150	County Commissioner, public
June 4, 2013	Nara Visa, NM	35	County Commissioners, public
Oklahoma			
June 12, 2012	OK City, OK	NA	OIPA
July 25, 2012	OK City, OK	NA	OIPA
August 22, 2013	OK City, OK	NA	OIPA
September 18, 2012	NA	NA	OK RWP Participants
December 4, 2012	OK City, OK	NA	Berrendo Wind Inc.
March 4, 2013	Woodward, OK	NA	NRCS, OACD, USFWS
March 21, 2013	Ellis, County	NA	Landowners
April 3, 2013	Woodward, OK	NA	Agencies
April 10, 2013	OK City, OK	NA	OGE and ODWC staff
May 13, 2013	Woodward, OK	NA	Webinar Statewide
Colorado			
September 28, 2012	Conf. Call	6	CPW focal area team
October 10, 2012	Lamar, CO	50	COIWG, Kiowa Co. Econ Devel
December 3, 2012	Lamar CO	10	CPW Research team
December 5 , 2012	Lamar, Co	12	CPW, PF, TNC, NRCS
January 10, 2013	Lamar, CO	6	CPW focal area team
February 4, 2013	Lamar, CO	75	COIWG, Kiowa Co Econ Devel
February 4, 2013	Lamar, CO	40	Interested public
February 19, 2013	Lamar, CO	6	CPW focal area team
March 4, 2013	Lamar, CO	8	CPW, State Land Board (SLB)
March 13, 2013	Springfield, CO	14	NRCS, CPW, USFS, FSA
March 21, 2013	Conf. Call	6	CPW Focal area team
March 27, 2013	Lamar, CO	5	CPW, Petroleum Field Services
April 13, 2013	Lamar CO	8	CPW, SLB, Joe Ehrenberger
April 16, 2013	Lamar, CO	12	CPW, GOCO

APPENDIX B. NRCS CONSERVATION PRACTICES.



Ecoregion	Acres Inside	Acres Outside	Total
Sand Sagebrush	17,484	26,404	43,888
Shortgrass/CRP Mosaic	19,912	25,617	45,529
Mixed Grass	76,575	127,085	203,660
Shinnery Oak	105,808	341,199	447,007

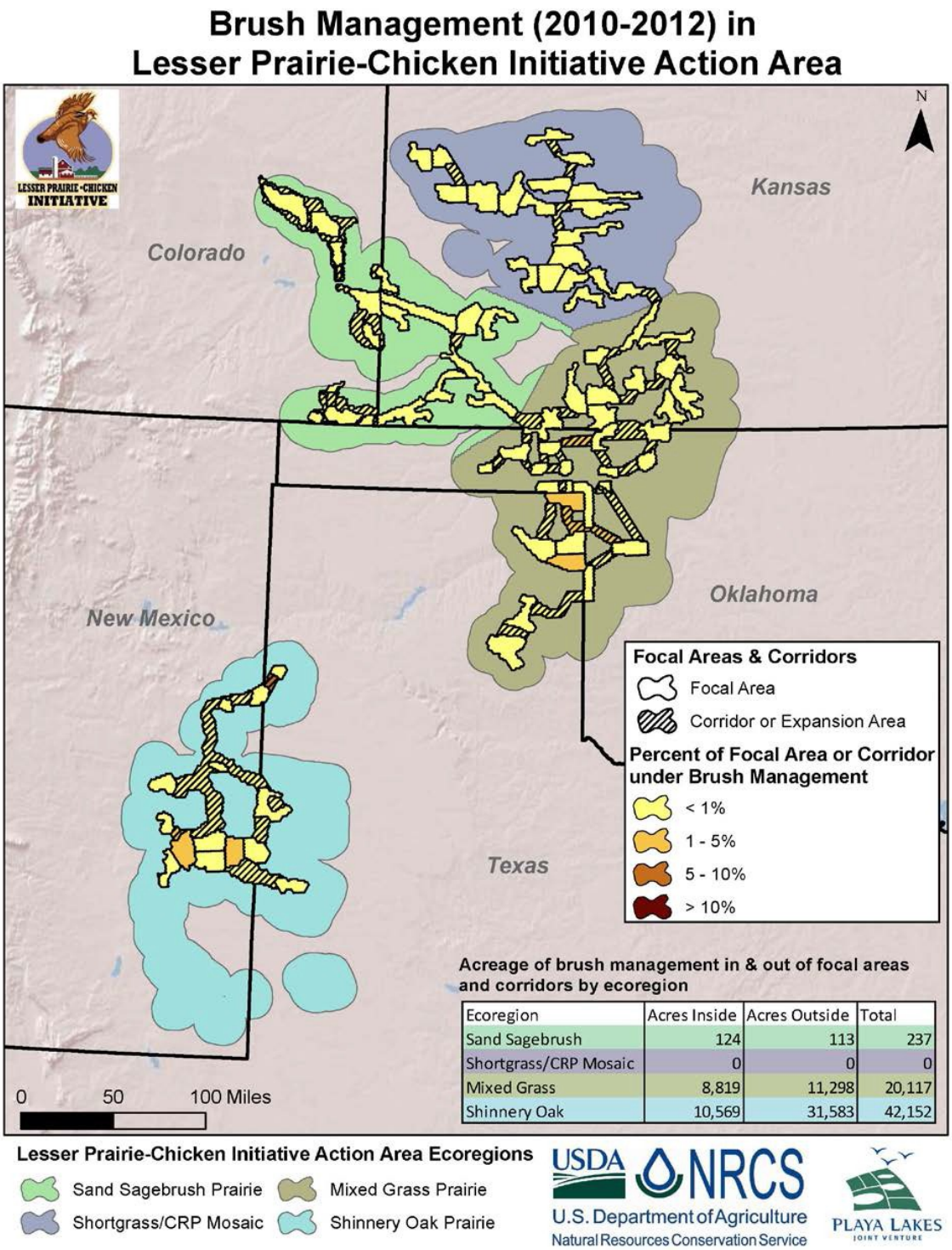
Figure B-1. NRCS conservation practice (528) Prescribed grazing implemented through all programs in LPC Focal and Connectivity Zones, 2010-2012.



Acreage of upland wildlife habitat management in & out of focal areas and corridors by ecoregion

Ecoregion	Acres Inside	Acres Outside	Total
Sand Sagebrush	37,041	15,330	52,371
Shortgrass/CRP Mosaic	2,853	6,292	9,145
Mixed Grass	19,907	37,494	57,401
Shinnery Oak	103,585	309,840	413,425

Figure B-2. NRCS conservation practice (645) Upland Wildlife Habitat implemented through all programs in LPC Focal and Connectivity Zones, 2010-2012.



Ecoregion	Acres Inside	Acres Outside	Total
Sand Sagebrush	124	113	237
Shortgrass/CRP Mosaic	0	0	0
Mixed Grass	8,819	11,298	20,117
Shinnery Oak	10,569	31,583	42,152

Figure B-3. NRCS conservation practice (314) Brush Management implemented through all programs in LPC Focal and Connectivity Zones, 2010-2012.

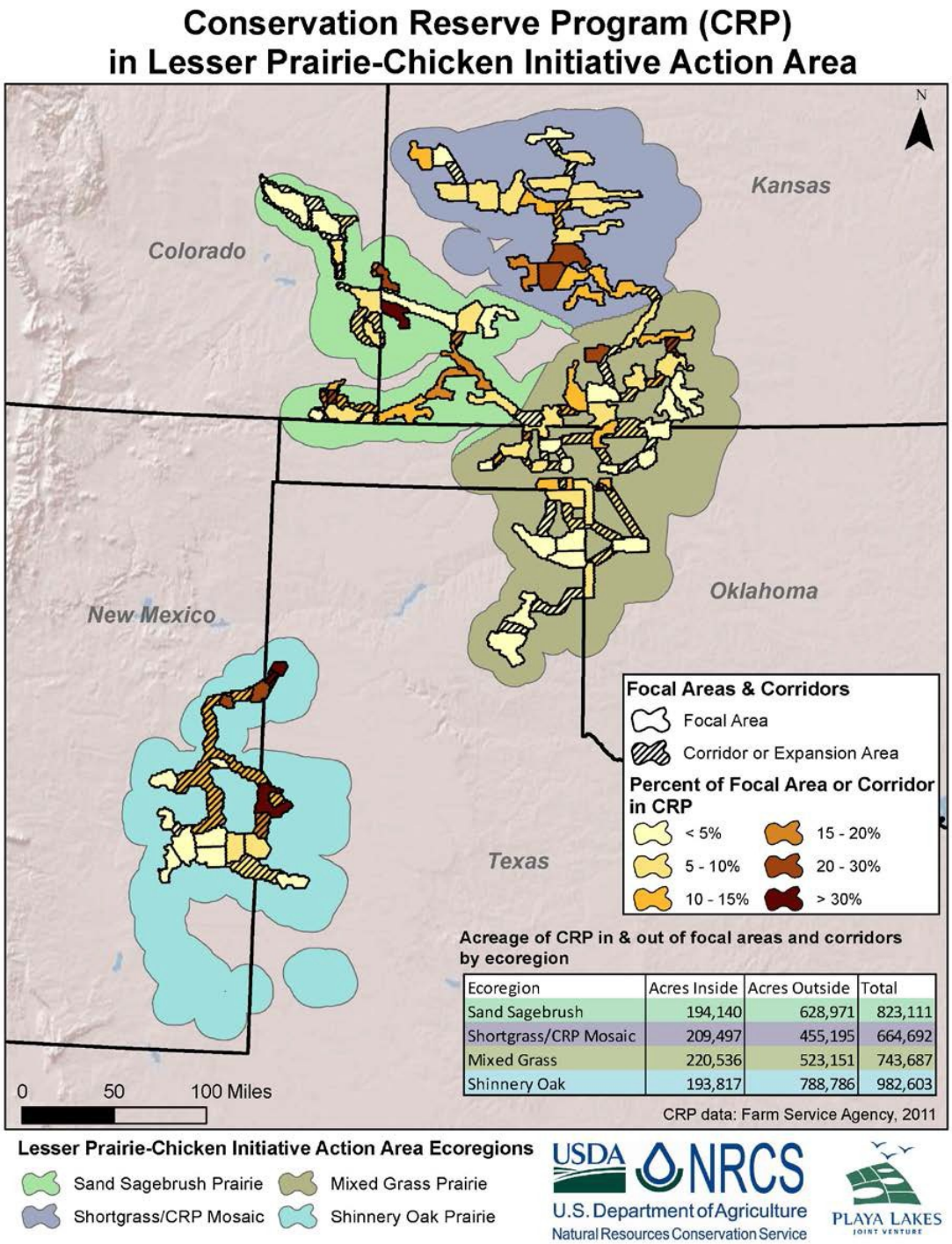


Figure B-4. CRP acreage across all conservation practices in LPC Focal and Connectivity Zones, 2011

APPENDIX C. ECOLOGICAL SITE DESCRIPTIONS WITHIN THE ESTIMATED OCCUPIED RANGE OF THE LPC AND THEIR POTENTIAL TO PROVIDE THE VARIOUS HABITAT TYPES .

Ecological Site Description	Major Land Resource Areas (MLRA)	Landscape Description	LPC Value (1-5 scale)	Production lbs/ac	Nesting Habitat	Brood Habitat	Limited use
Choppy Sands	72, 73, 79	Dunes	5	1200-2500	X	X	
Limy Upland	72, 79, 73	Uplands	5	1500-3200	X	X	
Clay Upland	72, 73, 79	Uplands	5	1500-3000	X	X	
Loamy Upland	72, 79, 73	Uplands	5	2500-3500	X	X	
Sands	72, 73, 79	Uplands	5	1500-3000	X	X	
Sandy	72, 79, 73,	Uplands	5	1500-2800	X	X	
Choppy Sands	67b, 69	hills, dunes, ridges	5	700-2000	X	X	
Sands	67b, 69	hills, dunes	5	1000-2400	X	X	
Sandy Bottomland	67b, 69	terrace, drainageway	5	1000-2400	X	X	
Sandy Meadow	67b	terrace, interdune	5	1000-2400	X	X	
Sandy	67b, 69	interfluves, plains	5	1000-2400	X	X	
Deep Sand (FS)	78C	Uplands - Sandy	5	1000-2400	X	X	
Sand Hills (FS/LFS)	77A,77B,77C,77D,77E,78B,78C	Hills and Dunes - Sandy	5	1000-2400	X	X	
Sandy (LFS)	77A,77B,77D,77E,78B,78C	Uplands - Sandy	5	1000-2400	X	X	
Loamy Sand Prairie (LFS)	78C	Uplands - Sandy	5	1000-2400	X	X	
Deep Sand	42.3	Terraces/Piedmonts/Dunes fields/Plains	5	1000-2400	X	X	
Sandhills	42.3	Plains	5	1000-2400	X	X	
Loamy Sand	42.3	Uplands/Plains/Dunes/fan Piedmonts/inter dunal areas	5	1000-2400	X	X	
Sandy Plains	70B.1	Hillslopes/Alluvial fan terraces/valley slopes	5	1000-2400	X	X	
Sandhills	70B.1	Sand ridges/sand swales	5	1000-2400	X	X	
Deep Sand	70B.1	Upland Plains/Alluvial Fans/Valley side slopes	5	1000-2400	X	X	

Ecological Site Description	Major Land Resource Areas (MLRA)	Landscape Description	LPC Value (1-5 scale)	Production lbs/ac	Nesting Habitat	Brood Habitat	Limited use
Sand Hills 16-21" PZ	77C.2	Dune ridges/covex uplands/sideslopes/plains	5	1000-2400	X	X	
Sandy 16-21" PZ	77C.2	Undulating gently sloping plains/Basins/Swales	5	1000-2400	X	X	
Loamy Sand	77C.2	Nearly level/gently undulating Plains	5	1000-2400	X	X	
Sandy Plains	77C.2	Nearly level/gently undulating Plains	5	1000-2400	X	X	
Sandy 12-17" PZ	77D.1	Nearly level-Undulating Gently Sloping Plains	5	1000-2400	X	X	
Blue Shale	73	Uplands	4	1500-3500	X	X	
Shallow Limy	72, 73	Uplands	4	1000-2500	X	X	
Loamy Prairie (L/SiL)	78B	Uplands - Loamy	4	2400-3500	X	X	
Loamy Sand (LFS)	78B	Uplands - Sandy	4	1500-3300	X	X	
Mixedland Slopes (FSL)	77E	Uplands - Loamy	4	1600-3000	X	X	
Limy Upland (L)	77A,77B,77C,77E	Uplands - Loamy	4	1100-2200	X	X	
Sandy Plains (cool)	70B.1	Gently sloping Piedmont/Plains	4	810-2750	X	X	
Sandy Bottomland 12-18" PZ	70B.1	Fluvial terraces adjacent to streambed	4	1410-2781	X	X	
Clay Terrace	73	Terraces	3	2500-4500	X	X	
Loamy Terrace	72, 73	Terraces	3	2000-4000	X	X	
Sandy Terrace	72	Terraces	3	1500-2500	X	X	
Gravel Breaks	67b, 69	fans, remnant terraces	3	500-1400	X	X	
Limestone Breaks	67b, 69	scarps, hills, ridges	3	550-1450	X	X	
Sandstone Breaks	67b, 69	scarps, hills, ridges	3	600-1600	X	X	
Sandy Loam (FSL)	70B,77A,77B,77C,77D,77E,78B	Uplands - Loamy	3	1100-2500	X	X	
Shallow (CL/L/FSL)	77D,78B,78C	Uplands - Shallow	3	500-3000	X	X	
Closed Upland Dep	72, 73	Playa	2	1500-2500		X	X

Ecological Site Description	Major Land Resource Areas (MLRA)	Landscape Description	LPC Value (1-5 scale)	Production lbs/ac	Nesting Habitat	Brood Habitat	Limited use
Loess Breaks	67b, 72	Steep side slopes	2	1400-2500		X	X
Loamy Slopes	67b	500-1500	2	500-1500		X	X
Salt Meadow	67b, 69	floodplain	2	1500-4000		X	X
Sandy Salt Flat	67b, 69	terrace, flooplain	2	800-2200		X	X
Loamy	67b, 69	interfluves, plains	2	600-1800		X	X
Plains Swale	67b	closed depression	2	800-1900		X	X
Draw (FSL/L/CL)	77A,77B,77C,77D,77E,78B,78C	Bottomlands - Loamy	2	2700-4500		X	X
Draw	42.3	Arroyo/Floodplain/Swale	2	1200-3500		X	
Sandy	42.3	Uplands/Plains/Dunes/Fan Piedmonts/Terraces/Interdunal areas	2	600-1200		X	
Sandy Loam 12-17" PZ	77D.1	Nearly Level-Gently Sloping Plains	2	1000-2000		X	
Populus fremontii - Populus sargentii / Salix exigua - Baccharis glutinosa / Pascopyrum smithii	70B.1	Riparian	2	no chart		X	
Sandy Loam 12-18" PZ	70B.1	Uplands	2	1000-1751		X	
Shale Breaks	72	Upland steep hillslopes	1	500-1300		X	X
Clay Lowland	72, 79	Floodplains	1	1000-3000			X
Loamy Lowland	72, 79, 73	Floodplains	1	3000-5500			X
Saline Lowland	72, 79	Floodplains	1	1400-3000			X
Saline Subirrigated	72, 79	Floodplains	1	5000-6500			X
Sandy Lowland	72, 73, 79	Floodplains	1	2000-4000			X
Subirrigated	73, 73, 79	Floodplains	1	3500-5500			X
Saline Overflow	67b, 69	terrace, flooplain	1	750-2800			X
Overflow	67b	terrace, floodplain	1	1200-2800			X
Clayey	67b	interfluves, plains	1	500-1600		X	X
Shaly Plains	67b, 69	ridge, hills, plains	1	400-1300		X	X
Salt Flat	67b, 69	terrace, floodplain	1	500-1800			X
Gravelly (SL/L)	77E,78B,78C	Uplands - Shallow	1	1100-1800		X	

Ecological Site Description	Major Land Resource Areas (MLRA)	Landscape Description	LPC Value (1-5 scale)	Production lbs/ac	Nesting Habitat	Brood Habitat	Limited use
Breaks (L)	70B	Slopes/Breaks	1	400-900		X	
Clayey (C/CL)	70B	Alluvial Fans/Slopes	1	1000-2100		X	
Clayey Bottomland (C/CL)	78B,78C	Bottomlands - Loamy	1	700-3500			X
Clay Flat (C)	78B,78C	Uplands - Loamy	1	1000-3400		X	
Clay Loam (CL)	70B,77D,77E,78B,78C	Uplands - Loamy	1	1000-3000		X	
Claypan Prairie (C)	78C	Uplands - Loamy	1	1500-3000		X	
Deep Hardland (CL)	77A,77B,77C	Uplands - Loamy	1	1000-2200		X	
Gyp (L/SiL)	77D,78B,78C	Uplands - Shallow	1	300-500		X	
Hardland Slopes (L)	77E	Alluvial Fans/Slopes	1	800-2200			X
High Lime (CL/L)	77B,77C,77D	Uplands - Loamy	1	800-1600		X	
Lakebed (C/CL)	77D,78B,78C	Enclosed Basins - Dry	1	1000-4000			X
Loamy (CL)	78B	Uplands - Loamy	1	1500-2400		X	
Playa (C)	77A,77C	Enclosed Basins - Wet	1	1400-3300		X	X
Red Shale (SiCL)	70B	Uplands - Shallow	1	200-450		X	
Rough Breaks (L)	77E,78B	Breaks	1	600-1200		X	
Saline (CL)	78C	Enclosed Basins - Dry	1	400-1000			X
Shallow Clay (C)	78B,78C	Uplands - Shallow	1	600-2600		X	
Shallow Sandstone (FSL)	70B,78B,78C	Uplands - Shallow	1	600-1300		X	
Very Shallow (L/FSL)	77A,77C,77D,77E,78B,78C	Uplands - Shallow	1	600-1000		X	
Very Shallow Clay (C)	78B,78C	Uplands - Shallow	1	400-1300		X	
Loamy Bottomland (SiL/L/CL)	77E,78B,78C	Bottomlands - Loamy	1	1600-8000			X
Sandy Bottomland (FSL/LFS)	70B,77B,77E,78B,78C	Bottomlands - Wet	1	1200-3000			X
Wet Bottomland (FSL/LFS)	77E,78B	Bottomlands - Wet	1	3000-9000			X
Wet Saline (CL/FSL/FS)	77C	Bottomlands - Wet	1	1100-1600			X
Bottomland	42.3	Broad Valleys/Flood plains/Basins	1	2500-5000			X

Ecological Site Description	Major Land Resource Areas (MLRA)	Landscape Description	LPC Value (1-5 scale)	Production lbs/ac	Nesting Habitat	Brood Habitat	Limited use
Gravelly	42.3	Erosion Remnants/Piedmont/Fans/Terraces	1	300-1000			X
Gravelly (Desert Grassland)	42.3	Gravelly Alluvial Fans	1	200-400			X
Gyp Hills	42.3	Hills/Escarpments/Breaks	1	100-300			X
Gyp Upland	42.3	Valley Floors/Plains/Piedmonts/Relic Lakebeds	1	375-800			X
Igneous Hill & Mountain (Desert Grassland)	42.3	Rolling-Very Steep Hills/Mountains	1	600-1000			X
Limestone Hill & Mountain (Desert Grassland)	42.3	Limestone Hill/Mountain	1	555-740			X
Limestone Hills	42.3	Hills/Low Mountains-Footslopes	1	600-1400			X
Limy	42.3	Plains/Alluvial Fans/Fan Piedmont	1	500-1350			X
Loamy	42.3	Hill Slopes/Ridges/Plains/Terraces	1	650-1200			X
Salt Flats	42.3	Terrace-Floodplains/Alluvial Flats/Fan Remants	1	400-1100			X
Salt Meadow	42.3	Depressional Areas/Floodplains/Stream Terraces	1	1500-2500			X
Salty Bottomland	42.3	Alluvial fans/Floodplains/Stream terraces	1	1500-3000			X
Shallow	42.3	Knolls/Ridges/Hillslopes/Alluvial fans/Escarpments	1	251-1800			X
Shallow Sandy	42.3	Plains/Alluvial fans/Uplands/Fan piedmonts	1	600-1050			X
Sandstone Savanna	70B.1	Moderately Steep Canyon Walls/Hillsides/Mesa tops	1	400-1200			X

Ecological Site Description	Major Land Resource Areas (MLRA)	Landscape Description	LPC Value (1-5 scale)	Production lbs/ac	Nesting Habitat	Brood Habitat	Limited use
Swale	70B.1	Gently Sloping Swales/Playas/ Drainages	1	1200-2800			X
Saline	70B.1	Large Enclosed Basins/Playas	1	600-2000			X
Breaks north exposure	70B.1	escarpment	1	600-1400			X
Breaks south exposure	70B.1	escarpment	1	no chart			X
Shallow	70B.1	Plains	1	450-1400			X
Gravelly	70B.1	Plains	1	451-1451			X
Limy	70B.1	Mesas/Ridges/ Fans of Broad Plains	1	500-1400			X
Gyp Hills	70B.1	Hills/Escarpments/Cliff's	1	251-600			X
Shallow Plains (cool)	70B.1	Shallow Sands	1	800-1570			X
Very Shallow	70B.1	Upland Plains/Mesas/Ridges	1	275-770			X
Shallow (cool)	70B.1	Upland Plains/Mesas/Ridges	1	384-1400			X
Wet Meadow	70B.1	Gently Sloping Depression/Stream Terraces	1	1860-3675			X
Breaks 12-18" PZ	70B.1	Steep Ridges/Knolls/ Side Slopes	1	395-950			X
Clayey 12-18" PZ	70B.1	Plains	1	1030-2131			X
Clay Loam 12-18" PZ	70B.1	footslope	1	815-1446			X
Red Shale 12-18" PZ	70B.1	Plains	1	510-875			X
Shallow Sandstone	70B.1	Drainages/Low Escarpments	1	440-775			X
Gyp Uplands	70B.1	Basins/Valley Floors-Terraces	1	351-900		X	
Deep Hardland 16-21" PZ	77C.2	Moderately Sloping Upland Plateau	1	1055-2215			X
Draw 16-21" PZ	77C.2	Valley Floors/Stream Floodplains	1	2765-4540			X
High Lime 16-21" PZ	77C.2	Gently Sloping/Strongly Sloping Calcareous	1	1500-1850			X
Limy Upland 16-21" PZ	77C.2	Strongly Sloping Plains	1	1190-2030			X
Very Shallow 16-21" PZ	77C.2	Nearly Level/Gently Sloping Plains	1	650-1290			X

Ecological Site Description	Major Land Resource Areas (MLRA)	Landscape Description	LPC Value (1-5 scale)	Production lbs/ac	Nesting Habitat	Brood Habitat	Limited use
Wet Saline 16-12" PZ	77C.2	Bottomlands - Wet	1	1140-1621			X
Clay Loam 12-17: PZ	77D.1	Gently sloping plains	1	800-2000			X

APPENDIX D. GENERALIZED ACREAGE COMPOSITION OF EACH LPC FOCAL AREA REPORTING UNIT AND ITS ASSOCIATED GOALS FOR RESTORATION.

Ecoregion – reporting unit	Grass Acreage[a]	Shrub Acreage[a]	Cropland Acreage[b]	Total Acreage	Impacted Acreage[c]	Development Impacts (%)	Total Impacted (%)[d]	Restoration Acreage Required[e]	Remediation Acreage Required[f]	Annual Restoration Acreage Goal[e]	Annual Remediation Acreage Goal[f]
Shinnery Oak											
1	16,432	52,151	660	69,760	12,330	17.7%	18.5%	0	0	0	0
2A	18,030	61,861	16,160	96,000	16,945	17.7%	31.0%	974	0	97	0
2B	27,561	63,485	3,747	95,360	16,750	17.6%	21.2%	0	0	0	0
2C	66,515	38,211	54	106,880	13,971	13.1%	13.1%	0	0	0	0
2D	44,920	51,930	2,644	100,480	18,681	18.6%	20.1%	0	0	0	0
2E	67,750	53,852	0	123,520	15,269	12.4%	12.3%	0	0	0	0
2F	46,692	26,987	0	74,240	4,986	6.7%	6.7%	0	0	0	0
3	15,985	31,684	0	48,000	3,484	7.3%	7.3%	0	0	0	0
4	61,550	11,797	44,220	122,240	28,218	23.1%	51.6%	26,392	0	2,639	0
5	46,439	25,644	0	72,320	2,587	3.6%	3.5%	0	0	0	0
6	13,542	7,164	4,598	25,600	3,504	13.7%	30.2%	39	0	4	0
7	21,933	0	5,780	26,880	5,346	19.9%	38.0%	2,155	0	216	0
8	41,293	49	14,772	55,680	11,616	20.9%	40.6%	5,888	0	589	0
9	24,766	73	3,535	29,440	1,543	5.2%	16.6%	0	0	0	0
Total	*513,406*	*424,886*	*96,169*	*1,046,400*	*155,229*	14.8%	*22.1%*	*35,449*	*0*	*3,545*	*0*
Mixed Grass											
10	103,618	49,301	4,820	160,000	51,817	32.4%	34.4%	7,035	3,817	703	382
11	71,353	28,005	5,239	104,960	23,520	22.4%	25.9%	0	0	0	0
12	51,547	32,635	2,547	93,440	10,420	11.2%	13.5%	0	0	0	0
13A	40,007	17,534	7,507	64,000	16,517	25.8%	34.4%	2,822	0	282	0
13B	75,964	21,437	1,836	100,480	23,213	23.1%	24.7%	0	0	0	0
13C	74,425	22,954	5,038	102,400	26,397	25.8%	29.1%	0	0	0	0
13D	103,763	21,010	3,069	129,920	34,735	26.7%	28.3%	0	0	0	0
14	4,781	387	196	5,760	2,305	40.0%	42.0%	694	577	69	58
15	12,522	30	4,636	17,920	4,971	27.7%	46.0%	2,868	0	287	0
16A	68,875	10,340	16,324	96,000	20,658	21.5%	35.0%	4,822	0	482	0
16B	49,032	5,919	9,723	64,640	14,214	22.0%	33.5%	2,283	0	228	0
16C	69,153	13,430	18,720	100,480	30,221	30.1%	43.4%	13,426	77	1,343	8
17	30,143	563	743	33,280	7,457	22.4%	23.8%	0	0	0	0
18	30,188	2,879	667	34,560	9,568	27.7%	29.2%	0	0	0	0
19	24,371	1,226	143	26,240	2,322	8.8%	9.4%	0	0	0	0
20	28,166	596	2,347	32,640	6,829	20.9%	26.8%	0	0	0	0
21	48,134	4	6,575	56,320	8,399	14.9%	24.6%	0	0	0	0
22	62,565	6,572	2,979	73,600	13,313	18.1%	21.3%	0	0	0	0
23	45,907	1,552	1,947	51,200	10,273	20.1%	22.6%	0	0	0	0
24	90,243	1,204	11,003	104,960	12,308	11.7%	21.0%	0	0	0	0
27	62,748	21	10,030	74,880	5,965	8.0%	20.1%	0	0	0	0
28A	43,646	242	26,225	70,400	11,877	16.9%	47.3%	12,187	0	1,219	0
28B	77,034	1,258	21,195	103,040	9,996	9.7%	28.1%	0	0	0	0
28C	93,943	35	6,776	104,320	8,963	8.6%	14.3%	0	0	0	0
28D	101,792	4	16,197	120,960	14,177	11.7%	23.0%	0	0	0	0
29A	84,090	1	12,136	97,920	13,226	13.5%	24.2%	0	0	0	0
29B	117,225	9	6,544	129,280	14,359	11.1%	15.4%	0	0	0	0
29C	83,178	4	10,286	96,000	9,401	9.8%	18.6%	0	0	0	0
29D	81,292	4	3,369	87,680	8,148	9.3%	12.7%	0	0	0	0
30	24,848	0	37,936	60,800	10,577	17.4%	68.5%	23,410	0	2,341	0
33A	64,899	18	25,533	92,800	10,801	11.6%	35.1%	4,722	0	472	0
33B	53,496	5	32,327	85,120	11,403	13.4%	46.5%	14,031	0	1,403	0
Total	*1,972,949*	*239,180*	*314,614*	*2,576,000*	*458,350*	17.8%	*27.8%*	*88,299*	*4,471*	*8,830*	*447*
Sand Sagebrush											
25	8,617	16,449	36	25,600	2,634	10.3%	10.4%	0	0	0	0
26	10,491	3,981	8,159	20,480	2,370	11.6%	45.9%	3,260	0	326	0
31A	45,810	53,498	8,700	111,360	14,609	13.1%	19.7%	0	0	0	0
31B	66,707	35,625	34,312	141,440	35,275	24.9%	42.4%	17,566	0	1,757	0
31C	39,403	12,249	43,175	96,640	33,769	34.9%	63.6%	32,449	4,777	3,245	478
31D	70,059	1,075	37,015	110,720	38,792	35.0%	56.6%	29,409	5,576	2,941	558
31E	58,054	3,468	32,729	97,920	30,980	31.6%	56.3%	25,755	1,604	2,576	160
32	19,333	1,013	45,597	46,720	7,889	16.9%	98.7%	32,088	0	3,209	0
35A	36,659	2,298	12,238	51,200	5,681	11.1%	32.9%	1,467	0	147	0
35B	42,634	24,873	39,002	107,520	24,150	22.5%	51.6%	23,208	0	2,321	0
35C	29,643	4,412	43,802	78,080	8,705	11.1%	61.5%	24,558	0	2,456	0
35D	53,032	75,409	30,463	165,760	21,859	13.2%	28.6%	0	0	0	0
35E	34,916	4,204	79,133	115,840	37,548	32.4%	79.7%	57,578	2,796	5,758	280
35F	46,984	0	60,281	108,160	35,243	32.6%	72.7%	46,187	2,795	4,619	279
36	23,671	16,881	4,469	45,440	4,075	9.0%	18.1%	0	0	0	0
38	71,561	19,356	8,030	101,120	7,762	7.7%	15.1%	0	0	0	0
40	63,954	84,289	6,677	159,360	13,998	8.8%	12.5%	0	0	0	0
Total	*721,527*	*359,077*	*493,818*	*1,583,360*	*325,341*	20.5%	*44.3%*	*436,174*	*22,018*	*43,617*	*2,202*
Shortgrass/CRP Mosaic											
34	47,589	1	36,161	86,400	12,770	14.8%	50.1%	17,339	0	1,734	0
37A	73,067	8	57,535	129,920	25,319	19.5%	55.2%	32,778	0	3,278	0
37B	51,596	5	28,821	82,560	6,443	7.8%	40.0%	8,266	0	827	0

Ecoregion – reporting unit	Grass Acreage[a]	Shrub Acreage[a]	Cropland Acreage[b]	Total Acreage	Impacted Acreage[c]	Development Impacts (%)	Total Impacted (%)[d]	Restoration Acreage Required[e]	Remediation Acreage Required[f]	Annual Restoration Acreage Goal[e]	Annual Remediation Acreage Goal[f]
37C	69,673	6	41,220	112,000	10,595	9.5%	41.8%	13,253	0	1,325	0
37D	45,069	0	75,808	100,480	6,929	6.9%	77.3%	47,562	0	4,756	0
37E	56,225	211	67,005	126,720	11,648	9.2%	56.9%	34,095	0	3,409	0
37F	82,120	659	42,292	129,280	25,479	19.7%	45.4%	19,898	0	1,990	0
39A	52,680	0	47,125	101,120	13,137	13.0%	54.9%	25,177	0	2,518	0
39B	66,626	129	72,515	139,520	18,569	13.3%	58.3%	39,444	0	3,944	0
39C	75,883	397	41,124	121,600	24,978	20.5%	47.4%	21,109	0	2,111	0
41A	67,480	22	30,331	96,640	6,515	6.7%	35.3%	5,105	0	511	0
41B	99,991	6	49,398	150,400	14,398	9.6%	39.5%	14,324	0	1,432	0
41C	89,076	10	37,395	127,360	12,573	9.9%	35.8%	7,389	0	739	0
41D	57,854	0	26,596	86,400	9,428	10.9%	37.8%	6,766	0	677	0
42	31,745	50	29,082	62,720	9,760	15.6%	55.0%	15,706	0	1,571	0
43A	66,467	16	17,156	84,480	7,703	9.1%	26.4%	0	0	0	0
43B	53,629	6	10,889	62,720	2,762	4.4%	20.8%	0	0	0	0
44	44,266	0	27,772	72,320	9,727	13.4%	46.6%	12,010	0	1,201	0
Total	1,131,035	1,526	738,225	1,872,640	228,734	12.2%	46.6%	*320,220*	*0*	*32,022*	*0*
Grand Total	**4,338,918**	**1,024,669**	**1,642,826**	**7,078,400**	**1,167,654**	**16.5%**	**35.6%**	**880,143**	**26,489**	**88,014**	**2,649**

[a] Acreage tabulated using the National Land Cover Database (NLCD, 2006)
[b] Estimated by merging the NLCD cropland category and the USDA Cropland Data Layer (CDL, 2012) and classifying all common land units (CLU) as cropland in their entirety if they were identified as containing ≥50% of the modified cropland layer
[c] Includes all unique acreage that falls within an existing impact buffer (regardless of land cover)
[d] Includes all unique acreage that is classified as cropland or falls within an existing impact buffer
[e] The goals do not account for grassland habitats that are unsuitable due to the presence of exotic or invasive species. Thus, these values represent minimum restoration acreages that must be achieved by cropland conversion and/or remediation of existing development impacts to achieve the goal of 70% good to high quality habitat
[r] Acreage that must be remediated to achieve the goal of 70% good to high quality habitat

APPENDIX E. GENERALIZED ACREAGE COMPOSITION OF EACH LPC CONNECTIVITY ZONE REPORTING UNIT AND ITS ASSOCIATED GOALS FOR RESTORATION.

Ecoregion – reporting unit	Grass Acreage[a]	Shrub Acreage[a]	Cropland Acreage[b]	Total Acreage	Impacted Acreage[c]	Development Impacts (%)	Total Impacted (%)[d]	Restoration Acreage Required[e]	Remediation Acreage Required[f]	Annual Restoration Acreage Goal[e]	Annual Remediation Acreage Goal[f]
Shinnery Oak											
100	68,229	63,692	26,534	148,480	25,693	17.3%	33.1%	0	0	0	0
101	13,494	6,979	0	20,480	985	4.8%	4.8%	0	0	0	0
102	20,877	12,024	31,683	64,000	12,277	19.2%	61.2%	738	0	74	0
103	13,732	2,089	16,948	33,280	10,628	31.9%	66.2%	2,049	0	205	0
104	420,032	40,734	144,616	599,040	116,849	19.5%	38.8%	0	0	0	0
105	22,467	119	4,328	27,520	1,642	6.0%	20.7%	0	0	0	0
Total	*558,830*	*125,636*	*224,108*	*892,800*	*168,075*	18.8%	*39.1%*	*2,787*	*0*	*279*	*0*
Mixed Grass											
106	36,992	10,606	97	49,920	31,278	62.7%	62.7%	1,345	1,326	135	133
107	70,768	32,815	10,380	112,640	34,749	30.8%	36.4%	0	0	0	0
108	25,344	11,626	4,632	42,240	6,264	14.8%	22.9%	0	0	0	0
109	76,777	18,651	27,799	119,680	37,456	31.3%	47.9%	0	0	0	0
110	53,814	10,738	8,659	72,320	24,349	33.7%	41.4%	0	0	0	0
111	62,938	17,803	15,222	99,840	26,582	26.6%	35.9%	0	0	0	0
112	10,004	666	2,665	13,440	3,182	23.7%	39.4%	0	0	0	0
113	15,766	2,558	1,427	19,840	4,934	24.9%	30.2%	0	0	0	0
114	27,654	274	10,336	37,760	9,337	24.7%	48.5%	0	0	0	0
115	10,147	1,098	766	12,160	4,167	34.3%	38.2%	0	0	0	0
116	10,333	2,003	1,152	12,800	3,592	28.1%	34.3%	0	0	0	0
117	19,337	1,917	774	22,400	6,057	27.0%	29.8%	0	0	0	0
118	23,068	24	5,473	29,440	10,279	34.9%	47.4%	0	0	0	0
119	10,936	2	1,177	12,800	2,206	17.2%	23.9%	0	0	0	0
120	16,074	4	1,102	18,560	5,912	31.9%	35.6%	0	0	0	0
121	36,252	14	17,921	55,680	13,906	25.0%	47.3%	0	0	0	0
122	9,077	1,106	5,296	14,720	4,519	30.7%	56.3%	0	0	0	0
123	71,826	185	23,152	99,200	14,344	14.5%	33.9%	0	0	0	0
126	56,742	213	7,952	69,120	11,805	17.1%	26.9%	0	0	0	0
128	25,867	0	3,741	30,080	2,874	9.6%	20.4%	0	0	0	0
130	20,380	0	13,222	34,560	6,515	18.9%	50.2%	0	0	0	0
132	17,190	0	17,405	35,200	8,203	23.3%	61.8%	624	0	62	0
133	38,290	1	24,560	64,640	9,444	14.6%	43.3%	0	0	0	0
134	14,350	0	26,368	37,120	7,495	20.2%	79.1%	7,093	0	709	0
Total	*759,926*	*112,305*	*231,277*	*1,116,160*	*289,448*	25.9%	*41.5%*	*9,062*	*1,326*	*906*	*133*
Sand Sagebrush											
124	1,673	383	2,952	5,120	772	15.1%	64.9%	252	0	25	0
125	1,209	1,572	0	3,200	235	7.3%	7.3%	0	0	0	0
127	910	603	73	1,920	154	8.0%	11.7%	0	0	0	0
129	9,489	3,605	1,109	14,720	4,271	29.0%	35.4%	0	0	0	0
131	9,896	451	13,759	23,680	3,507	14.8%	65.1%	1,199	0	120	0
135	3,397	69	26,859	29,440	12,777	43.4%	96.4%	10,709	0	1,071	0
136	12,967	3,021	48,546	53,120	7,879	14.8%	93.4%	17,747	0	1,775	0
138	4,358	6,546	2,694	14,080	4,508	32.0%	45.2%	0	0	0	0
139	6,666	3,719	4,754	15,360	2,042	13.3%	41.6%	0	0	0	0
140	11,122	9,860	880	23,040	6,859	29.8%	32.5%	0	0	0	0
142	42,250	8,498	8,916	61,440	11,616	18.9%	31.4%	0	0	0	0
200	35,605	8,698	20,861	67,200	12,675	18.9%	44.0%	0	0	0	0
201	8,659	273	13,012	19,840	3,864	19.5%	74.4%	2,866	0	287	0
202	1,064	1	2,215	3,200	1,417	44.3%	89.4%	941	0	94	0
203	398	29	640	640	0	0.0%	100.0%	256	0	26	0
204	45,123	6,202	34,392	81,920	13,735	16.8%	52.3%	0	0	0	0
205	54	70	463	640	377	58.9%	93.5%	214	0	21	0
206	665	5	326	1,280	346	27.1%	50.1%	0	0	0	0
207	1,595	426	5,857	6,400	870	13.6%	96.4%	2,330	0	233	0
208	13,207	1	2,130	15,360	2,447	15.9%	28.4%	0	0	0	0
209	9	0	635	640	49	7.6%	100.0%	256	0	26	0
210	5,251	410	3,423	8,960	3,774	42.1%	66.7%	602	0	60	0
211	63	20	594	640	42	6.6%	95.2%	225	0	23	0
212	874	105	1,930	2,560	201	7.9%	77.9%	458	0	46	0
213	633	82	1,107	1,280	99	7.7%	87.2%	349	0	35	0
214	3,450	1,791	511	5,760	430	7.5%	15.9%	0	0	0	0
215	19,841	200	34,462	46,720	7,612	16.3%	77.7%	8,278	0	828	0
216	383	173	51	640	223	34.8%	34.8%	0	0	0	0
217	18,467	8,405	19,943	44,160	5,500	12.5%	50.6%	0	0	0	0
218	19,105	13,647	444	34,560	6,155	17.8%	18.3%	0	0	0	0
Total	*278,385*	*78,864*	*253,539*	*587,520*	*114,438*	19.5%	*54.6%*	*46,684*	*0*	*4,668*	*0*
Shortgrass/CRP Mosaic											
137	13,541	33	21,623	32,640	11,400	34.9%	78.8%	6,138	0	614	0
141	32,440	1	18,153	52,480	10,465	19.9%	45.3%	0	0	0	0
143	7,100	0	19,059	26,240	5,079	19.4%	78.9%	4,950	0	495	0
144	29,799	20	17,036	46,720	6,363	13.6%	46.5%	0	0	0	0
145	7,480	0	17,857	25,600	3,794	14.8%	75.3%	3,930	0	393	0

Ecoregion – reporting unit	Grass Acreage[a]	Shrub Acreage[a]	Cropland Acreage[b]	Total Acreage	Impacted Acreage[c]	Development Impacts (%)	Total Impacted (%)[d]	Restoration Acreage Required[e]	Remediation Acreage Required[f]	Annual Restoration Acreage Goal[e]	Annual Remediation Acreage Goal[f]
Total	*90,360*	*53*	*93,728*	*183,680*	*37,101*	20.2%	*60.6%*	*15,018*	*0*	*1,502*	*0*
Grand Total	**1,687,500**	**316,859**	**802,652**	**2,780,160**	**609,063**	**21.9%**	**44.8%**	**73,550**	**1,326**	**7,355**	**133**

[a] Acreage tabulated using the National Land Cover Database (NLCD, 2006)
[b] Estimated by merging the NLCD cropland category and the USDA Cropland Data Layer (CDL, 2012) and classifying all common land units (CLU) as cropland in their entirety if they were identified as containing ≥50% of the modified cropland layer
[c] Includes all unique acreage that falls within an existing impact buffer (regardless of land cover)
[d] Includes all unique acreage that is classified as cropland or falls within an existing impact buffer
[e] The goals do not account for grassland habitats that are unsuitable due to the presence of exotic or invasive species. Thus, these values represent minimum restoration acreages that must be achieved by cropland conversion and/or remediation of existing development impacts to achieve the goal of 70% good to high quality habitat.
[f] Acreage that must be remediated to achieve the goal of 70% good to high quality habitat

APPENDIX F. THE WAFWA CONSERVATION AGREEMENT AND CERTIFICATE OF PARTICIPATION FOR IMPACT GENERATORS.

Western Association of Fish and Wildlife Agencies Conservation Agreement

for the

Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*) for Impact Generators In Colorado, Kansas, New Mexico, Oklahoma and Texas

EXECUTIVE SUMMARY

In 1995, the U.S. Fish and Wildlife Service (FWS) was petitioned to list the lesser prairie-chicken (*Tympanuchus pallidicinctus*) (LPC) as threatened under the authority of the Endangered Species Act of 1973, as amended. The FWS ruled that listing of the LPC was warranted but precluded because of other higher priority species. The LPC 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 LPC as threatened (77 Fed. Reg. 73,828; Dec. 11, 2012).

This Western Association of Fish and Wildlife Agencies (WAFWA) Conservation Agreement (WCA) for the LPC represents a collaborative effort between the USFWS, WAFWA, and WAFWA's Foundation for Western Fish and Wildlife (FWFW). It is one of the enrollment options for 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 WCA utilizes the impact metrics and conservation delivery system outlined in the RWP.

The WCA is a voluntary agreement administered by WAFWA. It will be the responsibility of WAFWA to work with and enroll participants in this WCA (hereinafter "Participants" and more fully described in Section VII of this WCA) using WAFWA Certificates of Participation (WCPs) (see Appendix A) which will facilitate the voluntary cooperation of the industry Participants, thereby providing conservation benefits to the LPC. When fully implemented, this WCA will provide guidance for the conservation and management of the LPC, by reducing and/or eliminating threats to this species associated with non-Federal industrial development. Participants will implement conservation measures and contribute funding for conservation for unavoidable impacts as part of their WCPs. Funds contributed as part of this WCA may or may not be used on the enrolled property since other habitat areas may be a higher priority for implementation of habitat improvement projects. The conservation measures implemented by Participants would consist of avoidance and minimization measures, habitat restoration and enhancement activities, and minimization of habitat impacts to preclude or remove current threats to the species.

This WCA is based on adaptive management principles. Using adaptive management principals, and with the consent of all WAFWA, if new conservation measures are deemed to be necessary in the future, WAFWA can modify the template WCP attached hereto to include additional measures that would apply to all future enrollments to facilitate the continued conservation of the LPC.

INTRODUCTION

If and when a species becomes listed under the ESA, as amended (16 U.S.C. § 1531, et seq.) that listing action triggers both a regulatory and a conservation responsibility for Federal, State, and private landowners. These responsibilities stem from Section 9 of the ESA that prohibits "take" (i.e., harass, harm, pursue, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct) of listed species. Along with the Section 9 prohibitions, Federal agencies

must ensure that their actions will not jeopardize the continued existence of the listed species and carry out programs for the conservation of listed species.

If the LPC is listed as a Threatened species, FWS has proposed a 4(d) special rule to allow "for take of LPC incidental to activities conducted pursuant to a comprehensive conservation program that was developed by or in coordination with a State agency and that has been determined by the Service … to provide a net conservation benefit to the LPC." (Fed. Reg. FWS-R2-ES-2012-0071, May 6, 2013). Thus, the 4(d) rule would exempt take incidental to implementing the RWP from the otherwise applicable take prohibitions of the ESA. The 4(d) rule would provide the regulatory relief otherwise obtainable only through permits.

This WCA and associated WCP, in conjunction with the RWP and other conservation efforts, will address the conservation needs of the LPC. Through this WCA, WAFWA will work with Participants who voluntarily commit to implementing conservation actions that will reduce and/or eliminate threats to this species.

Connection with the Lesser Prairie-Chicken Range-wide Plan

This WCA tiers to the Lesser Prairie-Chicken Range-wide Plan (RWP). WAFWA developed the RWP with the goal of conservation of the LPC for future generations while facilitating continued and uninterrupted economic activity throughout the entire five-state LPC range. The RWP, if implemented in a timely manner, is intended to preclude the need to list the LPC under the ESA, as amended. The RWP emphasizes tools and incentives to encourage landowners and others to voluntarily partner with agencies in LPC habitat to implement conservation efforts, while also achieving land use needs. The terms of this WCA are intended to support the conservation strategy set forth in the RWP by implementing this range-wide framework for avoidance, minimization, and mitigation of industrial activities.

Benefits of this WCA

The most significant benefit of this WCA is that it will provide additional conservation efforts and guide conservation actions for the LPC in order to improve the status of the species within the LPC range. This WCA, in conjunction with the RWP, provides a comprehensive and strategic landscape-level approach to addressing the conservation needs of the LPC. Although the FWS cannot guarantee that listing will never be necessary, this WCA seeks to implement conservation measures on non-Federal property, which, when combined with those benefits that would be achieved if conservation measures were to also be implemented on other necessary properties, would preclude or remove any need to list the LPC. It is important to note that a federal decision not to list the LPC would be based upon the removal of threats and stabilization or improvement of the species. The decision to list is a regulatory process and no WCA or CCA can predetermine the outcome. The actions and successes of this WCA will be evaluated in accordance with FWS Policy for Evaluation of Conservation Efforts (2003) and be factored into the five-factor analysis of the listing decision.

I. PURPOSE OF THE WCA

This WCA is designed to include conservation measures that reduce and/or eliminate threats by land uses including mineral, wind energy, electrical transmission, road, residential/commercial building, and other types of development on non-Federal property. If enough Participants implement conservation measures on these properties through their participation in the WCA, the likelihood that the species will be listed will be greatly reduced.

The primary purposes of this WCA are to:

- Develop, coordinate, and implement conservation measures provided in the RWP that relate to industrial development activities to reduce and/or eliminate known threats to the LPC within its range;
- Support ongoing efforts to maintain viable populations of LPC in occupied and suitable habitat;
- Serve as a range-wide document for industrial conservation measures implemented by WAFWA and Participants;
- Encourage creation, enhancement and protection of suitable LPC habitat by giving Participants incentives to implement specific conservation measures (as described in their WCP);
- Provide Participants assurance that the conservation measures agreed to in the WCP would be sufficient, and thus assure them that no additional land use restrictions or financial commitments will be required of them should the LPC become listed, without the consent of the Participants; and
- Allow Participants to continue operations while protecting and improving habitat conditions for the LPC.

II. AUTHORITY

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. Since WAFWA's establishment in 1922, WAFWA has been innovative in its approach to identifying and pursuing meaningful applied research that has resulted in practical solutions in the environment. WAFWA has a broad capacity in these areas due to the combined experience of its member organizations and its directors and staff members. WAFWA has also been able to develop strong partnerships with universities, agencies, research institutions, and private industry to bring together additional expertise as needed to meet challenges of various endeavors. FWFW is a 501(c)(3) that serves as the fiscal agent for WAFWA.

WAFWA will serve as the program administrator and will maintain positions for biologists 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. FWFW will serve as the fiscal agent for this agreement, managing a non-wasting endowment to fund conservation activities that will benefit the LPC 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 LPC. FWFW 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 LPC RWP, contained in the RWP (October 2013 version). Hereafter these two organizations will be referred to collectively as "WAFWA".

III. THE LESSER PRAIRIE-CHICKEN

The LPC 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 LPC, including information about the species' life history, habitat requirements, and population status (pages 13–22 of the RWP (Oct. 2013 version)). Because this WCA is intended to align with and complement activities associated with the RWP, as explained below, the descriptions of LPC species information set forth in the RWP are incorporated and adopted herein.

IV. 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 LPC populations (pages 30-38, October. 2013 version).

V. RELATED CONSERVATION EFFORTS

Numerous state, federal, and private programs currently exist that provide conservation benefits to LPC and directly address threats to the species such as:

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

Through improvements in habitat quantity, quality, and connectivity, these programs also indirectly address LPC threats such as:

- Climate change
- Extreme weather events like drought, hails storms, blizzards, etc.
- Predation
- Disease

These programs provide technical and financial assistance to landowners for habitat management for LPC. Other programs provide assurances to landowners and industries that if LPC conservations are included in management activities, future management can continue in this manner even if LPC are listed by the USFWS. Several programs address industry siting, best management practices, and avoidance, minimization and voluntary mitigation. Additional programs provide for direct management of LPC habitat on public or other lands within LPC range. Combined with the RWP, these programs provde for a high level of certainty and predictability to the USFWS regarding LPC conservation.

A complete description of existing conservation programs can be found in the RWP (October 2013 version) on pages 38-66.

VI. NEED FOR THIS AGREEMENT

The ESA prohibits take of listed species, including on private lands, unless permitted by the FWS.

This WCA, along with implementation of the proposed 4(d) rule if LPC is listed as Threatened, would exempt take incidental to implementing the RWP from the otherwise applicable take prohibitions of the ESA. The 4(d) rule would provide the regulatory relief otherwise obtainable only through permits. To receive the 4(d) protections and associated incidental take coverage, Participants must enroll their property under the WCA by signing a WCP.

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. Since WAFWA's establishment in 1922, WAFWA has been innovative in its approach to identifying and pursuing meaningful applied research that has resulted in practical solutions in the environment. WAFWA has a broad capacity in these areas due to the combined experience of its member organizations and its directors and staff members. WAFWA has also been able to develop strong partnerships with universities, agencies, research institutions, and private industry to bring together additional expertise as needed to meet challenges of various endeavors. FWFW is a 501(c)(3) that serves as the fiscal agent for WAFWA.

WAFWA will serve as the program administrator and will maintain positions for biologists 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. FWFW will serve as the fiscal agent for this agreement, managing a non-wasting endowment to fund conservation activities that will benefit the LPC 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 LPC. FWFW 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 LPC RWP, contained in the RWP (Oct. 2013 version). Hereafter these two organizations will be referred to collectively as "WAFWA".

Participants

Any non-federal property owner may enroll its property under the WCA. A "Property Owner" includes any person or entity with a fee simple, leasehold, or other property interest (including owners of water or other natural resources) sufficient to carry out the conservation measures described in this WCA and the attached WCP, subject to applicable State law, on non-Federal land. By executing the attached WCP or a version thereof, the Participant commits to implement, and assumes responsibility for implementing, the conservation measures identified therein.

Process of Enrolling

An interested Property Owner will initially contact WAFWA to enroll. Next, an interested Property Owner will execute a WCP that documents the conservation measures the interested Property Owner is committing to adhere to or implement. Next, WAFWA signs the WCP. The Property Owner becomes a Participant.

VII. COVERED AREA AND ENROLLED PROPERTY

The Covered Area includes private and state property that currently provides or could potentially provide suitable habitat for the LPC within the current range of the LPC and ten miles around

that range. The Covered Area is represented in the 2013 Crucial Habitat Assessment Tool (CHAT) (http://kars.ku.edu/maps/sgpchat/) as the Estimated Occupied Range plus 10 miles (EOR+10). Enrolled property is the property within the Covered Area and identified on all signed CIs of all Participants under this WCA. Participants may amend their WCPs at any time to enroll additional property within the Covered Area.

VIII. COVERED ACTIVITIES

Industrial development-related activities that have the potential to cause specific threats to LPC would be covered by the WCA (Covered Activities). These activities, which span the entire life-cycle of industrial development operations, generally include but are not limited to the following:

OIL & GAS 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 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 when the project is complete. Land surveying is a 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, flowlines, and distribution lines), may include the use of heavy equipment and trucking activities in clearing vegetation, contouring, compacting, stabilizing soils, and installing erosion control (including silt fencing, earthen berms, etc. per Clean Water Act permitting requirements). Well site construction may also include erecting temporary fencing and netting around a location, or portions thereof, for livestock and wildlife protection. A water well, disposal well and/or injection well may be drilled near the location and possible trenching-related activities associated with installation of flowlines, pipelines, and utilities may occur. Associated infrastructure for compressor facilities and gathering/processing facilities may also be constructed on site or at adjacent sites. Where practical, equipment may be electrified (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 LPC 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) Operations and Maintenance: Routine operations can include stimulations, wellbore repair, daily inspections and maintenance, gathering line and flowline repairs, unloading of storage tanks, truck traffic for removal of product or waste, emergency response activities, remediation of spills, workovers, recompletions, flaring, and weed control.

E) 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, flowlines, and distribution lines), associated infrastructure for compressor facilities and gathering/processing facilities. Remediation and restoration may occur on any lands within the Covered Area, but such lands need not be enrolled in a WCP under this WCA or in the RWP.

AGRICULTURAL ACTIVITIES

A) Brush management: Brush management will be a covered activity if done in accordance with NRCS practice standards.

B) Building and maintaining fences and livestock structures: Construction and maintenance of new and existing fences and/or livestock structures will be covered activities if they are done in accordance with the NRCS practice standards.

C) Grazing: Grazing will be a covered activity if it is done in accordance with the NRCS practice standards.

D) Water/windmill: Construction of water storage facilities, agricultural water pipelines, windmills, and water troughs will be covered activities if they are done in accordance with NRCS practice standards.

E) Disturbance practices: Disturbance of grassland is a covered activity if done in accordance with USDA practice standards for native rangelands and planted grass stands. Some activities that will be covered include prescribed fire, disking, mowing, haying, etc.

F) Crop production: Normal agricultural activities occurring on tilled acreage are not considered to be a source of take (e.g. plowing, planting, harvesting, etc.).

WIND POWER, CELL AND RADIO TOWERS, AND POWER LINE ACTIVITIES

A) Construction: This includes all aspects of construction of turbines towers or power lines, as well as access to the sites, transmission line connections to substations, existing power grids, or structures, associated infrastructure, assembling and erecting poles and towers, and stringing and connecting wires. Also considered part of construction are clearing vegetation, contouring, compacting, stabilizing soils and erosion control (including silt fencing, earthen berms, etc. per Clean Water Act permitting requirements). Heavy equipment and trucking associated with construction activities may cause LPC mortality due to collision and behavioral modifications. Physical disturbance affected by the construction of turbines, turbine noise, and physical movement of turbines during operation have the potential to disturb nesting.

B) Operations and Maintenance: Routine operations can include daily inspections and maintenance, electrical line repairs, emergency response and repair and cleaning of structures, work overs (recompletions), and weed and tree control.

C) Decommissioning and Remediation: These activites may include removal of turbines, towers, power lines, buildings, roads and pads, re-grading of surface contours, and reseeding.

ROAD ACTIVITIES

A) Construction: This includes all aspects of construction from siting routes, establishing staging areas for machinery, building associated infrastructure, access roads and rights-of way and may include clearing vegetation, contouring, compacting, stabilizing soils and erosion control (including silt fencing, earthen berms, etc. per Clean Water Act permitting requirements). Heavy equipment and trucking associated with construction activities may cause LPC mortality due to collision and behavioral modifications.

B) Operations and Maintenance: Routine operations can include daily inspections and maintenance, road repairs, emergency response and repair and cleaning of roadways or applying gravel, work overs (recompletions), and weed and tree control.

C) Decommissioning and Remediation: These activities may include removal of roads, bridges, and culverts, re-grading surface contours and reseeding.

GENERAL ACTIVITIES

A) Hunting: Recreational hunting may result in travel by hunters in LPC habitat to seek and retrieve targeted game, including LPC. Hunting of LPC is closely regulated in Kansas through bag limits and seasons. Research has indicated that hunter harvest is an insignificant source of mortality in Kansas (Hagen et al. 2007b, Fields 2004, Pitman *unpublished data*). Removing that source of mortality will not result in a significant

increase in population growth (Hagen et al. 2009).

B) OHV activity: OHV activity in LPC habitat includes OHV use for recreation (including hunting) and for ranching and oil and gas development.

C) General construction: General construction and development activities by a variety of sectors, public and private, may occur in LPC Habitat. For example, a water utility line planned by multiple counties in the region may involve construction in or near LPC habitat. Other construction or access dozing by alternative energy producers or for recreational purposes is also contemplated.

D) Other land management: Other land management activities may include prescribed burns and game, predator management, and remediation of impacted habitat back to baseline conditions.

Participants commit in their WCPs to implement conservation measures, which are detailed in the RWP and section XII of WCA.

IX. DURATION OF THE AGREEMENT

This WCA will have a duration of 30 years from the date the RWP is endorsed by the FWS. The WCA will cover a Participant's enrolled property from the effective date of the WCP until the WCP terminates. Should the LPC become listed as threatened and the proposed 4(d) rule implemented, and all other requirements are met, protection under the 4(d) rule will become effective and all Participants will be exempt from take incidental to implementing the WCA from that date until the end of their participation in this WCA or until the WCP is terminated. The duration of participation can be the full duration of the WCA, but the Participant may terminate the WCP if Participant has remitted enrollment fees in accordance with the terms of Section II of the WCP. Prior to the expiration of the initial 30 year period or any extension period thereafter, WAFWA may extend the WCA for a ten year period.

X. CONSERVATION MEASURES AND OBLIGATIONS OF THE PARTIES

WAFWA will implement and administer the WCA. Participants can sign up under the WCA and through a WCP and will be covered under the 4(d) rule if the species is listed under the ESA.

A) Obligations Common to all Participants:

1) Enter into a WCP that contains the conservation measures outlined in Section XII, below ("Conservation Measures").

As described in Section XIII, below, the effectiveness of the conservation measures will be reviewed by WAFWA and Participants periodically over the life

of the WCA. However, new conservation measures may only be implemented through future WCPs if WAFWA finds such measures to be necessary to facilitate the continued conservation of the LPC. Conservation measures agreed upon in existing WCPs may only be modified through the written consent of the Participants through the amendment procedures described in the WCP.

2) Comply with the terms of the WCP and implement the conservation measures identified therein. Enrollment under this WCA and coverage of the enrolled property will begin on the effective date of the WCP. The WCP is valid until the end of the WCA either through expiration or termination, or until termination of the WCP.

3) Allow WAFWA access to the enrolled property for purposes of monitoring compliance with terms of the WCP so long as WAFWA provides at least two weeks advance notice. The 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.

4) Allow WAFWA, with two weeks advance notice, access to survey enrolled property for the presence of LPCs and habitat suitability to the extent of the Participant's control as provided by applicable law, contracts, or leases. 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.

B) Obligations of WAFWA:

1) Implement and administer this WCA;

2) Enroll Participants in accordance with this WCA via WCPs;

3) Use funds contributed in accordance with Appendix B of the WCP to implement conservation activities to benefit the LPC such as habitat restoration, habitat enhancement, and removal of threats.

4) Monitor conservation projects in order to determine success and adaptations needed, as defined in the monitoring section of the RWP (Oct. 2013 version);

5) Secure permission to complete conservation projects on private and State lands, where appropriate;

6) Establish committees ("WAFWA Committees") as described in Business Plan and in Section (5), below.

7) Schedule WAFWA Committee meetings at least once per year (but may hold meetings more often, if needed or requested), and coordinate the locations, dates and times of the WAFWA Committee meetings;

8) Track expenditure of funds and prepare and submit to FWS an annual report on implementation of this WCA;

9) Maintain a digital photo database to document project (i.e., conservation measure) performance;

10) Audit by an independent party annually to account for expenditures and accomplishments;

11) Maintain the confidentiality of certain information as described in Section XX;

12) Hold the WCPs for each enrolled properties;

13) Administer the WCPs for Participants in accordance with their terms;

14) Hold Participants' Habitat Conservation Fund Accounts; and

15) Work with Participants for the resolution of non-compliance issues.

C) Obligations of WAFWA and all Participants:

1) WAFWA and Participants agree that, in the event the Participant elects to transfer enrolled property prior to the expiration of the agreement, the Participant will be required to notify WAFWA so its WCP can be modified. WAFWA will notify the new owner of the opportunity to enroll or transfer the property in a WCP of their own. If the new owner opts not to participate in the WCA, he/she will not receive the benefits of the 4(d) rule protections. . If the new owner opts to participate in the WCA, the new owner may also opt to enroll additional property not previously included in a WCP by amending the WCP to include the additional property within the Covered Area.

2) WAFWA and Participants may propose amendments to this WCA by providing written notice to the other Party and all Participants. If WAFWA is the recipient of this notice, it will forward copies to all other Participants within 10 days of receipt of the notice. If WAFWA provided written notice to the Participants, it will provide such written notice to all Participants at the same time. 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 WAFWA and all Participants to discuss and explain the proposal. The Parties will

use their best efforts to 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 attached to the original WCA. Participants enrolled prior to an amendment of the WCA 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 WCA prior to the amendment. Participants, however, may voluntarily choose to adopt such amendments by amending their WCPs.

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

4) WAFWA agrees to work together and with Participants in good faith to resolve any disputes, using dispute resolution procedures agreed upon by the WAFWA and Participants.

5) This WCA 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 WCA to maintain a suit for personal injuries or damages pursuant to the provisions of this WCA. The duties, obligations, and responsibilities of the Parties to this WCA with respect to third parties shall remain as imposed under existing law.

6) The terms of this WCA shall be governed by and construed in accordance with applicable Federal and State laws. All activities undertaken pursuant to this WCA must be in compliance with all applicable local, state, and Federal laws and regulations.

7) This WCA shall be binding on and shall inure to the benefit of the WAFWA, and shall inure to the benefit of the Participants, and their respective successors and transferees upon their election for the duration of the WCA.

8) Any notices or reports required by this WCA may be delivered in writing or electronically to WAFWA unless the form of delivery for a particular notice is specifically identified.

D) Obligations of Cooperating Agencies and Parties:

1) WAFWA will administer the WCA and will 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. FWFW will employ, use state wildlife agency personnel and/or contract personnel for accounting, administrative, and GIS support for the agreement. This structure is fully described in the RWP (October 2013 version).

2) The WAFWA Committees may include representatives from the following entities within the LPC 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 LPC, 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 regarding various aspects of the implementation and administration of the WCA, including, but not limited to, new scientific information through the Adaptive Management process, amendments to the WCA and WCP, dispute resolution, prioritization and implementation of conservation measures, research activities, and other similar issues. The committee structure is fully described in the Business Plan.

XI. CONSERVATION MEASURES

A) *Habitat Loss and Fragmentation.* Habitat loss and fragmentation are primary threats to the LPC. Any action that could further negatively impact LPC habitat or connectivity between blocks of LPC habitat shall apply the following measures to receive coverage under the RWP. The primary activities associated with habitat loss and fragmentation are conversion or development of native rangeland and the addition of vertical structures or roads. Examples of these actions include, but are not limited to, oil and gas wells and associated infrastructure, wind development and associated infrastructure, election transmission or distribution lines, and various types of towers (e.g., cell towers).

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 project sites dominated by tracts of native grass and shrublands (see the 2013 CHAT and state fish and wildlife agency staff for more information).

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 LPC

habitat potential over sites with greater habitat potential. The NRCS Ecological Site Descriptions, where available, are a good indicator to use (see Appendix C of the RWP (October. 2013 version)).

2) Minimization

a) Where avoidance is not possible, use common rights of way for multiple types of infrastructure in locating new roads, fences, power lines, well pads, flowlines, compressors, wind turbines, commercial buildings, and other associated industrial infrastructure.

b) Site projects to minimize new habitat disturbance by increasing the amount of overlap between existing fragmentation and associated impact buffers.

c) For oil and gas development, reduce impacts through the use of directional drilling and clustering where feasible or in locating facilities to reduce habitat loss and fragmentation of habitat.

d) Minimize use of herbicide treatments and limit this use to the footprint or right of way for the project. 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.

3) Mitigation

a) Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees as described in Section XV of this WCA and Section III and Exhibit B of the WCP when complete avoidance is not possible. WAFWA will apply Mitigation Fees to generate offset units using the process described in Appendix I of the RWP (October 2013 version).

B) *Collision and Other Direct and Indirect Sources of Mortality.* LPC 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 LPCs. It is also possible for LPC to get caught and drown in human-made water sources (e.g., tanks).

1) Avoidance

a) Locate new roads, fences, power lines, well pads, flowlines, compressors, and other associated oil and gas infrastructure and their impact buffers outside focal areas, connectivity zones, or in other areas

identified as high probability lek and nest habitat by 2013 CHAT categories 1-3.

b) Bury new distribution lines within 1.25 mi of leks active within the previous 5 years.

2) Minimization

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

b) To minimize transmission line footprint, utilize mono-pole construction for new electrical transmission lines within 2013 CHAT categories 1-3.

c) For oil and gas development, 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.

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.

e) During the breeding season (March 1-July 15), minimize traffic volume, control vehicle speed, control access where feasible, and prohibit off-road travel within focal areas and areas identified as high probability lek and nest habitat by the 2013 CHAT.

f) If new distribution lines are constructed within 1.25 mi of leks active within the previous 5 years, and those lines cannot be buried (justification must be provided as to the reason), Participants must site them to minimize potential collision risk, and if appropriate, mark the lines.

g) Within 1.25 mi of leks, it is recommended but not required 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 LPC, this conservation measure may be amended for new Participants and new enrollments by existing Participants.

h) Provide escape ramps, rafts or ladders, depending on configuration, in exposed, human-made water containment sources on enrolled lands under the control of the enrolled Participant.

3) Mitigation

a) Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees as described in Section XV of this WCA and Section III and Exhibit B of the WCP when complete avoidance is not possible. WAFWA will apply Mitigation Fees to generate offset units using the process described in Appendix I of the RWP (October. 2013 version).

C) *Disturbance of Breeding, Nesting, and Brooding Activity.* Disruption of courtship displays and nesting hens in the form of construction and maintenance activities or equipment and infrastructure that emit loud noises may have direct impact on LPC reproductive output. Avoidance and minimization are required for disturbance of breeding, nesting, and brooding activity. Failure to comply with these avoidance and minimization measures will result in a notification of non-compliance.

1) Avoidance

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

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 (Mar 1–Jul 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.

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

to make a well productive again), and unplanned construction and maintenance activities. Participants must also record the dates, duration, and purpose of any emergency operations, construction and maintenance activities within 1.25 miles of leks recorded as active within the previous 5 years and must provide that documentation with their annual reporting.

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.

b) Institute noise abatement year-round for new facilities 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, this conservation measure may be amended for both new and existing Participants. In the event of changes in noise limits for existing Participants, WAFWA and the Participants will agree upon a timeline for implementing those changes.

c) If a complete lek survey is completed for the proposed seismic activity area, the Administrator shall consider, on a case by case basis, the application of seismic methodologies that minimize LPC 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.

XII. ADAPTIVE MANAGEMENT

This WCA is based on adaptive management principles. The WCA 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 F1. The process for

identifying changes to the RWP conservation strategy resulting from adaptive management is outlined on pages 116 through 121 of the RWP (October. 2013 version).

Changes identified through evaluation of the elements described in Table F1 affect implementation of the WCA by adjusting conservation measures or Mitigation Fees. New or changed conservation measures may be applied to new WCPs, additional lands enrolled under existing CIs, and existing enrolled lands in existing CIs; however, new or changed conservation measures may only be applied to existing enrollments by amending CIs in accordance with the procedures described in Section VIII of the WCP of this WCA. Mitigation Fees may be adjusted in accordance with the provisions in Exhibit B to the WCP in this WCA.

Table F1. Identified activities or situations that will trigger the adaptive management process or a specific conservation action.

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
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

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
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)
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 ≥ 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

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
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)	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
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 LPC habitat potential

Evaluated Element	Utilized Information	Trigger(s)	Evaluation Frequency	Primary Corrective Action(s) Considered	Spatial Scale	Anticipated Response
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

XIII. ASSURANCES PROVIDED

If the LPC is listed as a Threatened species, FWS has proposed a 4(d) special rule to allow "for take of LPC incidental to activities conducted pursuant to a comprehensive conservation program that was developed by or in coordination with a State agency and that has been determined by the Service … to provide a net conservation benefit to the LPC." (Fed. Reg. FWS-R2-ES-2012-0071, May 6, 2013). Thus, the 4(d) rule would remove ESA Section 9 regulatory prohibitions for Participants in the RWP.

Assurances Provided to Participant in Case of Changed or Unforeseen Circumstances

The assurances listed below apply to Participants where the WCA is being properly implemented. The assurances apply with respect to the species adequately covered by the WCA.

In the event of changed or unforeseen circumstances, WAFWA will not require the commitment of additional land, water, or other natural resources beyond the level otherwise agreed to for the species in this WCA. WAFWA may request additional conservation but since it is voluntary on the part of Participants, consent of the affected parties must be in writing.

"Changed circumstances" are those alterations in circumstances that can reasonably be anticipated and planned for in the WCA. "Unforeseen circumstances" are changes in circumstances that could not reasonably have been anticipated by WAFWA at the time of the WCA'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 WCA. Changed circumstances are defined in this agreement as any potential changes that are outlined in Table 1 of this WCA, 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 described in Section XIII of this WCA.

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 F2.

Table F2: USDA Practices and Programs Used to Calculate Habitat Management Costs

Conservation Practice or Program	**NRCS Conservation Practice Number**	**Definition**
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

Changes in Habitat Management Costs are not anticipated to result in increases or decreases to Mitigation Fees that are more than 3% in a given year, as explained in more detail in Appendix I of the RWP (WAFWA Business Plan for Implementing the LCP RWP) (October 2013 version). Therefore, the maximum yearly increase in Mitigation Fees resulting from inflation attributable to changed circumstances as described in this Section is 3%. Exhibit B of the WCP 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 rate of change capable of tracking changes in the Mitigation Fees in relation to the best available science on LPCs and a rate that will provide Participants with assurances that costs will be predictable from year to year. Exhibit B of the WCP 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 exceed 3% for inflation and 4% for adaptive management (≤7% in total). Nevertheless, WAFWA and FWS agree to the extent changes in Mitigation Fees exceed 3% for inflation and 4% for adaptive management in any given year, increases in excess of 3% inflation and 4% adaptive management may be allocated to future years until accounted for fully.

The conservation measures included in this WCA and the WCP attached to this WCA as Appendix A are based on the conservation measures identified in the RWP (October 2013 version). The Participant is responsible for implementing those conservation measures that are set forth in the Participant's WCP. 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 WCP may be subject to the conservation measures related to industrial 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. 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.

<u>Changed Circumstances</u>–Changed Technology Associated with Industrial Developments–Technology related to industrial developments (e.g., the exploration and production of oil and gas, implementation of wind energy developments, etc.) is not static. The techniques and technology used in these types of endeavors may evolve over the duration of the WCA. WAFWA, in consultation with the Participants, may determine that the technology associated with an industrial development has changed such that the new technology results in impacts to the LPC of a substantially different nature than the impacts that were included in the analyses for the WCA. WAFWA will consult with the Participants to determine the changes in impacts, positive or negative, to the LPC. Adjustments will be made in 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–Emerging Science Relating to LPC Ecology–Various components of LPC ecology remain poorly documented by empirical data. There is uncertainty regarding the response of LPC 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 WAFWA determines that additional science on the ecology of the LPC indicates that impacts resulting from industrial development may be occurring in a manner different from those analyzed in the WCA, WAFWA will notify the Participants within 30 days of the determination. WAFWA will consult with the Participants to determine the changes in impacts, positive or negative, to the LPC. Adjustments will be made in 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 WCA. If additional conservation measures not provided for in the WCA and associated WCPs are necessary to respond to changed circumstances, WAFWA will not require any conservation measures in addition to those provided for in the WCA or the associated WCP without the consent of the Participant, provided the WCA and the associated WCP are being properly implemented.

Unforeseen circumstances. If additional conservation measures are necessary to respond to unforeseen circumstances, WAFWA may require additional measures of the Participant, but only if such measures are limited to modifications within the WCA's conservation strategy for the affected species, and only if those measures maintain the original terms of the WCA and WCPs 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 WCA and associated WCP without the consent of the Participant.

WAFWA 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 affected species. WAFWA will consider, but not be limited to, the following factors:

1) Size of the current range of the affected species;
2) Percentage of range adversely affected by the WCA;
3) Percentage of range conserved by the WCA;
4) Ecological significance of that portion of the range affected by the WCA;
5) Level of knowledge about the affected species and the degree of specificity of the species' conservation program under the WCA; and

6) Whether failure to adopt additional conservation measures would appreciably reduce the likelihood of survival and recovery of the affected species in the wild.

XIV. FUNDING

Funding for the implementation and administration of this WCA is more fully described in the WCP. Briefly, Participants will pre-pay funds for the restoration, reclamation, and protection of suitable LPC habitat in accordance with Section II of the WCP.

The funds will be used to pay Mitigation Fees, which are fees based on the direct and indirect impacts of Impact Activities on LPC and their habitat. The Participant will remit funds to WAFWA. WAFWA will maintain the funds in a Habitat Conservation Fund Account specific to this WCA. The purpose of the Habitat Conservation Fund Account is to meet the Participant's obligations under the WCA.

Funds contributed by Participants will be contributed to, held and utilized by WAFWA to accomplish conservation activities. Prioritization of conservation activities will be conducted by the Advisory Committee and the Lesser Prairie-Chicken Initiative Council and will focus on the focal areas and connectivity areas.

Participants will make annual pre-payments for the first three years, and the first prepayment will be made into the Habitat Conservation Fund Account at the date of execution of the WCP with the second and third payments made on the first and second anniversary of the WCP. Participants will make pre-payments for the first three years so that fees can be immediately used to implement conservation activities to benefit the LPC before surface disturbing activities are proposed.

After the WCP is executed, WAFWA will calculate the applicable Mitigation Fee associated with Impact Activities using the methodology shown on Exhibit B of the WCP. WAFWA will deduct the resulting Mitigation Fee from a Participant's Habitat Conservation Fund Account balance. The Mitigation Fees may be adjusted in accordance with Exhibit B of the WCP.

Mitigation Fees will be used in the ecoregion (identified in Figure 2, page 15 in the RWP) in which the Impact Activities occur. In the event that the habitat goals under the RWP have been met for that ecoregion and the attainment of that goal can be documented, then funds generated in that ecoregion may be made available for use in other ecoregions that have not reached their habitat goals under the RWP.

XV. 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 LPC is found to be warranted for protection 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 LPC, direct mortality from development may occur from collisions with fencing or vehicles, but habitat loss due to the tendency of the species to avoid developments 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 such as common grazing management practices, prescribed burning, tree removal, and harvest all have the potential to result in potential take.

The "Impact Assessment of Implementing the RWP" section (Pages 127-151, RWP, Oct. 2013 Version) provides a comprehensive analysis and discussion of levels of potential incidental take from implementation of the RWP.

XVI. NOTIFICATION OF INCIDENTAL TAKE

No requirement is made in this WCA for Participants to notify WAFWA prior to any expected incidental take of LPC. For purposes of this WCA, WAFWA does not believe that such a notification requirement is practicable or appropriate.

XVII. EXPECTED CONSERVATION BENEFITS

A) Overview and Relationship to the Range-Wide Plan

This WCA implements the conservation strategy set forth in the RWP for industrial developments. The RWP describes a conservation strategy which, when implemented, will provide the populations and habitat needed to expand and sustain LPC. The strategy identifies a desired population goal to be achieved within a 10 year period. The goal of the RWP is for a LPC 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 conservation strategy is focusing habitat enhancement, maintenance, conservation, and protection in the areas of greatest importance to the LPC. This accomplishes two things:

1) It concentrates limited resources for species conservation in the most important areas, allowing for the restoration, enhancement, and maintenance of large blocks of habitat needed by LPCs.
2) It identifies areas where development should be avoided, which also helps identify areas where development is of less concern for LPC. 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 WCA 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 LPC is listed. The WCA provides incentives for oil and gas operators to avoid, minimize, and mitigate impacts to LPCs from their actions while providing oil and gas operators assurances that their operations and development may continue in the future. Where avoidance and minimization of such impacts is not possible, the framework described in Exhibit B of the WCP 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 LPC 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 WCA promotes the avoidance, minimization, and mitigation of impacts of land by oil and gas development within habitat for the LPC, with an emphasis on focal areas, connectivity zones, and high quality habitat. By locating new developments outside of focal areas, connectivity zones, and high quality habitat, direct and indirect impacts to LPCs and their habitat are greatly reduced. The WCA encourages avoidance of focal areas, connectivity zones, and other high-quality habitat by assigning higher mitigation fees to these areas. Additionally, the WCA encourages co-location of new industrial developments near existing development by allowing participants to reduce mitigation fees by siting development within the impacted area associated with existing infrastructure. The WCA also requires conservation measures that minimize impacts from development to the LPC when complete avoidance of impacts is not possible. For example, conservation measures require use of common rights-of-way for infrastructure and other techniques (e.g., the use of directional drilling techniques,and clustering of facilities where feasible) to minimize impacts of new development to LPC habitat. The WCA includes a seasonal timing restriction limiting industrial construction and maintenance activities in areas within 1.25 miles of leks to avoid potential disturbance of LPCs and, where such activities cannot be avoided, the WCA includes a daily timing restriction to benefit LPCs 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 industrial development to LPC.

In situations when impacts occur which cannot be fully addressed through avoidance and minimization procedures, this WCA employs a mitigation framework that is based on the RWP and described in WCP. 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 LPC. As a result, a Participant that, for example, 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 1.6 for CHAT category 4 and 2.5 for CHAT category 1 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 net conservation benefit for the LPC habitat, and ultimately populations. Thus, to construct a five-acre well pad, a Participant may 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 LPC, 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 LPC when impacts do occur.

The WCA and mitigation framework further provide a conservation benefit to the LPC by providing WAFWA with an early and substantial commitment of funds by Participants, in two respects. First, upon enrollment in the WCA, 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. 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, 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 LPC (e.g., prescribed grazing, prescribed burning, brush management, range planting, etc.) and are described in full in the RWP. The WAFWA mitigation framework utilized in this WCA and described in the WCP incentivizes the timely remediation of impacts. In addition, the RWP and this WCA 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 WCA will result in a variety of conservation benefits to the LPC 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 LPC populations. Conservation measures that minimize new surface disturbance also minimize habitat fragmentation and preserve contiguous expanses of LPC habitat. LPC 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 LPC habitat through the removal of infrastructure and remediation of impacts to restore LPC habitat. When considered together, the conservation measures and provisions of the WCA are expected to preserve, enhance, and restore LPC habitat and remove threats to the LPC, which are expected to yield increases to LPC populations. In addition, conservation of LPCs would be enhanced by improving and encouraging cooperative management efforts between WAFWA, FWS, and Participants.

XVIII. MONITORING AND REPORTING

WAFWA will be responsible for annual monitoring and reporting related to the WCA. To the extent consistent with applicable state law, information in annual reports will include, but is not limited to:

1) Participants enrolled under the WCA over the past year, including copies of the completed WCP, excluding Exhibit A;
2) A summary of habitat management and habitat conditions in the Covered Area and on all enrolled property over the past year with any identifying information related to Participants removed;

3) Effectiveness of habitat management activities implemented in previous years at meeting the intended conservation benefits;
4) Population surveys and studies conducted over the past year with any identifying information related to Participants removed;
5) Any mortality or injury that are observed of the species over the previous year; and
6) A discussion on the funds used for habitat conservation on private/state lands in the states.

XIX. CONFIDENTIALITY

The cooperating parties in the RWP recognize that fee leasehold and mineral ownership information is confidential and sensitive business information held and not routinely disclosed by a Participant and may be exempt from disclosure by the USFWS under the Freedom of Information Act. 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 USFWS, 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 USFWS, employees or agents of WAFWA, or the Participant to view the particular information for monitoring and reporting, as described herein, but not to download, possess, or distribute it. WAFWA shall take all necessary steps to maintain the confidentiality of such information under the relevant public information laws, including instructing the State fish and wildlife agency and the Permit Holder's employees and/or agents accordingly.

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Western Association of Fish and Wildlife Agencies Certificate of Participation (WCP) for Impact Generation

in the Lesser Prairie-Chicken

Range-wide Conservation Plan

(*Tympanuchus pallidicinctus*)

This certifies that the owner of the property described herein ("Participant") is included within the scope of the above-named Western Association of Fish and Wildlife Agencies Conservation agreement (WCA) for the lesser prairie-chicken (LPC) is a person with a fee simple, leasehold, or property interest (including owners of water or other natural resources), or any other entity that may have a property interest, sufficient to carry out the proposed management activities, subject to applicable State law, on non-Federal land.

The goal of the Western Association of Fish and Wildlife Agencies and/or its designee ("Administrator" or "WAFWA"), and the Participant is to reduce and/or eliminate threats to the LPC. By agreeing to conduct the conservation measures described herein and if the species is listed as Threatened under the Endangered Species Act of 1973, the Participants will receive any and all regulatory certainty (assurances) concerning land use restrictions provided under the 4d rule for lands enrolled in the LPC Range-wide Conservation Plan (RWP).

This Certificate of Participation (WCP) is a voluntary agreement between the Administrator, and the Participant. Through this WCP, the Participant voluntarily commits to implement or fund specific conservation actions that will reduce and/or eliminate threats to the LPC. By signing below, the Participant acknowledges that it has read and understands the WCA and this WCP. The Participant further acknowledges that this WCA may not be sufficient to prevent the listing of the LPC.

Participant's Name: _____

Address: _____

I. Conservation Measures

The Participant will implement the following Conservation Measures described below, which apply to all development, operation and maintenance activities, on the enrolled property described in Exhibit A. The Participant is only responsible for the Mitigation

Fees required under the "Mitigation" headings in Sections A(3) and B(3) when the Participant develops new infrastructure on enrolled lands.

A. Habitat Loss and Fragmentation. Habitat loss and fragmentation are primary threats to the LPC. Any action that could further negatively impact LPC habitat or connectivity between blocks of LPC habitat shall apply the following measures to receive coverage under the plan. Normal cropping activities occurring on existing tilled acreage do not create any further negative impacts and do not require avoidance, minimization, or mitigation. The primary activities associated with habitat loss and fragmentation are conversion or development of native rangeland and the addition of vertical structures or roads. Examples of these actions include, but are not limited to, oil and gas wells and associated infrastructure, wind development and associated infrastructure, electric transmission or distribution lines, various types of towers, i.e. cell towers, towers, buildings, etc. Any action that could further negatively impact LPC habitat or connectivity between blocks of LPC habitat shall adhere to the following conservation measures to receive coverage under the WCA.

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 project sites dominated by tracts of native grass and shrublands (see the 2013 CHAT and state fish and wildlife agency staff for more information).

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 LPC habitat potential over sites with greater habitat potential. The NRCS Ecological Site Descriptions, where available, are a good indicator to use (see Appendix C of the 2013 Lesser Prairie-Chicken Range-wide Conservation Plan (RWP) (Oct. 2013 version)).

2) Minimization

a) Where avoidance is not possible, use common rights of way for multiple types of infrastructure in locating new roads, fences, power lines, well pads, flowlines, compressors, wind turbines, industrial or commercial buildings, and other associated infrastructure.

b) Site Impact Activities, as defined in Appendix B.4, to minimize new habitat disturbance by increasing the amount of overlap between existing fragmentation and associated impact buffers.

c) For oil and gas development, reduce impacts through the use of directional drilling and clustering where feasible or in locating facilities to reduce habitat loss and fragmentation of habitat.

d) Minimize use of herbicide treatments and limit this use to the footprint or right of way for the Impact Activity. 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.

e) For crop production, use practices identified under the NRCS LPCI and the NRCS and FSA conferencing opinions.

3) Mitigation

a) Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees for Impact Activities as described in Section XV of the WCA and Section III and Exhibit B of this WCP when complete avoidance is not possible. The Administrator will apply Mitigation Fees to generate offset units using the process described in Appendix I of the RWP (Oct. 2013 version)

B. Collision and Other Direct and Indirect Sources of Mortality. LPC 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 LPCs. It is also possible for LPC to get caught and drown in human-made water sources (e.g., tanks).

1) Avoidance

a) Locate new roads, fences, power lines, well pads, turbines, tall vertical structures, flowlines, compressors, and other 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.

b) Bury new distribution lines within 1.25 mi of leks active within the previous 5 years.

2) Minimization

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

b) To minimize transmission line footprint, utilize mono-pole construction for new electrical transmission lines within 2013 CHAT categories 1-3.

c) For oil and gas development, 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.

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.

e) During the 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 categories 1-3.

f) If new distribution lines are constructed within 1.25 mi of leks active within the previous 5 years, and those lines cannot be buried (justification must be provided as to the reason), Participants must site them to minimize potential collision risk, and if appropriate, mark the lines.

g) Within 1.25 mi of leks active within the previous 5 years, it is recommended but not required 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 LPC, this conservation measure may be amended for new Participants and new enrollments by existing Participants.

h) Provide escape ramps, rafts or ladders, depending on configuration, in exposed, human-made water containment sources on enrolled lands under the control of the Participant.

3) Mitigation

a) Participants will provide for mitigation of habitat loss associated with new Impact Activities through the payment of Mitigation Fees for Impact Activities as described in Section XV of the WCA and Section III and Appendix B of this WCP. The Administrator will apply Mitigation Fees to generate offset units using the process described in Appendix I of the RWP (October. 2013 version).

C. Disturbance of Breeding, Nesting, and Brooding Activity. Disruption of courtship displays and nesting hens in the form of construction and maintenance activities or equipment and infrastructure that emit loud noises may have direct impact on LPC reproductive output. Avoidance and minimization are required for disturbance of breeding, nesting, and brooding activity. Failure to comply with these avoidance and minimization measures will result in a notification of non-compliance.

1) Avoidance

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

   b) Seismic surveys and similar activities that require off road travel shall not be conducted in rangeland or planted grass cover during the lekking nesting and brooding season (Mar 1–Jul 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.

   c) Emergency operations that are meant to address direct human or environmental safety concerns or that relate directly to operational continuity are allowed. Such emergency operations may include, but are not limited to, spill response and cleanup, response to well control incidents (i.e., incidents related to down hole pressures during drilling, completion, recompletion, or production operations), equipment repairs, flowline/pipeline/power line repairs, unloading of one or more tanks to prevent the tank(s) from overflowing, patrol to locate known breaks in electrical service, security-related activities (e.g., activities to prevent theft and vandalism), and well problems requiring a workover to make a well productive again), and unplanned construction and maintenance activities. Participants must also record the dates, duration and purpose of any emergency operations, construction and maintenance activities within 1.25 miles of leks recorded as active within the previous 5 years and must provide that documentation with their annual reporting.

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.

   b) Institute noise abatement year-round for new facilities 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 the 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, this conservation measure may be amended for both new and existing Participants' enrolled properties. In the event of changes in noise limits for existing Participants, WAFWA and the Participants will agree upon a timeline for implementing those changes.

c) If a complete lek survey for the proposed seismic activity area, the Administrator shall consider, on a case by case basis, the application of seismic methodologies that minimize LPC 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.

II. ENROLLMENT PROCEDURES.

The Participant may enroll properties that are within the Covered Area as defined in Section VIII of the WCA. Participant 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 this WCP (see Exhibit A). Within 30 days of the date the Participant executes this WCP, the Participant will remit to the Administrator Enrollment Fees as described in Section II of this WCP, unless the Participant has previously enrolled in the RWP and coverage under the RWP is transferred to this WCP. The Participant is responsible for ensuring that all provisions of this WCP are implemented by its agents and/or sub-contractors, and other interest holders under its control on all property enrolled under this WCP.

In the event the Participant wishes to transfer their enrolled lands and become a participant to a Candidate Conservation Agreement (CCAA), or Habitat Conservation Plan (HCP) where the permit is held by WAFWA or from WAFWA-held CCAA or HCP permits into the WCA, the Participant will not be required to pay any additional enrollment fees.

III. ENROLLMENT AND MITIGATION FEES.

A. Enrollment Fees

The Participant shall be responsible for paying a single enrollment fee annually for the first three (3) years this WCP is in effect. That enrollment fee is based on the types of impacts carried out by the participants. The Participant shall pay whichever is greatest of the following options 1) total of $2.25 per gross acre for each acre of enrolled property each year for oil and gas or wind energy leases or 2) a fixed fee of $20,000 for electric transmission lines, or 3) a fixed fee of $15,000 for primary roads or cell and radio towers, or 4) $10,000 for pipelines and compressors, or 5) $5,000 for electrical distribution lines, secondary roads or privately maintained roads (the "Enrollment Fees"). Each of these impact types are defined on page 96 of the RWP (2013 Version). At a minimum, Participant shall make the first payment of Enrollment Fees in accordance with Section I of this WCP. Participant shall pay the second and third Enrollment Fees on the first and second anniversaries of the effective date of this WCP or, if a Participant previously enrolled in a WCP, the effective date of the WCP, whichever is earlier. 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. No Enrollment Fees will be required after the initial three-year period, or upon full

payment of three years' of Enrollment Fees, whichever occurs first. After the initial three-year period, the Participant must still pay Mitigation Fees in accordance with Exhibit B.

B. Mitigation Fees

The RWP and WCA contemplate that Mitigation Fees will be paid in proportion to impacts to LPC habitat. The RWP has determined that construction of oil and gas pads, small compressor stations (i.e., with footprints smaller than five acres that are muffled to less than 75 dB at the property line or at a point greater than 30 feet from the facility boundary), primary roads (maintained by state or federal entities or privately maintained toll roads), secondary roads (maintained by counties or municipalities) privately maintained roads (i.e., lease roads), distribution lines (<69kV), transmission lines (≥69kV), tall vertical structures (>150 feet), industrial buildings and compressor stations with footprints of greater than five acres with noise levels of 75 dB or more at the property line or at a point greater than 30 feet from the facility boundary (collectively "Impact Activities") impact LPC habitat and require the payment of Mitigation Fees.

The Enrollment Fees will serve as prepayment of Mitigation Fees and will not be paid in addition to Mitigation Fees. Thus, the purpose of the Enrollment Fees is to ensure the Participant's obligations under the WCA and this WCP have been fulfilled. Moreover, the Enrollment Fees are intended to be used immediately to implement conservation activities to benefit the LPC before Impact Activities are proposed.

The Administrator will maintain a Participant's Enrollment Fees and Mitigation Fees in a Habitat Conservation Fund Account specific to this WCP, as described below.

Mitigation Fees must be paid and the Administrator must contract for the necessary offset units before Impact Activities can occur. Therefore, 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 the Administrator 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 the Administrator's 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 the Administrator 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 the Participant expects the Mitigation Fees to be applied to the ecoregions in any way that is not proportional to the Participant's enrolled acres in those ecoregions, the Participant should advise the Administrator upon enrollment or payment of Enrollment Fees so that the Administrator can attempt to acquire offset units in the appropriate ecoregion.

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, Participants should contact the Administrator 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 the Administrator sufficient opportunity to secure the additional necessary offset units; and (iii) significantly limit the potential for any disruption to Participant's Impact Activities. The Administrator 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 the Administrator less than 60 days prior to depleting its Enrollment and Mitigation Fees available in the Habitat Conservation Fund, the Administrator shall still use good faith efforts to expedite securing the additional necessary offset units; however, Participant acknowledges that the Administrator may (i) not be able to secure the additional necessary offset units in time to prevent disruption to Participant's Impact Activities; and (ii) assess an administration fee of 18.75% rather than 12.5% on the associated Mitigation Cost.

The RWP requires mitigation before impact, with one exception. Consistent with the complimentary CCAA for oil and gas activities, and in order to allow the Administrator adequate time to generate offset units after this WCP takes effect, the requirement that offset units be secured prior to the commencement of the oil and gas related Impact Activities covered under the CCAA is waived until March 30, 2015 (Waiver Period). However, the Participant must pay Mitigation Fees prior to Impact Activities in accordance with the terms of this WCP during the Waiver Period. During the Waiver Period, the Administrator will use best efforts to contemporaneously secure sufficient offset units to mitigate for Impact Activities in accordance with the WCA; however, in no way shall commencement of the Participant's Impact Activities be delayed or prevented due to a shortage of offset units during the Waiver Period. By October 2014, the administrator will estimate the additional offset units needed to mitigate the Impact Activities that occurred, or are anticipated to occur, during the Waiver Period using the mitigation framework outlined in Exhibit B of this WCP, and scale the signup of landowners generating offset units accordingly. Any temporary shortfalls in offset units incurred during the Waiver Period must be fulfilled by March 30, 2015. After March 30, 2015, the Administrator will require that sufficient offset units are available for mitigation prior to the commencement of Impact Activities.

C. Remediation and Credit of Mitigation Fees

The Participant may remediate impacts on enrolled lands and generate offset units for the remediated impacts. These offset units will be valued, and the value of these offset units will be credited to the Participant's Habitat Conservation Fund Account. For example, the Participant may generate offset units for the remediation of impacts from Impact Activities for which Mitigation Fees have been paid. The Participant may also generate offset units for the remediation of impacts on enrolled lands for which Mitigation Fees have not been paid (i.e., existing impacts). Offset units can be generated when remediation is performed for any reason, including if required by law or regulation. Offset units will be quantified and valued using the methodology outlined in Exhibit C of this WCP. Offset units generated through remediation may only be applied in the ecoregion in which the remediation occurred.

In order to have offset units quantified and valued, the Participant must contact the Administrator after the remediation has occurred. The Participant must provide the Administrator with a digital map identifying the location of the infrastructure or disturbance to be remediated, if the Administrator does not already have this information. The Administrator will assess the condition of the remediated site as described in Appendix I of the RWP (October 2013), which will require an on-site habitat assessment. During this on-site assessment, the Administrator will assess the habitat quality within the impact buffer but outside of the footprint of the remediated acres. The Participant also must provide documentation to the Administrator 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 Natural Resource Conservation Service's Conservation Practice Code 550 (Range Planting).

D. Habitat Conservation Fund Accounts

Upon receipt of Enrollment Fees and Mitigation Fees, the Administrator will deposit the Enrollment Fees and Mitigation Fees into each Participant's Habitat Conservation Fund Account. After this WCP is executed, the Administrator will calculate the applicable Mitigation Fee associated with any Impact Activities using the methodology shown on Exhibit B. 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, the Participant must continue to make annual prepayments 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 Exhibit B. The Administrator will provide written or electronic notice of any adjustments to Mitigation Fees to the Participant at least 90 days before the adjustments take effect.

The Administrator will deduct the resulting Mitigation Fee from the Participant's Habitat Conservation Fund Account balance within 10 working days after receiving notification from the Participant. The Administrator will provide notice to the Participant within thirty 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 Exhibit C) 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 an Impact Activity after Mitigation Fees associated with that Impact Activity have been deducted from its Habitat Conservation Account. The Participant has the responsibility of notifying the Administrator that the Impact Activity will not be developed. Within 10 working days of receiving notification from the Participant that it will not develop the Impact Activity, the Administrator 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.

The Participant's obligation to make payments as described above shall be suspended if any administrative or judicial challenge prevents the implementation of this WCP.

IV. DEVELOPMENT PROCEDURES

The Participant will consult the RWP 2013 CHAT (http://kars.ku.edu/geodata/maps/sgpchat/) (Sept. 2013) along with impact area maps, ecological site maps, land cover maps, and aggregated Conservation Reserve Program maps provided in the 2013 CHAT when the Participant evaluates the location of potential Impact Activities.

Prior to commencing an Impact Activity, Participants shall consult with the Administrator to assess the potential impacts to LPC habitat associated with the proposed Impact Activity. The Administrator staff has access to additional data sources beyond those available in the 2013 CHAT, including lek data, and will assist in making recommendations to reduce potential impacts to LPC and their habitat and to reduce potential Mitigation Fees.

The Participant will provide the Administrator or WAFWA-approved service provider (as described on pages 92–93 of the RWP (Ocotber. 2013 version)) with:

- Map(s) of the property or lease to be developed;
- A shapefile or KML file describing the lease to be developed, including known existing impacts;
- Centerline of linear Impact Activities and/or the center point of an Impact Activity (which may be reflected by a survey plat); and
- Notification if the expected final reclamation size of well pads, compressor stations, or industrial developments will be greater than the footprint sizes defined on page 96 in the RWP.

The Administrator, in cooperation with the Participant, will complete the following:

- Map(s) of the property or lease to be developed, including existing impacts and buffers;
- A shapefile or KML file describing the property lease to be developed, including

all existing impacts; and

- A Habitat Evaluation Guide (HEG), (available on the WAFWA website) for property to be developed.

The Administrator shall complete this information within 30 days of its initial consultation with the Participant on the Project. The Administrator shall notify the Participant of the amount of Mitigation Fees associated with the Project, if any, in accordance with Section III. Furthermore, the Participant is responsible for notifying the Administrator if the Participant does not develop the Project.

If LPC surveys of the proposed location of Impact Activities have not been conducted in accordance with the LPC survey protocol (Appendix H of the RWP (October. 2013) within the previous 5 years, and the proposed location of Impact Activities is within the 2013 CHAT (categories 1-3), surveys may be necessary. 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 until a survey is conducted.

V. PROPERTY TRANSFERS, ADDITIONS, REMOVAL, AND TERMINATION.

A. Transfers

This WCP shall be binding on and shall inure to the benefit of the Parties to the WCP and their successors and transferees (i.e., new owners). The rights and obligations under this WCP shall run with the enrolled property and are transferable to subsequent non-Federal property owners. As a party to the original WCA and WCP, the new owner(s) shall have the same rights and obligations with respect to the enrolled property as the original owner. The new owner(s) also shall have the option of receiving WCA assurances by signing a new WCP. The Participant shall notify the Administrator of any transfer of the enrolled property, so that the Administrator can attempt to contact the new property owner, explain the baseline responsibilities applicable to the property, and seek to interest the new property owner in signing the existing WCP or a new one to benefit the LPC.

Ownership interest in the enrolled property can be transferred before or after any decision to list the LPC occurs. Notification of the transfer of any enrolled property shall be transmitted to the Administrator 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 LPC is listed, an interested party 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 WCP (if the new property owner is not a Participant) or an amended WCP (if the new property owner is an existing Participant) within 30 days after notice is provided to the Administrator and prior to conducting any Impact Activities on the transferred enrolled property. Upon becoming a Participant, all terms and conditions of the WCA and WCP, 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, the Administrator 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 the Administrator the amount of funds to be transferred. Subsequent prepayments for the transferred enrolled property will be the responsibility of the new property owner.

B. Additions

The Participant may amend this WCP to enroll additional property within the Covered Area, as defined in Section VIII of the WCA, not already enrolled in a WCP ("New Property") at any time before or after any decision to list the LPC. Enrollment Fees associated with the New Property as described in Section III, above, are due on the subsequent anniversaries of this WCP unless prepaid as described in Section III. The New Property will be subject to conservation measures that apply to Impact Activities that are identified in the RWP in effect at the time the New Property is enrolled.

C. Termination and Removal

The Participant may amend the WCP to remove some of the enrolled properties so long as Participant has paid three years' of Enrollment Fees in full for the property to be removed. Similarly, the Participant may terminate this WCP if Participant has paid three years' of Enrollment Fees in full for the all enrolled properties. Property removed pursuant to an amendment of the WCP or termination of the WCP is hereinafter referred to as "Terminated Property." The Participant must provide thirty (30) days written notice to the Administrator to amend the WCP to remove enrolled property or terminate the WCP. Operations on the Terminated Property for which the Participant has not paid the Mitigation Fee at the time of amendment or termination may proceed as if the WCP did not exist. Any funds remaining in Participant's Habitat Conservation Fund Account at the time of termination, voluntary or for cause, will be donated to the Administrator for conservation efforts to support the LPC, and will not be refunded.

D. Revisions to Exhibit A

The Participant may revise Exhibit A to reflect additions to, transfers of, or removal of the enrolled property as described in this Section and submit the revised Exhibit A to the Administrator for acknowledgement. The Administrator will provide written acknowledgement of the revised Exhibit A, or contact the Participant regarding any concerns with the revised Exhibit A, within 10 business days of its receipt of the revised Exhibit A.

VI. NON-COMPLIANCE.

If the Participant fails to remit an Enrollment Fee or Mitigation Fee in accordance with the terms of this WCP, the Administrator may suspend the WCP as to the enrolled property for which the Enrollment Fee or Mitigation Fee is due until such Enrollment Fee or Mitigation Fee is paid.

If the Participant does not comply with the Avoidance and Minimization Conservation Measures identified in this WCP will receive a written notice of non-compliance ("Notice of Non-compliance") via U.S. mail from the Administrator. The Notice of Non-compliance will include a detailed list of measures that the Participant must address and a reasonable timeline in which to address them, which may not be shorter than 45 days ("Abatement Period"). If, during the duration of the agreement, the Participant receives a total of three Notices of Non-compliance within a three-year period within an ecoregion and fails to address those measures within the Abatement Period, it will constitute grounds for the termination of the WCP.

The Participant will be notified in writing of the proposed termination by certified or registered mail. This notice shall identify the lands for which the WCP will be terminated, the reason(s) for the termination, and inform the Participant of the right to object to the proposed revocation. Upon receipt of a notice of proposed termination, the Participant may file 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 Administrator will make a decision on the proposed termination within 45 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 the WCP.

VII. NO WAIVER.

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

VIII. RELEASE.

If at any time any administrative or legal challenge to the WCA prevents the implementation of this WCP, the Participant agrees to release the signatory parties of the WCA and WCP from any legal claims related to this WCP and WCA. All funds remaining in the Habitat Conservation Fund Account will be retained by the Administrator and be used for conservation of the LPC.

IX. AMENDMENT.

As described in Section XIII of the WCA, the effectiveness of the conservation measures in the WCA will be reviewed by the Administrator and Participants periodically over the life of the WCA. However, conservation measures agreed upon in this WCP may only be modified through the written consent of the Participants through the amendment procedures described below.

This WCP, except for Exhibit A, may be amended with the written consent of each of the Parties hereto. The process for revising Exhibit A is outlined in Section IV(D) above. The Parties agree to process requests for amendments in a timely manner. This WCP will only be amended upon written agreement of all Parties. This WCP may be amended to accommodate changes to all applicable legal requirements. The party proposing the amendment shall provide a statement describing the proposed amendment and the reasons for it.

X. MULTIPLE ORIGINALS

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

XI. REPORTING REQUIREMENTS.

By October 1 of each year the WCP is in effect, the Participant will provide the Administrator with the dates, duration and purpose of any emergency operations, construction and maintenance activities within 1.25 miles of leks that occurred in the previous calendar year. For purposes of compliance monitoring of conservation commitments, the Administrator may access the enrolled property with at least two week prior notification to the Participant (see WCA, Section XI.1.c).

XII. CONFIDENTIALITY.

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

any maps depicting lands enrolled by an individual Participant that specifically identify the Participant;

identifying information about an individual Participant's acreage position; or

the location of any individual Participant's enrolled property that references the Participant individually.

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

XIII. NOTICE.

Any notice permitted or required by this WCP shall be transmitted within any time limits described in this WCP to the persons set forth below. Notice may be provided electronically or in writing unless the form of notice is otherwise identified in this WCP. 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 any party may from time to time specify to the other parties in writing:

Participant:

Contact Name _____

Title _____

Address: _____
_____
_____

Telephone: _____

Fax: _____

Email: _____

WAFWA/Administrator Representative:

Contact Name _____

Title _____

Address: _____
_____
_____

Telephone: _____

Fax: _____

Email: _____

f)

XIV. SIGNATURES

IN WITNESS WHEREOF THE PARTIES HERETO have executed this Certificate of Inclusion to be in effect on the __ of _____, 20__.

_____
Participant and Affiliation

Date _____

_____
WAFWA/Administrator Representative

Date _____

EXHIBIT A

Property Description for Enrolled Property

EXHIBIT B

Mitigation Fees

The Mitigation Fees for Impact 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 notify the Administrator before it or its third-party subcontractors conduct any Impact Activities in accordance with Section III of the WCP.

The Mitigation Fees reflect the conservation strategy for the LPC set forth in the Range-wide Conservation Plan for the LPC ("RWP"). The RWP identifies numerous "focal areas" for the LPC, which the RWP defines as the areas of greatest importance to the LPC 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 impact multipliers for each crucial habitat index (CHI) for the LPC as defined by the 2013 Southern Great Plains Crucial Habitat Assessment Tool (CHAT). The impact multipliers are defined on page 100 in the RWP (2013 Version)

3. The site condition score as defined by the HEG (See pages 98-99 in the RWP 2013 Version).

4. The impact buffers associated with the Impact Activities, which reflect that area surrounding Impact Activities that affect or were believed to potentially affect LPC habitat suitability (See pages 95-97 in the RWP 2013 Version).

1. U.S. Department of Agriculture Practice Costs

The USDA defines the costs of LPC habitat maintenance and restoration practices identified in the NRCS LPC 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 page 219 of the RWP (Oct. 2013 version).

2. Southern Great Plains Crucial Habitat Assessment Tool

The CHAT is a spatial model put together to designate and prioritize areas for LPC 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. In many ways it is the spatial representation of the LPC RWP. 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 LPC.

a) CHAT 1- This category is comprised of the focal areas for LPC conservation. The focal areas were designated by teams in each state that prioritized and identified intact LPC habitat. They were 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 for LPC conservation. The corridor areas were designated by teams in each state that prioritized and identified intact LPC habitat. They were 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 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, CRP, land cover, abiotic site condition) to characterize that habitat on the landscape.

d) CHAT 4- This category is comprised of the estimated occupied range (EOR) for the LPC plus 10 miles. 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. 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 LPC 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 the impact buffers of new 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 ≤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 ≤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 footprint.

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) Transmission lines ≥69 kV – Use the centerline of the right-of-way as the basis for the impact buffer.

d) Small compressor stations – Represents pipeline compressor stations with a footprint 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 footprint is > 5 acres, apply the oil and gas pad buffer out from the footprint.

e) 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 footprint is ≤5 acres, apply the buffer to the centroid of the footprint. If >5 acres, apply the oil and gas pad buffer out from the footprint.

f) Wind turbines – For wind turbines >150 ft. tall measured to the tip of a blade perpendicular to the ground pointing toward the sky. Utilize the wind turbine location as the basis for the buffer.

g) Tall vertical structures (>150 ft.) –Cell and radio towers or other structures. Utilize the center point of the tower as a basis for the impact buffer.

h) Primary roads – Public roads maintained by state or federal entities or privately-maintained public toll roads. Use the center line of the roadway as the basis for the impact buffer.

i) Secondary roads – Public roads maintained by counties or municipalities. Use the center line of the roadway as the basis for the impact buffer.

j) 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.

k) Industrial buildings - Includes office buildings, commercial garages, distribution centers, and electrical substations. For sites with footprints ≤10 acres utilize the centroid as a basis for the impact buffer. Use the perimeter of the building as the basis for the buffer if the footprint 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:

Mitigation Fees = Base Impact Unit Cost x Impact Units x Impact Multiplier x Endowment Multiplier

1. Base Impact Unit Costs

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

Base Impact Unit Cost = Habitat Management Cost x Administration 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:

Impact Units = HEG Score x 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"):

New Impact Acres = New Impact Area – Area of Overlap

The New Impact Area is calculated as:

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

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 (Oct.. 2013 version). 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 of the RWP (Oct.. 2013 version), 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 reflects that all impacts are assessed based on 25 year duration. This duration provides sufficient resources to fund an endowment managed by WAFWA that will provide for in-perpetuity conservation.

5. Inflation and Adaptive Management

The variables outlined in this Section B may be adjusted due to changes in inflation or adaptive management consistent with the terms of Section D, 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 WCP. 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 F2. 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 F2 may be adjusted due to changes in inflation or adaptive management as described in Section D of this Exhibit.

Table F2: Range of Maximum Mitigation Fees Associated with Impact Activities by Ecoregion

Sand Sagebrush

	CHAT 1		CHAT 2		CHAT 3		CHAT 4	
Impact Activity	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**
Oil & Gas Pad or Small Compressor	$41,764.78	$2,088.24	$35,082.42	$2,088.24	$30,070.64	$1,503.53	$26,729.46	$1,336.47
Wind Tower	$464,517.29	$23,225.86	$390,194.52	$23,225.86	$334,452.45	$16,722.62	$297,291.07	$14,864.55
Transmission (≥67 kV)	$427,895.91	$21,394.80	$359,432.56	$21,394.80	$308,085.06	$15,404.25	$273,853.38	$13,692.67
Distribution Line (<67 kV)	$10,697.40	$534.87	$8,985.81	$534.87	$7,702.13	$385.11	$6,846.33	$342.32
Vertical Structure (>200 ft)	$464,517.29	$23,225.86	$390,194.52	$23,225.86	$334,452.45	$16,722.62	$297,291.07	$14,864.55
Primary Roads	$534,869.89	$26,743.49	$449,290.71	$26,743.49	$385,106.32	$19,255.32	$342,316.73	$17,115.84
Secondary Roads	$71,672.56	$3,583.63	$60,204.95	$3,583.63	$51,604.25	$2,580.21	$45,870.44	$2,293.52
Privately-Maintained Roads	$10,697.40	$534.87	$8,985.81	$534.87	$7,702.13	$385.11	$6,846.33	$342.32
Industrial Building & Large Compressor	$464,517.29	$23,225.86	$390,194.52	$23,225.86	$334,452.45	$16,722.62	$297,291.07	$14,864.55

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

Mixed Grass

	CHAT1		CHAT2		CHAT3		CHAT4	
Impact Activity	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**
Oil & Gas Pad or Small Compressor	$103,640.81	$5,182.04	$87,058.28	$5,182.04	$74,621.38	$3,731.07	$66,330.12	$3,316.51
Wind Tower	$1,152,716.40	$57,635.82	$968,281.77	$57,635.82	$829,955.81	$41,497.79	$737,738.49	$36,886.92
Transmission (≥67 kV)	$1,061,839.12	$53,091.96	$891,944.86	$53,091.96	$764,524.17	$38,226.21	$679,577.04	$33,978.85
Distribution Line (<67 kV)	$26,545.98	$1,327.30	$22,298.62	$1,327.30	$19,113.10	$955.66	$16,989.43	$849.47
Vertical Structure (>200 ft)	$1,152,716.40	$57,635.82	$968,281.77	$57,635.82	$829,955.81	$41,497.79	$737,738.49	$36,886.92
Primary Roads	$1,327,298.90	$66,364.95	$1,114,931.08	$66,364.95	$955,655.21	$47,782.76	$849,471.30	$42,473.56
Secondary Roads	$177,858.05	$8,892.90	$149,400.76	$8,892.90	$128,057.80	$6,402.89	$113,829.15	$5,691.46
Privately-Maintained Roads	$26,545.98	$1,327.30	$22,298.62	$1,327.30	$19,113.10	$955.66	$16,989.43	$849.47
Industrial Building & Large Compressor	$1,152,716.40	$57,635.82	$968,281.77	$57,635.82	$829,955.81	$41,497.79	$737,738.49	$36,886.92

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

Shinnery Oak

	CHAT1		CHAT2		CHAT3		CHAT4	
Impact Activity	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**
Oil & Gas Pad or Small Compressor	$69,216.66	$3,460.83	$58,141.99	$3,460.83	$49,835.99	$2,491.80	$44,298.66	$2,214.93
Wind Tower	$769,843.25	$38,492.16	$646,668.33	$38,492.16	$554,287.14	$27,714.36	$492,699.68	$24,634.98
Transmission (≥67 kV)	$709,150.74	$35,457.54	$595,686.62	$35,457.54	$510,588.53	$25,529.43	$453,856.47	$22,692.82
Distribution Line (<67 kV)	$17,728.77	$886.44	$14,892.17	$886.44	$12,764.71	$638.24	$11,346.41	$567.32
Vertical Structure (>200 ft)	$769,843.25	$38,492.16	$646,668.33	$38,492.16	$554,287.14	$27,714.36	$492,699.68	$24,634.98
Primary Roads	$886,438.43	$44,321.92	$744,608.28	$44,321.92	$638,235.67	$31,911.78	$567,320.59	$28,366.03
Secondary Roads	$118,782.75	$5,939.14	$99,777.51	$5,939.14	$85,523.58	$4,276.18	$76,020.96	$3,801.05
Privately-Maintained Roads	$17,728.77	$886.44	$14,892.17	$886.44	$12,764.71	$638.24	$11,346.41	$567.32
Industrial Building & Large Compressor	$769,843.25	$38,492.16	$646,668.33	$38,492.16	$554,287.14	$27,714.36	$492,699.68	$24,634.98

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

Short Grass

	CHAT1		CHAT2		CHAT3		CHAT4	
Impact Activity	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**	**Est. Cost Hi Qual Habitat 1.0**	**Est. Cost Low Qual Habitat 0.05**
Oil & Gas Pad or Small Compressor	$62,821.27	$3,141.06	$52,769.86	$3,141.06	$45,231.31	$2,261.57	$40,205.61	$2,010.28
Wind Tower	$698,712.26	$34,935.61	$586,918.30	$34,935.61	$503,072.83	$25,153.64	$447,175.85	$22,358.79
Transmission (≥67 kV)	$643,627.54	$32,181.38	$540,647.13	$32,181.38	$463,411.83	$23,170.59	$411,921.62	$20,596.08
Distribution Line (<67 kV)	$16,090.69	$804.53	$13,516.18	$804.53	$11,585.30	$579.26	$10,298.04	$514.90
Vertical Structure (>200 ft)	$698,712.26	$34,935.61	$586,918.30	$34,935.61	$503,072.83	$25,153.64	$447,175.85	$22,358.79
Primary Roads	$804,534.42	$40,226.72	$675,808.91	$40,226.72	$579,264.78	$28,963.24	$514,902.03	$25,745.10
Secondary Roads	$107,807.61	$5,390.38	$90,558.39	$5,390.38	$77,621.48	$3,881.07	$68,996.87	$3,449.84
Privately-Maintained Roads	$16,090.69	$804.53	$13,516.18	$804.53	$11,585.30	$579.26	$10,298.04	$514.90
Industrial Building & Large Compressor	$698,712.26	$34,935.61	$586,918.30	$34,935.61	$503,072.83	$25,153.64	$447,175.85	$22,358.79

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

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 Section XIII of the WCA.

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 Fee 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:

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

The Mitigation Fees for Year "Y1" are those reflected on the version of the HEG in effect when the Participant executes the WCP. For those Participants enrolling in the WCA or the RWP between October 1, 2013 and October 1, 2014, the HEG in effect at the time of enrollment is available at www.wafwa.org; the range of Mitigation Fees associated with this HEG is identified in Section C of this Exhibit B. 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 C
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 WCA (EOR + 10); remediation activities need not be performed on lands enrolled either in a WCP or in the RWP, as long as the Participant can provide the Administrator 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 the Administrator 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:

Remediation Units = HEG Score x Remediation Acres x Impact Multiplier x Endowment Multiplier

The Administrator 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 (October 2013).

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"):

Remediation Acres = Remediated Area – Area of Overlap

The Remediated Area is calculated as:

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

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

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). An administration cost of 6.25% will be assessed on the value of Remediation Units associated with impacts for which Mitigation Fees were not paid. In order to calculate Remediation Units for which Mitigation Fees were not paid, the Participant may be required to supply the Administrator 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 Impact Multiplier, and the Endowment Multiplier:

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

The Administrator 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 (October 2013).

Offset Multipliers vary by CHAT category. Together with the offset 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"):

$$Remediation\ Acres = Remediated\ Area - Area\ of\ Overlap$$

The Remediated Area is calculated as:

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

The Impact Buffer, Impact Multiplier, and Endowment Multiplier to be used to calculate the Remediation Acres will be the Impact Buffer, Impact 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%.

Administration Cost = Remediation Units x Habitat Management Cost x 0.0625

Remediation Units are valued using the Habitat Management Cost that is current at the time the Participants seeks credit of the value of the remediation performed. Habitat Management Costs are defined in Exhibit B.

APPENDIX G. PRACTICE SPECIFICATIONS AND MONITORING REQUIREMENTS FOR IMPLEMENTING CONSERVATION PLANS.

The conservation measures for farming and ranching practices applied under the RWP utilize the same standards and specifications of NRCS management practices under LPCI (Table 20). Each of these practices was addressed in the Draft LPCI Conference Opinion between NRCS and USFWS (2013).

There are two instances where the RWP utilizes standards and specifications that are more restrictive than the USDA practices, for prescribed grazing and brush management, but these more restrictive standards are invoked only where offset units are generated and where mitigation payments are awarded. These more restrictive practice specifications are included because mitigation requires a higher conservation bar and the payments to participants offset costs required to meet that bar. In the case of prescribed grazing, where offset units are generated and mitigation payments are awarded, the RWP will require a stocking rate that results in an average 33% annual forage utilization rate or less across the enrolled property. In the case of brush management where offset units are generated and mitigation payments are awarded, chemical suppression will be limited to shinnery oak only. Chemical application rates for brush suppression are consistent with LPCI and local variances. Finally, for brush management where offset units are generated and mitigation payments are awarded, control of trees will be accomplished through mechanical removal (e.g. grubbing for mesquite or clipping for eastern red cedar) to ensure that regrowth is minimized and that vertical structures are removed.

Table 20. LPCI Conservation Practice by treatment names, numbers, and definitions

Conservation Practice Name	Conservation Practice Number	Conservation Practice Definition
Upland Wildlife Habitat Management	645	Provide and manage upland habitats and connectivity within the landscape for wildlife.
Prescribed Grazing	528	Managing the harvest of vegetation with grazing and/or browsing animals.
Restoration and Management of Rare and Declining Habitats	643	Restoring, conserving, and managing unique or diminishing native terrestrial and aquatic ecosystems
Access Control	472	The temporary or permanent exclusion of animals, people, vehicles, and/or equipment from an area
Forage Harvest Management	511	The timely cutting and removal of forages from the field as hay, green-chop or ensilage
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
Firebreak	394	A permanent or temporary strip of bare or vegetated land planned to retard fire
Cover Crop	340	Crops including grasses, legumes, and forbs for seasonal cover and other conservation purposes
Critical Area Planting	342	Establishing permanent vegetation on sites that have, or are expected to have, high erosion rates, and on sites that have physical, chemical or biological conditions that prevent the establishment of vegetation with normal practices

Forage and Biomass Planting	512	Establishing adapted and/or compatible species, varieties, or cultivars of herbaceous species suitable for pasture, hay, or biomass production
Range Planting	550	Establishment of adapted perennial or self-sustaining vegetation such as grasses, forbs, legumes, shrubs and trees.
Watering Facility	614	A permanent or portable device to provide an adequate amount and quality of drinking water for livestock and/or wildlife
Spring Development	574	Collection of water from springs or seeps to provide water for a conservation need
Pumping Plant	533	A facility that delivers water at a designed pressure and flow rate. Includes the required pump(s), associated power unit(s), plumbing, appurtenances, and may include on-site fuel or energy source(s), and protective structures
Water well	642	A hole drilled, dug, driven, bored, jetted or otherwise constructed to an aquifer for water supply
Pipeline	516	Pipeline having an inside diameter of 8 inches or less
Grade Stabilization Structure	410	A structure used to control the grade and head cutting in natural or artificial channels
Fence	382	A constructed barrier to animals or people
Obstruction Removal	500	Removal and disposal of buildings, structures, other works of improvement, vegetation, debris or other materials
Herbaceous Weed Control	315	The removal or control of herbaceous weeds including invasive, noxious and prohibited plants
Pond	378	A water impoundment made by constructing an embankment or by excavating a pit or dugout. In this standard, ponds constructed by the first method are referred to as embankment ponds, and those constructed by the second method are referred to as excavated ponds. Ponds constructed by both the excavation and the embankment methods are classified as embankment ponds if the depth of water impounded against the embankment at the auxiliary spillway elevation is 3 feet or more
Tree and Shrub Planting	612	Establishing woody plants by planting seedlings or cuttings, direct seeding, or natural regeneration
Heavy Use Protection	561	The stabilization of areas frequently and intensively used by people, animals, or vehicles by establishing vegetative cover, surfacing with suitable materials, and/or installing needed structures
Woody Residue Treatment	384	The treatment of residual woody material that is created due to management activities or natural disturbances
Well Decommissioning	351	The sealing and permanent closure of a water well no longer in use
Conservation Cover	327	Establishing and maintaining permanent vegetative cover

Remediation of Existing Impacts

Removal of structures

a. All structures must be removed from the site (e.g. tank batteries, pump jacks, turbines, etc.).

Restoration

b. The direct footprint of the remediate development must be reseeded with native vegetation. The restoration activities must follow the guidelines described for the range planting conservation measure (NRCS practice #550) and/or other applicable state laws. If the remediated site had been previously generating impact units within the WAFWA mitigation framework, the restoration must return the site to its baseline HEG score before offset units can be generated. Otherwise, credits can be generated from a remediated site immediately following WAFWA verification of the completed restoration work.

REPORTING AND MONITORING REQUIREMENTS

For participants wishing to generate conservation offset units and receive payments, participants agree to allow access by a WAFWA-approved technical service provider to verify RWP implementation and evaluate habitat quality. Evaluation units will be monitored as follows:

- Annual monitoring by a technical service provider is required until the maximum expected scores for HEG questions 1-3 are reached. If those scores are not reached after 5 years of monitoring they will be re-evaluated by the technical service provider. If the maximum expected scores are determined to still be suitable, annual monitoring will continue, and be re-evaluated after another 5 years.
- Once the maximum scores for HEG questions 1-3 have been reached, monitoring will continue every third year.
- In non-monitoring years, it will be assumed that the scores for HEG questions 1-3 are equal to those from the most recent assessment. Landowners may request more frequent vegetation monitoring if they feel habitat quality has significantly improved such that it may affect payment rates.
- It is also required for landowners to self-report any significant changes to the vegetation. On-site vegetation monitoring will be conducted during the next sampling period if the reported changes have the potential to negatively impact the scores for HEG questions 1-3.

Participants who are following a WAFWA approved management plan but not generating offset units are required to self-report when management activities deviate from those prescribed in their plan or when substantial changes to habitat quality occur..

APPENDIX H. LPC SURVEY PROTOCOL FOR PROJECT CLEARANCE

We present here methodologies for both ground-based and aerial surveys of lesser prairie-chickens for project clearance. Ground-based surveys methods have been modified from State Game and Fish Agency protocols. Aerial survey methods follow those of McDonald et al. (2013) and Timmer (2012). A complete ground or aerial survey should be conducted for proposed project sites where:

- previously unimpacted acreage will be developed (outside of existing impact buffers),
- where LPC surveys have not been conducted within the previous 5 years,
- where project sites are within a focal area, connectivity zone, or within areas identified as high probability lek habitat based on the CHAT (categories 1-3).

The developer has the option of contracting surveys with a consultant according to this WAFWA protocol, allowing state or WAFWA-affiliated personnel to conduct surveys of the site prior to project initiation if resources are available to conduct that survey, or considering the sites as occupied with active leks.

Ground-based Surveys

Surveys can be conducted utilizing existing highways, county, or two-track roads, or at selected points throughout the property that allows for complete coverage of the area (saturation survey). Listening points should be located at 1.6 km (1mi) intervals. The assumption is that LPC vocalizations can be heard up to 1.6 km (1 mi). A saturation survey may have as few as one listening point if the survey area is small, or several if the survey area is large. Each route or survey area must be surveyed a minimum of two times with a minimum one week interval between the two efforts. All surveys must be conducted between April 1-30. Surveys must begin no earlier than one-half hour before and conclude no later than 2 hours after local sunrise. Wind speed and temperature are recorded at the beginning and end of each survey. Surveys will not be conducted if wind speed continuously exceeds a 3 (12mph) on the Beaufort Scale or if rain or snow is falling. At each stop, the observer shuts off the vehicle’s engine, moves at least 10 m from the vehicle, listens, and observes for 5 minutes. The observer then travels 1.6 km (1 mi) to the next stop and repeats the procedure.

Leks may be detected audibly and/or visually. In the case where a lek is located on property where access permission has been granted or where leks are visible from a public road the total number of birds on the lek should be counted. When possible, counts should be conducted from a vehicle or a ground blind from roughly 75-200 m away to avoid flushing birds. If the terrain and vegetation does not allow for observation from a distance, a flush count is acceptable. In the event that access is not permitted, leks may be confirmed based on a detection from public roads with visual observation or an auditory detection with a minimum of two compass bearings to identify the approximate location of the lek. When recording compass bearings, ensure bearings are 70-110 degrees apart to minimize triangulation error. Use a GPS to record the geographic point of origin for each bearing. To provide an index of each observer's opportunity to hear

vocalizations out to a 1.6 km (1 mi) distance, the observer will rate noise disturbance at each stop (e.g., traffic, pump-jacks, cattle, and dogs) on the survey form as none, low, moderate, or high.

Aerial Survey Methods

If an area to be surveyed has insufficient roads or land access to ensure complete coverage for ground surveys, helicopter surveys can be used. A minimum of two observers is required for these surveys and one of those observers may be the pilot.

Safety should be the primary concern during the survey. Surveys will be conducted at an approximate air speed of 60 kilometer per hour (kph) (37 mile per hour), and the helicopter will be maintained at an altitude of 25 m (82 feet) above the ground level (AGL). Surveys will not be completed over housing, livestock, or large water bodies. During the survey, all crew members and pilot should carefully monitor the air speed and the AGL to ensure the survey protocol is being followed consistently. Surveys are conducted from sunrise until approximately 2.0 hours after sunrise between April 1-30. Transects are oriented north-south with 400-m spacing between them. The observer's global positioning system (GPS) unit records a track log of each flight path to provide the actual transect lengths that are surveyed. Track logs will be set to record points at least every 2 seconds. Communication of all observations during the surveys ensures that observers do not confuse two different prairie-chicken clusters for the same observation. Detections of five or more prairie-chickens in a cluster are classified as leks. This criterion was verified during helicopter aerial and ground surveys conducted in Texas 2010 and 2011 (Timmer 2012).

Reporting

Training or prior experience of observers and pilots must be documented in final reports associated with survey efforts. Observers should strive to: 1) to standardize survey methodology, 2) to improve and standardize observers' abilities to identify prairie-chickens, and 3) to provide each observer with safety training when aerial surveys are conducted. Final reports submitted to WAFWA and the appropriate state fish and wildlife agency must include maps and GIS files or track logs of aerial and ground survey transects or locations, maps and GIS files of detections, tabular data detailing the date, time and conditions for each survey, triangulation information, and the locations and LPC counts for each detection.

APPENDIX I. WAFWA DELIVERY GUIDE

The WAFWA Mitigation Framework is a biologically-based system that assesses impacts and ensures a net conservation benefit for the LPC through a performance-based system that pays landowners to restore and/or maintain high quality habitat. The state fish and wildlife agencies that make up WAFWA have strong relationships with the agricultural community across the range of the LPC, and those relationships are the key to the success of this effort. The framework builds on those relationships and ensures that the management authority for the LPC remains with the state fish and wildlife agencies, regardless of the outcome of the proposed listing.

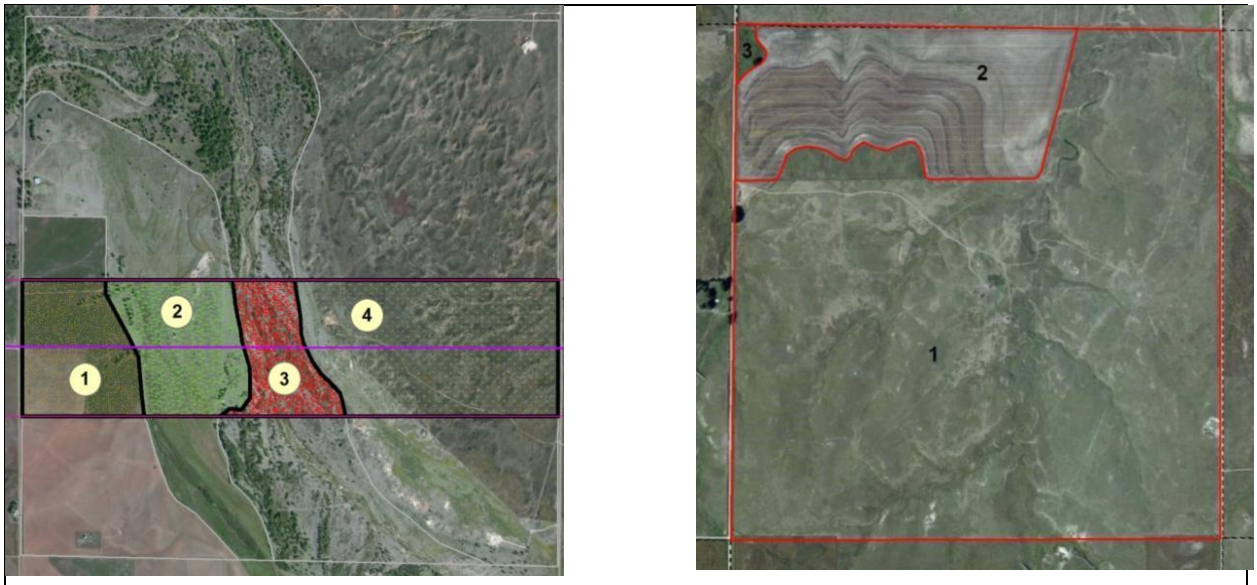
This appendix is intended to provide participants and technical service providers with a working knowledge of how the metrics system will be applied by WAFWA. Other service providers may vary the details of cost structure, duration, and administrative costs to suit their individual needs in the delivery of mitigation under the RWP. However, the following details refer specifically to mitigation and conservation delivery by WAFWA under the RWP.

CALCULATION OF HABITAT UNITS AND MITIGATION UNITS

In this section, we will walk through the process of calculating habitat units and mitigation units for two examples using the metrics and mitigation multipliers established by the RWP. The first example site is a proposed two-mile section of new transmission line that will require mitigation for impacts, and the second is a 640-acre property on which impacts are being offset with conservation actions. Both examples are located within CHAT category 3 in the shortgrass service area.

Step 1: Delineating evaluation units

Evaluation units are defined as similarly managed areas of homogeneous vegetation within the area of interest (Figure H-1). These units will be defined based on a desktop analysis using spatial data sources such as the USDA Cropland Data Layer, NRCS Ecological Site Descriptions, USDA National Agricultural Inventory Program imagery, and various land cover resources. Once the evaluation units are defined for a site, those units will remain consistent for the life of the agreement. For a property generating offsets, the evaluation units are defined within the boundaries of the enrolled acres. For a proposed development, the evaluation units may be defined for the entire enrolled property or only within the impact buffer of that proposed impact depending on availability of access. Evaluation unit delineation is the only differences between the methods used to estimate habitat units for impact and offset sites.



Impact—New Transmission Line **Offset—Entire Ranch**

Figure H-1. Examples illustrating how evaluation units would be delineated differently for a 2-mile section of new transmission line where impacts are occurring and a 640 acre property where conservation actions are being implemented.

Step 2: On-site vegetation monitoring

Each evaluation unit which requires some on-site vegetation monitoring will be scored via the WAFWA Habitat Evaluation Guide (HEG). Questions 1-3 in the HEG are scored using the vegetation monitoring protocol for the NRCS Lesser Prairie-Chicken Initiative (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1092563.pdf). This protocol must be modified slightly to collect vegetative cover information specifically for the preferred tufted grass species identified within the HEG. Tree cover will be visually assessed using the method established by NRCS in the Kansas Range Technical Note KS-8 (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/ks/people/employees/?cid=nrcs142p2_033404).

Vegetation monitoring will be conducted within all evaluation units at the time of enrollment. For properties generating offset units, vegetation monitoring will be repeated during the next breeding season (March 1 – July 15). All subsequent vegetation monitoring on these properties will also occur during that same time frame. The measurement collected during the breeding season can be used to calculate HEG scores within planned impacts for up to three years following the monitoring. Participants may request additional vegetation monitoring if they feel that habitat quality on the enrolled property has significantly changed since the time the monitoring occurred. Vegetation data can be associated with multiple evaluation units so long as the units fall within the same broader area of homogenous vegetation under the same management.

For properties generating offset units, regular vegetation monitoring is necessary to track changes in habitat quality which influence the number of units being generated and the resulting payments. The vegetation monitoring schedule for those properties is as follows:

- Annual monitoring by a technical service provider is required until the maximum expected scores for HEG questions 1-3 are reached. If those scores are not reached after 5 years of monitoring, they will be re-evaluated by the technical service provider. If the maximum expected scores are determined to still be suitable, annual monitoring will continue, and be re-evaluated after another 5 years.
- Once the maximum scores for HEG questions 1-3 have been reached, monitoring will continue every third year.
- In non-monitoring years it will be assumed that the scores for HEG questions 1-3 are equal to those from the most recent assessment. Landowners may request more frequent vegetation monitoring if they feel habitat quality has significantly improved such that it may affect payment rates.
- It is also required for landowners to self-report any significant changes to the vegetation. On-site vegetation monitoring will be conducted during the next sampling period if the reported changes have the potential to negatively impact the scores for HEG questions 1-3.

Step 3: Assessing Availability of Potential Habitat

The most recent aerial imagery acquired from the National Agricultural Imagery Program (NAIP) will be used to calculate the amount of grassland with <1% canopy cover of trees that exists in the landscape surrounding each evaluation unit (Figure H-2). That assessment area will be a 1-mile radius around the geometric center of each evaluation unit. The proportion of each assessment area determined to be potentially suitable habitat will be used to score HEG question 4 for each evaluation unit.

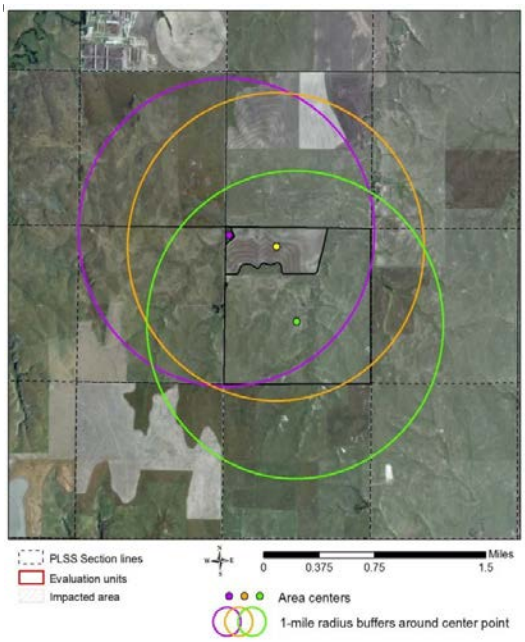


Figure H-2. Illustration of the method used to calculate the amount of potentially suitable habitat associated with an evaluation unit.

Step 4: Calculating a HEG score

After completion of steps 2 and 3, a summary table will be created for each evaluation unit showing the average measurements for total vegetation cover, composition of preferred plant species, tree cover, and the proportion of the surrounding 1-mile radius determined to be potentially suitable habitat (Table H-1).

Table H-1. Summary table showing average vegetation measurements and the proportional amount of potentially suitable habitat nearby each evaluation unit within the 640 acre example property where offset units are being generated.

Unit	**Total Cover (Q1)**	**Veg. Comp. (Q2)**	**Tree Cover (Q3)**	**Proportion Potentially Suitable (Q4)**
1	30%	83%	0.05%	0.85
2	10%	0%	0%	0.75
3	45%	62%	0.8%	0.80

For each unit, the data contained within the summary table will be used to score each of the four HEG questions using the criteria laid out in the RWP. For each evaluation unit, the minimum score on HEG questions 1-3 will be multiplied by the score on HEG question 4 to calculate an overall HEG score for each evaluation unit. The process for calculating an HEG score is illustrated below for evaluation unit 1 within the 640 acre example property where offset units are being generated.

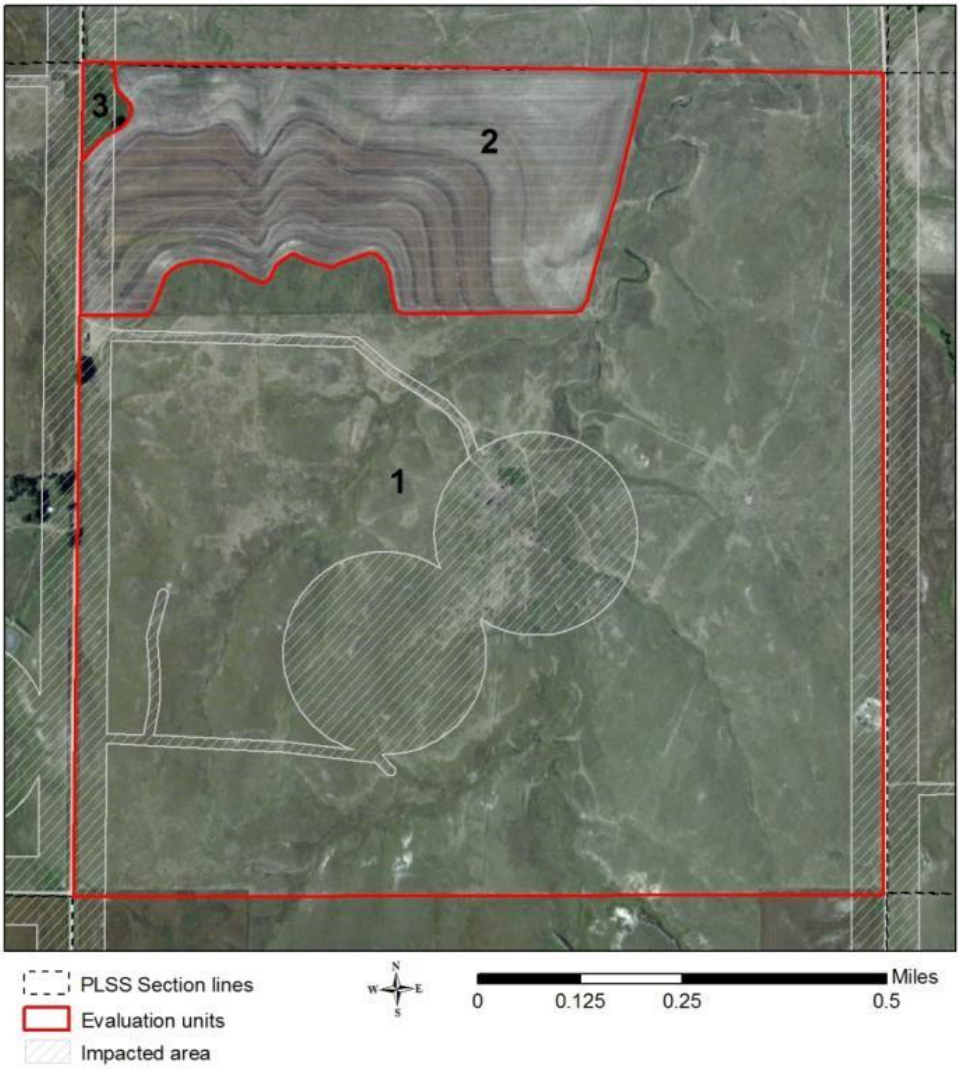
HEG Scoring for Evaluation Unit 1

HEG Question	General Category	Score
1	Vegetation Cover	0.85
2	Vegetation Composition	1.00
3	Tall Woody Plant Cover	0.85
4	Availability of Potentially Suitable Habitat	0.90

HEG Score = 0.85 X 0.90 = 0.765

Step 5: Removal of Impacted Acreage

Areas within pre-existing impact buffers are not considered potential habitat for LPCs under the WAFWA mitigation framework. Those areas will be identified and quantified to calculate the number of unimpacted acres within each evaluation unit (Figure H-3). Only the unimpacted acreage will factor into the calculation of habitat units. For that reason, landowners generating offset units will be required to self-report any new or remediated impacts on their enrolled acreages because those activities influence the number of offset units being generated (and associated payments). A self-reporting requirement is important because those activities could still occur outside the administration of the WAFWA delivery system.



Assessment area	veg. type	Impacted area	Unimpacted area
1. 523 acres	grassland	113 acres	410 acres
2. 113 acres	cropland	5 acres	108 acres
3. 3 acres	grassland	2 acres	1 acre

Figure H-3. Example illustrating how existing developments will be buffered to identify and quantify the previously impacted acres within the 640 acre example property where offset units are being generated. Of the 640 acres on the property, a total of 519 are unimpacted and only those acres will factor into the calculation of habitat units.

Step 6: Calculation of Habitat Units

Habitat units are calculated for each evaluation unit by multiplying the HEG score by the number of unimpacted acres (Table H-2). The habitat units are then summed across all the evaluation units to determine the annual number of units being generated by the entire enrollment.

Table H-2. Calculations of annual habitat units for the 640 acre example property where offset units are being generated. The property is currently generating 318.74 habitat units a year from 519 unimpacted acres.

Evaluation Unit	**Unimpacted Acres**		**HEG Score**		**Habitat Units**
1 (Pasture)	410	X	0.765	=	313.65
2 (Ag field)	108	X	0.04	=	4.32
3 (Grass corner)	1	X	0.765	=	0.765
Total	**519**				**318.74**

For the example 2-mile stretch of proposed transmission line, the same process outlined in steps 1-6 would be followed to calculate the annual habitat units being impacted. The full process is not repeated in this appendix for that example but the habitat units were calculated to provide another illustration (Table H-3).

Table H-3. Calculation of the annual habitat units affected by the example 2-mile stretch of new transmission line. Few existing impacts occur within the impact buffer and 634 of the 636.28 affected acres are being newly impacted. Those newly impacted acres provide 273.38 annual habitat units.

Unit	**Newly Impacted Acres**		**HEG Score**		**Habitat Units**
1	126	X	0.03	=	3.78
2	133	X	0.55	=	73.15
3	86	X	0.10	=	8.6
4	289	X	0.65	=	187.85
Total	**634**				**273.38**

Step 7a: Calculation of Annual Mitigation Offset Units

Mitigation offset units are calculated by multiplying the habitat units by the appropriate offset multiplier. The 640 acre example property where offsets are being generated is located in CHAT 3 where the offset multiplier is 0.9 (Table H-4). Thus, the below calculation would be used to determine the annual offset units being generated for that property.

Annual Offset Units: 318.74 habitat units X 0.9 (offset multiplier) = 286.87

Table H4. Impact and offset multipliers for each CHAT category.

CHAT Category	Impact Multiplier	Offset Multiplier	Mitigation Ratio
CHAT 1	2.5	1.25	2:1
CHAT 2	2.1	1.05	2:1
CHAT 3	1.8	0.9	2:1
CHAT 4	1.6	0.8	2:1
Avg.	2	1	2:1

Step 7b: Calculation of Annual Mitigation Impact units
Mitigation impact units are calculated by multiplying the habitat units by the appropriate impact multiplier. The example 2-mile stretch of new transmission line is also located in CHAT 3 where the impact multiplier is 1.8 (Table H-4). Thus, the below calculation would be used to determine the annual impact units being generated for that new development.

Annual Impact Units: 273.38 habitat units X 1.8 (impact multiplier) = 492.08

MONETARY VALUATION OF UNITS
The value of a mitigation unit is the average cost required to replace an acre of LPC habitat for one year. These values were derived for each of the 4 service areas using USDA estimated costs for their conservation practices averaged across approximately the same areas. The USDA costs are publicly available and revised frequently to keep pace with inflation and changes in technology. Additionally, the proportion of LPCI and CRP contracts containing each practice was used to weight the costs when estimating the mitigation unit values. The specific USDA estimated practices costs that were incorporated into those calculations are as follows:

- 100% practice cost for prescribed grazing (NRCS practice #528)
- 100% practice cost for prescribed fire (NRCS practice #338)
- 100% practice cost for mechanical brush management for heavy, moderate and low infestations (NRCS practice #314)
- 100% native range planting costs including seed, site preparation and labor (NRCS practice #550)
- FSA Soil Rental Rates
- 100% FSA mid-contract management costs
- NRCS Regional Fair Market Values Assessments (Grassland Reserve Program)

In addition to those estimated costs, there are some additional data and assumptions that are required to calculate the annual per acre replacement cost within each service area. Those basic pieces of information include:

- 100% sign-up or base incentives of $2.^{50}$ and $5.^{00}$ per acre for 5 and 10 year contracts, respectively (established by WAFWA but comparable to USDA sign-up incentives)
- 35% increase over the 100% NRCS prescribed grazing rate for a WAFWA prescribed grazing plan due to a more conservative utilization rate of <33%

- Value of 25% of the units going toward perpetual easements and value of 75% toward management contracts
- 80% of management contracts of 5 year duration
- 20% of management contract of 10 year duration
- Assumption that 5-10% of management contracts would contain a restoration practice (varies by ecoregion and based on their occurrence in USDA contracts)
- Assumption that a suitable disturbance practice (e.g. fire, disking, etc.) would occur at the appropriate frequency within each service area (range: 4-7 years)
- Perpetual easements that pay up to 50% of NRCS Fair Market Value

The mitigation unit values derived using those data sources and assumptions range from $19.13 in the sand sagebrush service area to $47.47 in the mixed grass service area (Figure H-4).

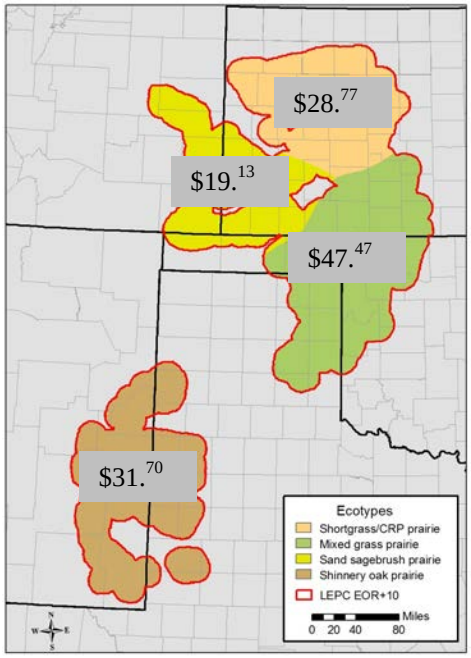


Figure H-4. Average annual LPC habitat replacement costs (per acre) within each service area, 2013. These figures are synonymous with the mitigation unit values in each area.

CALCULATION OF MITIGATION FEES

A few steps are required to calculate the mitigation fee for a new development once the number of annual impact units has been tabulated. The first step is converting the annual impact units into endowment units using a multiplier of 25. This multiplier was established under the assumption of a 4% real rate of return on the endowed funds and is sufficient to offset each impact in perpetuity through annual offset allocations. The calculation of endowment units for the 2-mile section of transmission line in the example would be calculated as follows:

Endowment Units = 492.08 annual impact units X 25 = 12,302.00

The next step is to multiply the endowment units by the appropriate mitigation unit value to calculate the required conservation funds for a perpetual offset. Finally, a 12.5% administration fee is assessed from the resulting conservation fee that will cover WAFWAs expenses to deliver the program. The mitigation fee for the example 2-mile section of transmission line in the shortgrass service region would be calculated as follows:

Conservation Fee	**= 12,302.00 Endowment Units X $28.^{77}**	**= $353,928.^{54}**
Administration Fee	**= $353,928.^{54} X 12.5%**	**= $ 44,241.^{07}**
Mitigation Fee	**=**	**$398,169.^{61}**

Considerations for Siting of New Impacts

Mitigation fees for new developments can be reduced or eliminated by taking into consideration previously impacted areas, LPC habitat quality (HEG score), and location relative to the CHAT boundaries. Mitigation fees can be significantly reduced or eliminated by siting developments so that their associated impact buffers overlap as much previously impacted acreage as possible because only the newly impacted acres are factored into the mitigation fee calculation. The landscape within each service area already contains a substantial amount of previously impacted acreage within which new projects can be constructed to minimize or eliminate costs. Another way to reduce or eliminate costs is to site the development in a lower priority location (as identified by CHAT) and/or on a site with lower quality LPC habitat (as defined by HEG) (Figure H-5). Newly impacted acreage will incur no mitigation fee if it affects areas with no LPC habitat value (HEG = 0.0) regardless of the CHAT category within which it occurs. Evaluation sites with an HEG value of 0.0 are described as regularly tilled areas with no grassland in the surrounding 1-mile radius from the geometric center of the site. Finally, clustering new developments to overlap their impact buffers will also reduce the newly impacted acreage and associated mitigation fees (i.e. siting multiple wells on the same pad).

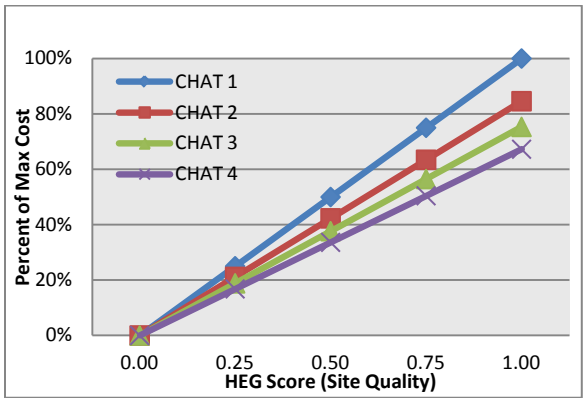


Figure H-5. Graph illustrating how WAFWA mitigation fees are affected by siting decisions pertaining to priority LPC conservation areas (CHAT categories) and LPC habitat value (HEG score) of the affected acreage.

GENERATION OF OFFSET UNITS

The WAFWA mitigation delivery system will offer sign-up incentives and multiple contract options to landowners interested in enrolling in the program and generating offset units. Those contracts will be 5-year management contracts, 10-year management contracts, and perpetual easements. Sites requiring a restoration practice (e.g. mechanical brush removal or range planting) will not be eligible for a 5-year contract. Suitable LPC habitat often takes several years to develop following one of those restoration practices. Thus, restoration practices will only be offered to landowners willing to make a longer-term commitment to ensure that the desired LPC habitat will be created during the course of the contract. Every contract must contain either a rangeland management plan or a planted grass management plan which will include basic maintenance conservation practices (e.g. prescribed grazing and/or other types of appropriate vegetative disturbance). The rangeland management plans will be specific to contracts where domestic livestock will be used to manage permanent grass cover. The planted grass management plans will be specific to contracts where previously tilled acreage is being restored or maintained in permanent grass cover and not grazed by domestic livestock. All of the management plans will be developed to best fit the needs of the landowner within the bounds of the conservation measures established by the RWP (Appendix F, Exhibit C).

At minimum, WAFWA will open annual sign-up periods within each service area, during which, technical service providers will work with interested land owners to develop management plans for their property. At the conclusion of the sign-up period, the management plans will be ranked by their conservation value to the LPC. The ranking criteria will be made publicly available at the time of sign-up and include such things as type of contract, property location (CHAT category), necessary management practices, potential of the site to produce high quality LPC habitat (HEG score), etc. The available funding during each sign-up period will be directed toward the highest ranking offers and those landowners will be accepted into the program.

Developers will also be able to generate offset units through remediation of existing impacts. Those developers will be able to generate offset units by following the conservation measure for remediation spelled out in the RWP (Appendix F, Exhibit C). The number of offset units generated for remediation will be equal to one half of the number of endowment units calculated for the restored site using the previously described methods. The developer will be assessed ½ of the full 12.5% administration fee to cover WAFWA's expenses for the associated monitoring and tracking. The generated offset units will be reserved for the Participant and can be applied toward any future developments.

CALCULATION OF OFFSET PAYMENTS

Landowners generating offset units will receive payments for enrolling in a WAFWA offset generation contract and implementing the conservation practices outlined in their management plan. For incentives and maintenance practices, payments will be based on the number of annual offset units calculated for the enrolled property using the methods previously described in this appendix. For restoration practices, the payments will be based on the number of unimpacted

acres to which the practice is being applied. The value of an offset unit will be scaled in proportion to the cost of implementing each prescribed practice relative to the unit value in each service area (Table H-5). For example, the calculated cost to implement a WAFWA rangeland management plan in the shortgrass service area ($14.16/unimpacted acre) does not equal the unit value ($28.[77]). Thus, the proportional relationship of 0.492 is used to scale the unit value to match the appropriate payment rate of $14.16/unimpacted acre. This scaling is necessary to ensure that offset payments are being made in proportion to the actual cost to implement the practices. Some of the restoration practices are more than ten times more costly to implement than the maintenance practices, and without this scaling, the payments would not be sufficient to cover the cost of the needed conservation. The appropriately scaled unit value will be used to calculate the payment based on the number of offset units being generated or the affected acreage (restoration practices).

Table H-5. Practice weights used to adjust mitigation unit values within each service area so that payments will be made in proportion to the intended incentive or the actual cost to implement the conservation practice.

Conservation Incentive/Practice	Shortgrass	Shinnery Oak	Sand Sagebrush	Mixed Grass
Sign-up Incentive (5-yr contract)	0.087	0.079	0.131	0.053
Sign-up Incentive (10-yr contract)	0.174	0.158	0.261	0.105
Rangeland Management Plan	0.492	0.232	0.695	0.422
Planted Grass Management Plan	1.473	1.025	1.935	0.919
Range Planting	5.819	2.747	4.553	4.752
Brush Management (<1% cover)	3.532	4.780	7.923	2.141
Brush Management (1-5% cover)	5.826	7.843	12.999	3.531
Brush Management (>5% cover)	14.553	9.819	16.273	8.821

The percentage of the adjusted unit value that is actually allocated to landowners for maintenance payments is modified mostly by the offset multipliers within the calculation of annual offset units (i.e. 1.25 multiplier = average payments of 125% of the base payment rate). However, those offset multipliers only represent the average percentage of the actual implementation costs across all the practices that WAFWA will be offering within each CHAT category. An additional adjustment is necessary to align the unit values with the intended percentage of the actual practice implementation costs for each of the offered practices (Table G-6). For example, WAFWA will be offering 135% of the actual cost to implement a rangeland management plan in CHAT 1, so the unit value has to be adjusted upward from the average rate of 125% used to established the offset multiplier (1.25). Thus, that proportional relationship of 1.08 must be used to further convert the adjusted unit value in CHAT 1 to the appropriate payment rate for a WAFWA rangeland management plan.

Table H-6. Percentage of the intended base incentives and actual practice implementation costs offered through the WAFWA mitigation delivery system. The percentages are used to scale the adjusted unit values to ensure the offset payments correspond.

Practice	CHAT1	CHAT2	CHAT3	CHAT4
Sign-up Incentives	135% (1.08)[a]	110% (1.05)	100% (1.11)	90% (1.13)
Sign-up Incentives	135% (1.08)	110% (1.05)	100% (1.11)	90% (1.13)
Maintenance Practices	135% (1.08)	110% (1.05)	100% (1.11)	90% (1.13)
Restoration Practices	110% (0.88)	105% (1.0)	85% (0.94)	75% (0.94)

[a] Weighting used to scale the adjusted unit values to the intended percentage of the base cost or actual practice implementation cost.

All of the previously described calculations have been automated by WAFWA and factored into the valuation of a mitigation unit using the process and assumptions previously described in this appendix. Those assumptions will be reviewed annually to ensure that the average value of an offset unit equals the value of an impact unit. If a discrepancy exists, the fee structure subcommittee will make a recommendation through the RWP and LPCIC for corrective action. If a discrepancy exists, the fee structure subcommittee will make a recommendation to the LPCIC for corrective action following the guidelines spelled

The WAFWA has also automated a process to project payments for each of the offered management activities for an unimpacted acre of LPC habitat at varying levels of quality (HEG scores; Tables H-7 – H-10). These payment tables will allow technical service providers to approximate the payments that might be available to landowners for implementing the various practices offered through the WAFWA delivery system. This will be useful to help them discuss the program with potential participants without having to go through the formal evaluation and calculation of payments. The payment tables will be updated annually to reflect any associated changes adopted by the LPCIC through the adaptive management process described in the RWP. The most current payment tables will be publicly available and posted on the WAFWA website.

WAFWA and its technical service providers will complete the entire process of calculating offset units and payments annually for each enrolled property. These annual evaluations are necessary to track changes in habitat quantity, habitat quality, and changes in payment rates. The most recent payment rates will be applied to all new enrollments in offset generation contracts. For existing contracts, the payment rates will only be adjusted according to the terms within those agreements (Table H-7- H-10).

Table H-7. Payment rates (per unimpacted acre) offered to landowners in the **sand sagebrush service area** for sign-up incentives, management plans, restoration practices, and perpetual conservation easements, 2013. All of the payment rates are scaled by CHAT category and some are also scaled by habitat quality as quantified by the WAFWA habitat evaluation guide (HEG).

	Habitat Quality (HEG Score)						
Location- activity	All Sites	0.05	0.2	0.4	0.6	0.8	1.0
CHAT 1							
Sign-up Incentive (5-yr contract)	--	$0.17	$0.68	$1.35	$2.03	$2.70	$3.38
Sign-up Incentive (10-yr contract)	--	$0.34	$1.35	$2.70	$4.05	$5.40	$6.75
Rangeland Management Plan	--	$0.90	$3.59	$7.18	$10.77	$14.35	$17.94
Planted Grass Management Plan	--	$2.50	$9.99	$19.99	$29.98	$39.98	$49.97
Range Planting	$95.81	--	--	--	--	--	--
Brush Management (<1% cover)	$166.71	--	--	--	--	--	--
Brush Management (1-5% cover)	$273.52	--	--	--	--	--	--
Brush Management (>5% cover)	$342.42	--	--	--	--	--	--
Perpetual Conservation Easement	$264.00[a]	--	--	--	--	--	--
CHAT 2							
Sign-up Incentive (5-yr contract)	--	$0.14	$0.55	$1.10	$1.65	$2.20	$2.75
Sign-up Incentive (10-yr contract)	--	$0.28	$1.10	$2.20	$3.30	$4.40	$5.50
Rangeland Management Plan	--	$0.73	$2.92	$5.85	$8.77	$11.70	$14.62
Planted Grass Management Plan	--	$2.04	$8.14	$16.29	$24.43	$32.58	$40.72
Range Planting	$91.46	--	--	--	--	--	--
Brush Management (<1% cover)	$159.13	--	--	--	--	--	--
Brush Management (1-5% cover)	$261.08	--	--	--	--	--	--
Brush Management (>5% cover)	$326.85	--	--	--	--	--	--
Perpetual Conservation Easement	$264.00[a]	--	--	--	--	--	--
CHAT 3							
Sign-up Incentive (5-yr contract)	--	$0.13	$0.50	$1.00	$1.50	$2.00	$2.50
Sign-up Incentive (10-yr contract)	--	$0.25	$1.00	$2.00	$3.00	$4.00	$5.00
Rangeland Management Plan	--	$0.66	$2.66	$5.32	$7.97	$10.63	$13.29
Planted Grass Management Plan	--	$1.85	$7.40	$14.81	$22.21	$29.61	$37.02
Range Planting	$74.04	--	--	--	--	--	--
Brush Management (<1% cover)	$128.82	--	--	--	--	--	--
Brush Management (1-5% cover)	$211.35	--	--	--	--	--	--
Brush Management (>5% cover)	$264.60	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]						
CHAT 4							
Sign-up Incentive (5-yr contract)	--	$0.11	$0.45	$0.90	$1.35	$1.80	$2.25
Sign-up Incentive (10-yr contract)	--	$0.23	$0.90	$1.80	$2.70	$3.60	$4.50
Rangeland Management Plan	--	$0.60	$2.39	$4.78	$7.18	$9.57	$11.96
Planted Grass Management Plan	--	$1.67	$6.66	$13.33	$19.99	$26.65	$33.32
Range Planting	$65.33	--	--	--	--	--	--
Brush Management (<1% cover)	$113.66	--	--	--	--	--	--
Brush Management (1-5% cover)	$186.49	--	--	--	--	--	--
Brush Management (>5% cover)	$233.47	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]	--	--	--	--	--	--

[a] This figure represents the maximum amount that can be paid for the easement. The actual figure will be negotiated between the landowner and the technical service provider based on terms of the easement, site potential, existing impacts, etc. [b] NE = not eligible without special authorization from the LPCIC

Table H-8. Payment rates (per unimpacted acre) offered to landowners in the **shortgrass service area** for sign-up incentives, management plans, restoration practices, and perpetual conservation easements, 2013. All of the payment rates are scaled by CHAT category and some are also scaled by habitat quality as quantified by the WAFWA habitat evaluation guide (HEG).

	Habitat Quality (HEG Score)						
Location- activity	All Sites	0.05	0.2	0.4	0.6	0.8	1.0
CHAT 1							
Sign-up Incentive (5-yr contract)	--	$0.17	$0.68	$1.35	$2.03	$2.70	$3.38
Sign-up Incentive (10-yr contract)	--	$0.34	$1.35	$2.70	$4.05	$5.40	$6.75
Rangeland Management Plan	--	$0.96	$3.82	$7.64	$11.47	$15.29	$19.11
Planted Grass Management Plan	--	$2.86	$11.44	$22.89	$34.33	$45.77	$57.22
Range Planting	$184.16	--	--	--	--	--	--
Brush Management (<1% cover)	$111.80	--	--	--	--	--	--
Brush Management (1-5% cover)	$184.38	--	--	--	--	--	--
Brush Management (>5% cover)	$460.61	--	--	--	--	--	--
Perpetual Conservation Easement	$363.00[a]	--	--	--	--	--	--
CHAT 2							
Sign-up Incentive (5-yr contract)	--	$0.14	$0.55	$1.10	$1.65	$2.20	$2.75
Sign-up Incentive (10-yr contract)	--	$0.28	$1.10	$2.20	$3.30	$4.40	$5.50
Rangeland Management Plan	--	$0.78	$3.11	$6.23	$9.34	$12.46	$15.57
Planted Grass Management Plan	--	$2.33	$9.32	$18.65	$27.97	$37.30	$46.62
Range Planting	$175.79	--	--	--	--	--	--
Brush Management (<1% cover)	$106.72	--	--	--	--	--	--
Brush Management (1-5% cover)	$176.00	--	--	--	--	--	--
Brush Management (>5% cover)	$439.68	--	--	--	--	--	--
Perpetual Conservation Easement	$363.00[a]	--	--	--	--	--	--
CHAT 3							
Sign-up Incentive (5-yr contract)	--	$0.13	$0.50	$1.00	$1.50	$2.00	$2.50
Sign-up Incentive (10-yr contract)	--	$0.25	$1.00	$2.00	$3.00	$4.00	$5.00
Rangeland Management Plan	--	$0.71	$2.83	$5.66	$8.49	$11.32	$14.16
Planted Grass Management Plan	--	$2.12	$8.48	$16.95	$25.43	$33.91	$42.38
Range Planting	$142.31	--	--	--	--	--	--
Brush Management (<1% cover)	$86.39	--	--	--	--	--	--
Brush Management (1-5% cover)	$142.48	--	--	--	--	--	--
Brush Management (>5% cover)	$355.93	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]						
CHAT 4							
Sign-up Incentive (5-yr contract)	--	$0.11	$0.45	$0.90	$1.35	$1.80	$2.25
Sign-up Incentive (10-yr contract)	--	$0.23	$0.90	$1.80	$2.70	$3.60	$4.50
Rangeland Management Plan	--	$0.64	$2.55	$5.10	$7.64	$10.19	$12.74
Planted Grass Management Plan	--	$1.91	$7.63	$15.26	$22.89	$30.52	$38.14
Range Planting	$125.57	--	--	--	--	--	--
Brush Management (<1% cover)	$76.23	--	--	--	--	--	--
Brush Management (1-5% cover)	$125.72	--	--	--	--	--	--
Brush Management (>5% cover)	$314.06	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]	--	--	--	--	--	--

[a] This figure represents the maximum amount that can be paid for the easement. The actual figure will be negotiated between the landowner and the technical service provider based on terms of the easement, site potential, existing impacts, etc. [b] NE = not eligible without special authorization from the LPCIC

Table H-9. Payment rates (per unimpacted acre) offered to landowners in the **mixed grass service area** for sign-up incentives, management plans, restoration practices, and perpetual conservation easements, 2013. All of the payment rates are scaled by CHAT category and some are also scaled by habitat quality as quantified by the WAFWA habitat evaluation guide (HEG).

	Habitat Quality (HEG Score)						
Location- activity	All Sites	0.05	0.2	0.4	0.6	0.8	1.0
CHAT 1							
Sign-up Incentive (5-yr contract)	--	$0.17	$0.68	$1.35	$2.03	$2.70	$3.38
Sign-up Incentive (10-yr contract)	--	$0.34	$1.35	$2.70	$4.05	$5.40	$6.75
Rangeland Management Plan	--	$1.35	$5.41	$10.83	$16.24	$21.66	$27.07
Planted Grass Management Plan	--	$2.94	$11.77	$23.55	$35.32	$47.09	$58.86
Range Planting	$248.14	--	--	--	--	--	--
Brush Management (<1% cover)	$111.80	--	--	--	--	--	--
Brush Management (1-5% cover)	$184.38	--	--	--	--	--	--
Brush Management (>5% cover)	$460.61	--	--	--	--	--	--
Perpetual Conservation Easement	$528.00[a]	--	--	--	--	--	--
CHAT 2							
Sign-up Incentive (5-yr contract)	--	$0.14	$0.55	$1.10	$1.65	$2.20	$2.75
Sign-up Incentive (10-yr contract)	--	$0.28	$1.10	$2.20	$3.30	$4.40	$5.50
Rangeland Management Plan	--	$1.10	$4.41	$8.82	$13.24	$17.65	$22.06
Planted Grass Management Plan	--	$2.40	$9.59	$19.19	$28.78	$38.37	$47.96
Range Planting	$236.86	--	--	--	--	--	--
Brush Management (<1% cover)	$106.72	--	--	--	--	--	--
Brush Management (1-5% cover)	$176.00	--	--	--	--	--	--
Brush Management (>5% cover)	$439.68	--	--	--	--	--	--
Perpetual Conservation Easement	$528.00[a]	--	--	--	--	--	--
CHAT 3							
Sign-up Incentive (5-yr contract)	--	$0.13	$0.50	$1.00	$1.50	$2.00	$2.50
Sign-up Incentive (10-yr contract)	--	$0.25	$1.00	$2.00	$3.00	$4.00	$5.00
Rangeland Management Plan	--	$1.00	$4.01	$8.02	$12.03	$16.04	$20.05
Planted Grass Management Plan	--	$2.18	$8.72	$17.44	$26.16	$34.88	$43.60
Range Planting	$191.74	--	--	--	--	--	--
Brush Management (<1% cover)	$86.39	--	--	--	--	--	--
Brush Management (1-5% cover)	$142.48	--	--	--	--	--	--
Brush Management (>5% cover)	$355.93	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]						
CHAT 4							
Sign-up Incentive (5-yr contract)	--	$0.11	$0.45	$0.90	$1.35	$1.80	$2.25
Sign-up Incentive (10-yr contract)	--	$0.23	$0.90	$1.80	$2.70	$3.60	$4.50
Rangeland Management Plan	--	$0.90	$3.61	$7.22	$10.83	$14.44	$18.05
Planted Grass Management Plan	--	$1.96	$7.85	$15.70	$23.55	$31.39	$39.24
Range Planting	$169.19	--	--	--	--	--	--
Brush Management (<1% cover)	$76.23	--	--	--	--	--	--
Brush Management (1-5% cover)	$125.72	--	--	--	--	--	--
Brush Management (>5% cover)	$314.06	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]	--	--	--	--	--	--

[a] This figure represents the maximum amount that can be paid for the easement. The actual figure will be negotiated between the landowner and the technical service provider based on terms of the easement, site potential, existing impacts, etc. [b] NE = not eligible without special authorization from the LPCIC

Table H-10. Payment rates (per unimpacted acre) offered to landowners in the **shinnery oak service area** for sign-up incentives, management plans, restoration practices, and perpetual conservation easements, 2013. All of the payment rates are scaled by CHAT category and some are also scaled by habitat quality as quantified by the WAFWA habitat evaluation guide (HEG).

	Habitat Quality (HEG Score)						
Location- activity	All Sites	0.05	0.2	0.4	0.6	0.8	1.0
CHAT 1							
Sign-up Incentive (5-yr contract)	--	$0.17	$0.68	$1.35	$2.03	$2.70	$3.38
Sign-up Incentive (10-yr contract)	--	$0.34	$1.35	$2.70	$4.05	$5.40	$6.75
Rangeland Management Plan	--	$0.50	$1.98	$3.96	$5.95	$7.93	$9.91
Planted Grass Management Plan	--	$2.19	$8.77	$17.54	$26.31	$35.08	$43.86
Range Planting	$95.81	--	--	--	--	--	--
Brush Management (<1% cover)	$166.71	--	--	--	--	--	--
Brush Management (1-5% cover)	$273.52	--	--	--	--	--	--
Brush Management (>5% cover)	$342.42	--	--	--	--	--	--
Perpetual Conservation Easement	$264.00[a]	--	--	--	--	--	--
CHAT 2							
Sign-up Incentive (5-yr contract)	--	$0.14	$0.55	$1.10	$1.65	$2.20	$2.75
Sign-up Incentive (10-yr contract)	--	$0.28	$1.10	$2.20	$3.30	$4.40	$5.50
Rangeland Management Plan	--	$0.40	$1.62	$3.23	$4.85	$6.46	$8.08
Planted Grass Management Plan	--	$1.79	$7.15	$14.29	$21.44	$28.59	$35.73
Range Planting	$91.46	--	--	--	--	--	--
Brush Management (<1% cover)	$159.13	--	--	--	--	--	--
Brush Management (1-5% cover)	$261.08	--	--	--	--	--	--
Brush Management (>5% cover)	$326.85	--	--	--	--	--	--
Perpetual Conservation Easement	$264.00[a]	--	--	--	--	--	--
CHAT 3							
Sign-up Incentive (5-yr contract)	--	$0.13	$0.50	$1.00	$1.50	$2.00	$2.50
Sign-up Incentive (10-yr contract)	--	$0.25	$1.00	$2.00	$3.00	$4.00	$5.00
Rangeland Management Plan	--	$0.37	$1.47	$2.94	$4.41	$5.87	$7.34
Planted Grass Management Plan	--	$1.62	$6.50	$12.99	$19.49	$25.99	$32.49
Range Planting	$74.04	--	--	--	--	--	--
Brush Management (<1% cover)	$128.82	--	--	--	--	--	--
Brush Management (1-5% cover)	$211.35	--	--	--	--	--	--
Brush Management (>5% cover)	$264.60	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]						
CHAT 4							
Sign-up Incentive (5-yr contract)	--	$0.11	$0.45	$0.90	$1.35	$1.80	$2.25
Sign-up Incentive (10-yr contract)	--	$0.23	$0.90	$1.80	$2.70	$3.60	$4.50
Rangeland Management Plan	--	$0.33	$1.32	$2.64	$3.96	$5.29	$6.61
Planted Grass Management Plan	--	$1.46	$5.85	$11.69	$17.54	$23.39	$29.24
Range Planting	$65.33	--	--	--	--	--	--
Brush Management (<1% cover)	$113.66	--	--	--	--	--	--
Brush Management (1-5% cover)	$186.49	--	--	--	--	--	--
Brush Management (>5% cover)	$233.47	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]	--	--	--	--	--	--

[a] This figure represents the maximum amount that can be paid for the easement. The actual figure will be negotiated between the landowner and the technical service provider based on terms of the easement, site potential, existing impacts, etc. [b] NE = not eligible without special authorization from the LPCIC

Permanent Conservation Efforts

The WAFWA mitigation system will offer permanent conservation efforts for offset generation. The maximum payment for these perpetual conservation easements will be 50% of the estimated fair market value for the service area. The actual rate will be negotiated between the technical service provider and the landowner based on the terms of the easements, the potential of the site to produce LPC habitat, and the location (CHAT category). The maximum payment will range from $264 - $528 per unimpacted acre across the service areas (Tables H-7 – H-10). These dollar figures and the assumption of a lump sum payment have been incorporated into the value of a mitigation unit following the process previously described in this appendix.

Each landowner enrolled in a perpetual conservation easement will also be required to adopt one of the 5 or 10 year management plans for which they will receive annual payments corresponding to habitat quality (HEG score). The participant will be required to adopt recurring management plans within the terms of the initial easement. This recurring process is preferable to requiring the same management plan in perpetuity because it provides some flexibility for the landowner and WAFWA to adjust future management (within the terms of the perpetual easement).

Sufficient funds are also being collected, in addition to the easement values, to cover all the normal delivery and maintenance fees associated with purchasing a conservation easement. These fees are based on average costs for environmental assessments, surveys, title insurance, compliance monitoring, and legal defense. The fees associated with these easements and their management can also be used by WAFWA to purchase permanent offset units from approved mitigation banks operating in the designated service areas.

Example Calculations

The landowner operating the 640-acre example property illustrated earlier in this appendix has several potential management options. Evaluation unit 1 (pasture) could be enrolled under a 5- or 10- year management agreement or a perpetual conservation easement with a rangeland management plan. Evaluation unit 2 (tilled field) could be reseeded to native vegetation and managed under a 10-year management agreement. That unit could be grazed by domestic livestock under a rangeland management plan or managed with some other type of regular vegetative disturbance within a planted grass management plan. For illustration purposes, let's assume that the entire property was enrolled into a 10-year contract to generate offset units for which the landowner would receive a sign-up incentive payment. A rangeland management plan was developed to fit the landowners cow-calf herd to utilize season-long grazing to produce an uneven grazing distribution with an average annual utilization rate across the pasture of <33%. A planted grass management plan was developed to cover evaluation unit 2 and 3 where there would be no grazing by domestic livestock. That plan called for re-vegetation of the tilled field to a stand of native grasses and forbs which will be regularly disturbed at a frequency appropriate for the area. The below table incorporates the previously described calculations to illustrate how the payments would be derived for the incentives and conservation activities being adopted for this property which occurs in CHAT 3 within the short grass service area (Table H-11). This

same process would be duplicated annually to calculate the monetary value of the offset units being produced and the landowner would be paid accordingly.

Table H-11. Illustration of how payments would be calculated through the WAFWA delivery system for the example 640 acre property located in CHAT 3 within the **shortgrass service area**. These example calculations demonstrate the process for sign-up incentives, maintenance practices, and restoration practices.

Practice Type - Evaluation Unit	Implemented Incentive or Practice	Habitat Units		Offset Multiplier		Offset Units or Affected Acreage[a]		Offset Unit Value		Base Value		Practice Weight		Payment Scaling		Payment
Incentives & Maintenance Practices																
1 (Pasture)	10-yr Sign-Up Incentive[b]	313.65	X	0.9	=	282.29	X	$28.77	=	$8,121.48	X	0.174	X	1.11	=	$1,568.58
1 (Pasture)	Rangeland Mgt. Plan[c]	313.65	X	0.9		282.29	X	$28.77	=	$8,121.48	X	0.492	X	1.11	=	$4,435.30
2 (Ag field)	10-yr Sign-Up Incentive[b]	4.32	X	0.9	=	3.89	X	$28.77	=	$111.92	X	0.174	X	1.11	=	$21.62
2 (Ag field)	Planted Grass Mgt. Plan[c]	4.32	X	0.9	=	3.89	X	$28.77	=	$111.92	X	1.473	X	1.11	=	$182.99
3(Grass corner)	10-yr Sign-Up Incentive[b]	0.765	X	0.9	=	0.69	X	$28.77	=	$19.85	X	0.174	X	1.11	=	$3.83
3(Grass corner)	Planted Grass Mgt. Plan[c]	0.765	X	0.9	=	0.69	X	$28.77	=	$19.85	X	1.473	X	1.11	=	$32.46
Restoration Practices																
2 (Ag field)	Range Planting[b]	NA		NA		133	X	$28.77	=	$3,826.41	X	5.819	X	0.94	=	$20,929.93
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—		**$27,174.71**

[a] The amount of unimpacted acreage where the practice is being implemented is used to calculate the payment for restoration practices
[b] One-time payment at sign-up
[c] Payment will be calculated and authorized for this activity annually for the duration of the contract so long as the participant is in compliance with the management plan. These payments will fluctuate annually with changing habitat conditions (HEG scores) within the terms of the participant's contract.

Payment Schedule

Payments for implementing conservation measures will be made from WAFWA to the participant using the following payment schedule for each type of conservation incentive or practice.

Sign-up Incentives – A one-time payment will be authorized within 60 days of the landowner signing onto a 5- or 10-year management agreement

Restoration Practices – A payment will be authorized within 60 days from the time an approved technical service provider verifies completion of the practice. This applies to range planting and mechanical brush removal.

Maintenance Practices – A payment will be authorized annually within 60 days of the end of the federal fiscal year, which ends on Sept. 30. This applies to rangeland management plans and planted grass management plans.

MITIGATION TRACKING

All transactions through the WAFWA delivery system will be tracked with a relational database by assigning a unique identifier to each enrollment at the project level. Within the database, the unique project-level identifiers will be used to relate multiple pieces of information held in various tables to each individual project. The information held in the WAFWA mitigation tracking database will be safeguarded by the conditions in the confidentiality section of the WCP. Some of the specific types of information that will be held in that database include:

- Service area where project is located, CHAT location, type of agreement (impact or offset generation), type of project (e.g. well pad, wind turbine array, rangeland management plan, perpetual easement, etc.), enrollment date, and expiration date
- Participant identification and contact information
- Signed participant WCPs and associated management plans
- The database will also contain information specific to evaluation units which are linked to the project-level data by unique sub-identification numbers. The pieces of data held at that scale would include spatial location of unit, reporting unit location, evaluation dates and associated HEG scores, habitat units, impact or offset units, vegetation monitoring data, and offset payment allocations.

Within the database, each project generating offset units will be tied to a specific participant's account or the development(s) for which it is providing offset units (Table H-12). The database will be queried prior to any new developments to ensure that the required number of offset units is available in advance of construction (Table H-13). If the required number of offset units is not available, the construction must not begin until WAFWA has implemented sufficient conservation on the ground to offset the projected impacts and all associated mitigation fees have been paid. The enrollment fees previously described were created so that WAFWA could begin trying to generate offset units immediately upon participant enrollment. The generated units will be applied to future developments and thus can prevent or minimize delays in construction.

Table H-12. General ledger showing how impact and offset units will be tracked at the project level.

ID	Year	Project Type	Expiration Year	Perpetual Impact Units	Annual Offset Units Generated	Associated Impact ID(s)	Offset Units Available
1	2013	Remediation	2033		16.28	2a (1.68), 4a (14.6)	0
2	2013	Oil/Gas Pad	Perpetual	1.68			
3	2013	Mgmt. Plan	2018		813.17	4b (623.53), 6a (189.64)	0
4	2013	Transmission	Perpetual	638.13			
5	2013	Mgmt. Plan	2023		236.01	6b (3.14), 7a (232.87)	0
1	2014	Remediation	2033		16.28	7b (16.28)	0
3	2014	Mgmt. Plan	2018		949.36	7c (58.09), 2a (1.68), 4a (638.13), 10a (14.37), 11a (24.26), 12a (212.83)	0
5	2014	Mgmt. Plan	2023		267.29	12b (267.29)	0
6	2014	Primary Road	Perpetual	192.78			
7	2014	Wind Farm	Perpetual	307.24			
8	2014	Mgmt. Plan	2019		103.2	12c (103.2)	0
1	2015	Remediation	2033		16.28	12d (16.28)	0
3	2015	Mgmt. Plan	2018		1,062.71	12e (517.60), 2a (1.68), 4a (543.43)	0
5	2015	Mgmt. Plan	2023		319.46	4b (94.70), 6a (192.78), 7a (31.98)	0
8	2015	Mgmt. Plan	2019		174.22	7b (174.22)	0
9	2015	Mgmt. Plan	2025		754.32	7c (101.04), 14a (73.20), 15a (575.32)	4.76
10	2015	Oil/Gas Pad	Perpetual	14.37			
11	2015	Oil/Gas Pad	Perpetual	24.26			
12	2015	Secondary Rd.	Perpetual	1,117.20			
13	2015	Mgmt. Plan	2020		74.89		74.89
14	2015	Distribution	Perpetual	73.20			
15	2016	Primary Rd.	Perpetual	575.32			
1	2016	Remediation	2033		16.28		16.28
3	2016	Mgmt. Plan	2018		1,060.37		1,067.37
5	2016	Mgmt. Plan	2023		327.28		327.28
8	2016	Mgmt. Plan	2019		170.84		170.84
9	2016	Mgmt. Plan	2025		801.63		801.63
13	2016	Mgmt. Plan	2020		87.18		87.18
16	2016	Remediation	2036		29.3		29.3

Table H-13. Summary table illustrating how impact and offset units will be generated and allocated, respectively.

Reporting year	Perpetual Impact Units	Annual Offset Units Generated	Cumulative Offset Units Available	Allocated Offset Units	Unused Offset Units
2013	639.81	1,065.46	1,065.46	639.81	425.65
2014	1,139.83	1,336.13	1,761.78	1,139.83	621.95
2015	2,368.86	2,401.88	3,023.83	2,368.86	654.97
2016	2,944.18	2,492.88	3,147.85	2,944.18	203.67

OFFSET UNIT RELEASE SCHEDULE

If vegetation monitoring occurs outside the breeding season (March 1 – July 15) only half of the estimated offset units from a property will be released for use at the time of sign-up. This is necessary because the exact number of offset units being generated cannot be calculated until completion of the breeding season vegetation monitoring. After that monitoring has been completed, the remaining units will be immediately released for use.

OFFSET UNIT ASSIGNMENT

Offset units being generated by remediation will be reserved for use by the participant that completed the restoration work. Those offset units will be available for use immediately after the appropriate administration fee has been paid and completion of the restoration work has been verified by WAFWA or one of its technical service providers.

Offset units being generated from management contracts will be assigned to participants in the order in which their projects have been approved by the appropriate state wildlife agency and WAFWA staff. The value of these units will be deducted from the participants account if they are carrying a balance. If that balance is sufficient to cover the value of those units in full they will all be assigned to the participant and will be immediately available for use. If additional funds are necessary to cover some or all of the needed units the participant must pay the appropriate fee to WAFWA before those units will be assigned to them. In this instance, the units which cannot be covered by the participant's existing account balance will not be reserved for that participant. Those units could be assigned to a different participant if another project is approved prior to WAFWA receiving the appropriate mitigation fee.

Management offset units must be used within 12 months from the date which they were assigned to a participant. If construction of the associated project has not begun at the end of that period the management offset units could be used by another participant for one of their approved projects. In this instance, the funds associated with these management offset units will be reimbursed to the original participant's account once the new participant has paid the appropriate mitigation fee.

FUNDING FOR IMPLEMENTATION

Funding for the implementation and administration of this WCA will be accomplished through enrollment fees and mitigation fees associated with impacts to habitats conducted by the participant, as described in the WCP. The participant will remit funds to WAFWA. WAFWA will earmark the conservation fees specific to each WCP. Those fees will be maintained within the non-wasting endowment (LPC Habitat Conservation Fund Account) to meet the Participant's mitigation obligations under the WCA and WCP.

Participants will pay an annual enrollment payment for the first three years of the WCP. The first pre-payment will be made to the LPC Habitat Conservation Fund Account at the date of execution of the WCP, with the second and third payments made on the first and second anniversary of the WCP. These fees will be used to start immediately implementing conservation activities to benefit the LPC before surface disturbing activities are implemented. The

enrollment fees will be applied towards mitigation fees assessed for future developments until those funds are depleted. The enrollment fees are based on the types of impact that participants are planning. For leased or owned properties (i.e. oil and gas or wind development), the annual enrollment payment will be calculated at $2.25 per gross acre for all property enrolled in WCA and that amount will be deposited for three years into each participant's habitat conservation fund account. For other types of impacts (i.e. transmission and pipe lines, roads, cell towers, etc.), enrollment payments will be based on a fixed amount that is not based on acreage or the amount of existing impacts, but as with lease enrollments, the fees will be assessed for 3 years. The enrollment fees assessed for each of these different types of impacts are as follows:

Impact Type	Enrollment Fee
Transmission lines	$20,000
Cell/ Radio towers (>150 ft)	$15,000
Primary roads	$15,000
Pipelines and compressors	$10,000
Distribution lines	$5,000
Secondary roads	$5,000
Privately maintained road	$5,000

In many cases, participants may be planning multiple types of impacts, however, those participants will only be responsible for paying impact fees representing the largest impact and fee of all of the options above that represent their planned development. For example, an oil and gas company who holds 10,000 acres of oil and gas lease, but also owns operates and develops downstream pipelines and compressors, distribution lines and privately maintained roads in support of their other developments would three options for enrollment costs, one based on the leased acreage, a second based on the downstream pipelines, and a third for the roads and distribution lines. However, that company would pay only the enrollment cost for the leased acreage because it represents the greatest of the available options that apply to them. In the case of an electric cooperative who owns, maintains and develops both transmission and distribution lines, they would pay only the enrollment for transmission lines because it represents the greatest of the tow options that apply to them.

The enrollment figures above represent new enrollments up to the listing decision in March 2013. Enrollment fees may increase after that decision and in subsequent years through the adaptive management process.

After the WCP is executed, WAFWA will calculate the mitigation fee associated with any new surface disturbance. WAFWA will deduct the resulting mitigation fee from a participant's LPC Habitat Conservation Fund Account balance. If the Habitat Conservation Fund for a participant has been fully expended, the assessed fees for new impacts must be collected and expended by WAFWA before the associated surface impacts can be implemented.

USFWS requires mitigation to be completed before any impact can occur that results in potential take, and the RWP will require the same. This means that mitigation fees must be paid, and that those funds must be committed for on the ground conservation actions before development activities can proceed. Thus, some level of pre-planning will be required to avoid delays in development. Applications for enrollments to generate offset units will be received by WAFWA at least on an annual basis. Participants are strongly encouraged to maintain a pre-payment balance beyond enrollment fees based on their estimate of future development impacts. WAFWA will use these funds as soon as possible to start generating offset units so that delays in construction will be minimized or eliminated. Participants can also bank remediation units that will be reserved for them to offset their subsequent projects.

A description of the calculation process and the current fees associated with surface disturbances is fully outlined in the RWP and on the WAFWA website. The website will be regularly maintained to reflect the current mitigation fees. Changes in the fees will only be applied prospectively and will not change fees specified in signed and implemented WCPs without the written consent of WAFWA and the participant. Changes in fees will be made via recommendation from the Fee Structure Subcommittee and the Advisory Committee and approved by the WAFWA LPCIC (see Administration Section in RWP). The Conservation Fee is a function of the CHAT category, newly impacted acreage, habitat quality, and habitat management costs which vary by service area. Conservation fees will be assessed for each impact and will include a one-time 12.5% administration cost (Table H-14).

Table H-14. Total fees within each service area assessed for an impact unit including the conservation fee and the administration fee (12.5%), 2013. These fees represent the total cost to develop an acre of the highest quality LPC habitat (HEG = 1.0) within each CHAT category.

Ecoregion	CHAT 1	CHAT 2	CHAT 3	CHAT 4
Mixed Grass	$3,337.^{64}	$2,803.^{62}	$2,403.^{10}	$2,136.^{09}
Sand Sage	$1,344.^{99}	$1,129.^{79}	$968.^{39}	$860.^{79}
Shinnery Oak	$2,229.^{05}	$1,872.^{40}	$1,604.^{91}	$1,426.^{59}
Shortgrass	$2,023.^{09}	$1,699.^{40}	$1,456.^{63}	$1,294.^{78}

Funds supplied by Participants will be contributed to, held and utilized by WAFWA to accomplish conservation measures. Mitigation fees will remain in the ecoregion in which the associated property is enrolled or surface disturbance occurs. In the event that the habitat goals under the RWP have been met for that ecoregion and the attainment of that goal can be documented, then funds generated in that ecoregion may be made available for use in other ecoregions that have not reached their habitat goals under the RWP.

Participants who are generating offset units will receive payments for the implementation of conservation measures. A full description of the methodology to calculate offset payments was described earlier in this appendix. The most current payment rates will be posted on the

WAFWA website. Changes to payment rates will only be applied to existing contracts within the terms of the WCP. Any necessary changes in payment rates will be recommended to the LPCIC by the committees and subcommittees outlined in the RWP. Those committees and subcommittees will follow the adaptive management process outlined in the RWP to guide their recommendations for payment adjustment.

Participants who terminate a WCP before the end of the term described in the WCP will be subject to early termination penalties. Participants with a WCP for generating impact units (Appendix F, Exhibit B) will forfeit all remaining funds in their LPC Habitat Conservation Fund Account if their agreement is terminated or if they are found to be in non-compliance and do not remedy the situation. Participants with a WCP for generating offset units (Appendix F, Exhibit A) will be required to repay their entire sign-up incentive and a pro rata of any restoration payments they received if the contract is terminated prior to the specified termination date, or if they are found to be in non-compliance and do not remedy the situation.

FINANCIAL ASSUMPTIONS FOR WAFWA MITIGATION FRAMEWORK

While the RWP provides mitigation opportunities for all threats identified for LPC, it is difficult to estimate the full funding from all industries. The only industry with any history and information on rates of production is the oil and gas industry. Thus, WAFWA used only the estimated funds generated from oil and gas development to forecast the financial stability of two endowment accounts and predict the amount of conservation that will get completed on the ground. Between the collection of enrollment fees for the first three years and additional impact fees, it is estimated that approximately $247,367,832 would be generated within the first ten years of the plan (See Appendix L).

APPENDIX J. WAFWA CONSERVATION PLAN AND CERTIFICATE OF PARTICIPATION FOR PARTICIPANTS GENERATING OFFSET UNITS.

WESTERN ASSOCIATION OF FISH & WILDLIFE AGENCIES (WAFWA) CONSERVATION PLAN AND CERTIFICATE OF PARTICIPATION FOR OFFSET UNIT GENERATION

Site ID:_____ **Service Area:**_____

Participant:_____ **County & State:**_____

Legal Description:_____

Total Acreage:_____ **Expiration Date:**_____

Duration of Agreement:

☐ 5 years

☐ 10 Years (required if restoration is needed)

Type of Plan(s) Contained in Agreement:

☐ Rangeland Management Plan

☐ Planted Grass Management Plan

☐ Both

Insert a map showing the numbered evaluation units overlaid on an aerial image. When separating a single management unit into multiple evaluation units utilize sub IDs. For example, if a single pasture has 3 evaluation units within it they need to be numbered the same but with different sub IDs (i.e. 1a, 1b, and 1c).

The ecological sites occurring in native rangeland also need to be labeled in the legend with their MLRA and Ecological Site (matching Appendix C in the RWP). This information will be needed by the providers to calculate AUMs and develop the rangeland management plans.

The map will also need to show the existing impacted acreage. The same map used on the "WAFWA Project Summary Form" can also be inserted into this contract.

CONSERVATION PLAN

The conservation plan(s) must describe the appropriate practice(s) that will occur on each evaluation unit contained within this contract. The NRCS practices specified in the LPC range-wide conservation plan must be utilized and they must be applied according to their specifications. The detailed practice specifications are contained within section IV of the NRCS electronic field office technical guide (http://efotg.sc.egov.usda.gov/). There are 3 exceptions to those specifications that must also be adopted by Participants who are generating offset units which include 1.) Total utilization of forage averaging ≤33%/year for prescribed grazing plans (528), 2.) No chemical treatment of sand sagebrush (314), and 3.) Mechanical removal must be used for eradication of tall woody plants to minimize regrowth and/or remove the vertical structures (314). Remediation of existing impacts can also be prescribed in accordance with the specifications described in the conservation measures section of the LPC range-wide conservation plan.

Rangeland Management Plan (requires completion of a WAFWA prescribed grazing plan)

Restoration Practice
(Brush Management)

Practice Name: Brush Management	NRCS Code (if applicable): 314
Lifespan:	Planned Fiscal Year(s):
Evaluation Unit(s):	
Planned Amount (Total Acres):	

Practice Description:

When necessary, a map must be inserted here with a delineation of the area where brush management will be applied. The delineated area will be used to calculate the total affected acreage for the table. The unimpacted acreage within that same area will also be tabulated to calculate the payments in the "Calculation of Payments" section.

Management Practices
(Prescribed Grazing Required)

Practice Name: Prescribed Grazing	NRCS Code (if applicable): 528
Lifespan:	Planned Fiscal Year(s):
Evaluation Unit(s):	
Planned Amount (Total Acres):	
Practice Description:	

Planted Grass Management Plan

Restoration Practice
(Range Planting or Restoration & Management of Rare & Declining Habitats)

Practice Name:	NRCS Code (if applicable):
Lifespan:	Planned Fiscal Year(s):
Evaluation Unit(s):	
Planned Amount (Total Acres):	
Practice Description:	

Management Practices
(Required at the appropriate frequency)

Practice Name:	NRCS Code (if applicable):
Lifespan:	Planned Fiscal Year(s):
Evaluation Unit(s):	
Planned Amount (Total Acres):	

Practice Description:

CALCULATION OF PAYMENTS

Method

Payments will be calculated for only acreage that is not impacted by developments as defined by the buffers listed in the LPC range-wide conservation plan (Table J1).

Table J1. Buffer distances applied to developments to define impacted acreage, FY14.

Type of Impact	Buffer distance feet (meters)
Oil and gas pads and small compressor stations*	656 (200)
Wind turbines	2188 (667)
Transmission lines ≥69 kV	1312 (400)
Distribution lines <69 kV	33 (10)
Tall vertical structures (>150 ft.)	2188 (667)
Secondary roads	220 (67)
Primary roads	1640 (500)
Industrial buildings and other compressor stations**	2188 (667)
Residential buildings (houses)	436 (133)
Private roads (ranch roads, etc.)	33 (10)

**Includes compressors with foot prints of <5 acres that are muffled to <75dB at 30 feet*
***Includes all other compressor stations and electrical substations*

The quality of those unimpacted acres will be valued by the WAFWA habitat evaluation guide (HEG) which utilizes 4 relatively consistent variables using the below criteria.

WAFWA Habitat Evaluation Guide (HEG) Scoring Criteria

1. Vegetative cover—Non-overlapping canopy cover of herbaceous plants and shrubs
    a. >45% Score 1.0
    b. 31-45% Score 0.85
    c. 15-30% Score 0.60
    d. <15% Score 0.25
    e. Tilled Score 0.05

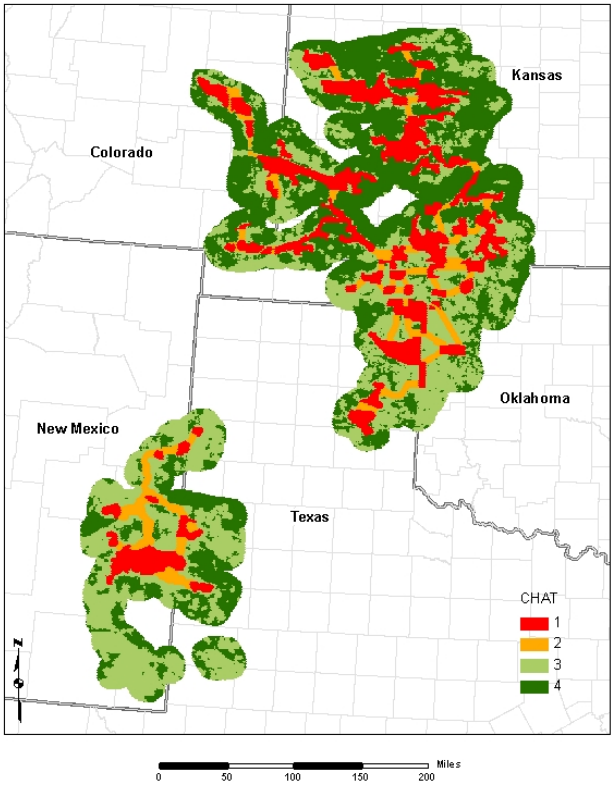
2. Vegetative composition—Relative vegetative cover of preferred grasses and shrubs including little bluestem, sideoats grama, big bluestem, Indian grass, sand bluestem, switchgrass, sand sagebrush, and sand shinnery oak
    a. >75% Score 1.0
    b. 51-75% Score 0.85
    c. 25-50% Score 0.60
    d. <25% Score 0.25
    e. Tilled Score 0.05

3. Percent cover of tall woody plants > 3 ft. in height in upland sites
    a. 0% Score 1.0
    b. <1% Score 0.85
    c. 1-5% Score 0.60
    d. >5% Score 0.25
    e. Tilled Score 0.05

4. 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
    a. >90% Score 1.0
    b. 80-89% Score 0.9
    c. 70-79% Score 0.8
    d. 60-69% Score 0.7
    e. 50-59% Score 0.6
    f. 40-49% Score 0.5
    g. 30-39% Score 0.4
    h. 20-29% Score 0.3
    i. 10-19% Score 0.2
    j. 1-9% Score 0.1
    k. <1% Score 0.0

The HEG score will be calculated using the following formula and will range from 0-1.

HEG Score = (Minimum Value on Q1 – Q3) X Q4 Value
Habitat units will be calculated as the product of the unimpacted acreage and the HEG score. The habitat units will valued by the location of the acreage relative to the priority areas delineated within the LPC Crucial Habitat Assessment Tool (CHAT) (Figure 1). The corresponding multiplier associated with each of those categories will be used to convert the habitat units into offset units.



CHAT Category	Offset Multiplier
CHAT 1	1.25
CHAT 2	1.05
CHAT 3	0.9
CHAT 4	0.8

Figure 1. Crucial habitat assessment tool (CHAT) categories and their associated **offset multipliers,** FY 14. The categories are ranked and valued according to their priority as described within the LPC range-wide plan.

The base value of the offset units equates to the average cost to replace an acre of impacted habitat by making payments to private landowners to implement conservation practices (Figure 2). Those values are set annually by WAFWA using practice costs estimates provided by the Natural Resources Conservation Service (NRCS) and the Farm Service Agency (FSA). The unit

values must be converted into payments by applying a multiplier which is proportional to the actual cost of implementing the practice relative to the base unit value (Table 2). Finally, one last multiplier must be utilized to convert the base payment rate into the amount being offered by WAWFWA for implementing each practice (Table 3).

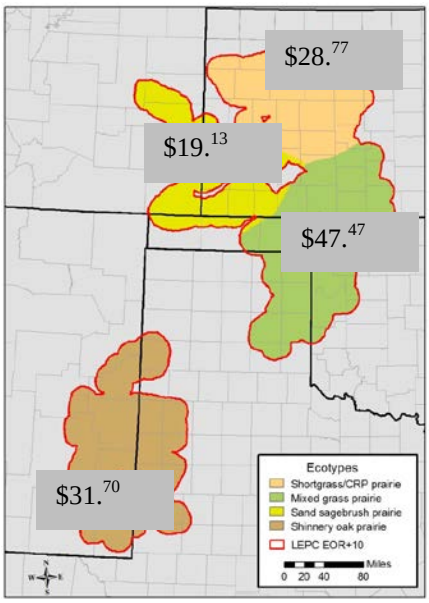


Figure 2**.** Offset **unit values** in each service area, FY14.

Table 2. **Practice weights** FY14.

Conservation Incentive/Practice	Shortgrass	Shinnery Oak	Sand Sagebrush	Mixed Grass
Sign-up Incentive (5-yr contract)	0.087	0.079	0.131	0.053
Sign-up Incentive (10-yr contract)	0.174	0.158	0.261	0.105
Rangeland Management Plan	0.492	0.232	0.695	0.422
Planted Grass Management Plan	1.473	1.025	1.935	0.919
Range Planting	5.819	2.747	4.553	4.752
Brush Management (<1% cover)	3.532	4.780	7.923	2.141
Brush Management (1-5% cover)	5.826	7.843	12.999	3.531
Brush Management (>5% cover)	14.553	9.819	16.273	8.821

Table 3. **Payment scaling multipliers**, FY14.

Practice	CHAT 1	CHAT 2	CHAT 3	CHAT 4
Sign-up Incentives *(5 & 10 year contracts)*	1.08	1.05	1.11	1.13
Restoration Practices *(Brush Management & Range Planting)*	0.88	1.0	0.94	0.94
Management Plans *(Rangeland and Planted Grass)*	1.08	1.05	1.11	1.13

Calculations

The following table utilizes the previously described methods to calculate payments for each of the evaluations units for incentives and practices that will be applied during the first fiscal year of this plan. Multiple Evaluation Unit table may be necessary for an enrolled area.

Evaluation Unit _____

Location- Practice	Unimpacted Acres		HEG Score		Offset Multiplier		Offset Units or Affected Acreage[a]		Offset Unit Value		Practice Weight		Payment Scaling		Payments
CHAT 1															
Sign-up Incentive		X		X	1.25	=		X		X		X		=	
Restoration Practice	NA	X	NA	X	NA	=		X		X		X		=	
Management Plan		X		X	1.25	=		X		X		X		=	
CHAT 2															
Sign-up Incentive		X		X	1.05			X		X		X		=	
Restoration Practice	NA	X	NA	X	NA	=		X		X		X		=	
Management Plan		X		X	1.05	=		X		X		X		=	
CHAT 3															
Sign-up Incentive		X		X	0.9			X		X		X		=	
Restoration Practice	NA	X	NA	X	NA	=		X		X		X		=	
Management Plan		X		X	0.9	=		X		X		X		=	
CHAT 4															
Sign-up Incentive		X		X	0.8			X		X		X		=	
Restoration Practice	NA	X	NA	X	NA	=		X		X		X		=	
Management Plan		X		X	0.8	=		X		X		X		=	
Total	--		**--**		**--**										

[a] Payments for restoration practices are based on the **unimpacted** acreage within the area where they are being applied.

ESTIMATED ANNUAL PAYMENTS (BY FEDERAL FISCAL YEAR)

FY 14 (Year 1)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Sign-Up Incentive	Brush Mgt.	Range Planting	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--								

FY 15 (Year 2)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--					

FY 16 (Year 3)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--					

FY 17 (Year 4)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--					

FY 18 (Year 5)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--					

FY 19 (Year 6)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--					

FY 20 (Year 7)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--					

FY 21 (Year 8)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--					

FY 22 (Year 9)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--					

FY 23 (Year 10)

Evaluation Unit	Expected HEG	Expected Unimpacted Acreage	Expected Offset Units	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Total Expected Payment
Total	--					

Contract Totals

Evaluation Unit	Expected HEG Score at Contract Completion	Expected Offset Units	Sign-Up Incentive	Brush Management	Range Planting	Rangeland Mgt. Plan	Planted Grass Mgt. Plan	Expected Payment
Grand	--							

Weighted Average Expected HEG Score at Contract Completion: _____

Weighted Avg. = {(Unit 1 Ac. X HEG) + (Unit 2 Ac. X HEG) + (Unit 3 Ac. X HEG) +…} / Total Unimpacted Acres

CERTIFICATE OF PARTICIPATION

I. PARTICIPANT

A Participant is any person or entity with fee simple, leasehold, or other property interest sufficient to carry out the conservation measures described in the Conservation Plan.

II. PROGRAM ELIGIBLITIY

A. Acreage will not be eligible during any fiscal year in which a federal source of funds is being used to pay for implementation of the same practice(s) prescribed in this plan.

B. By signing this contract, the Participant certifies that the Participant will control the land subject to this contract for the term of this contract and shall, upon request, provide evidence to WAFWA demonstrating that such Participant will control the land for that period.

C. The Participant is responsible for obtaining the authorities, permits, easements, or other approvals necessary for the implementation, operation, and maintenance of the conservation practices and activities in accordance with applicable laws and regulations. A Participant must comply with all laws and is responsible for all effects or actions resulting from the Participant's performance under this contract.

III. AGREEMENT

The Participant agrees to:

(1) Place eligible land into the program for the period of time as specified in this contract starting with the date of execution;

(2) Not start any financially assisted practice or activity before this contract is executed unless a waiver is approved by the WAFWA. The Participant may submit a written request to waive this requirement for financially assisted practices;

(3) Establish, to WAFWA standards and specifications, conservation practices or activities described in this contract as scheduled, to operate and maintain these practices or activities for the intended purpose and life span identified in this contract, and to comply with the terms and conditions of this contract and all applicable Federal, State, Tribal, and local laws. In cases where the land is transferred to new ownership during the contract period, the Participant must also ensure these responsibilities are transferred to subsequent owners as provided herein;

(4) Notify WAFWA within 60 days of the transfer of interest to an eligible transferee who accepts the contract's terms and conditions;

(5) Share responsibility for ensuring that the conservation plan contained within this contract is accurate and complete. WAFWA will not compensate Participants for practices and/or activities that are not in the contract at the time of obligation;

(6) Discontinue work in the general area of the site and notify WAFWA immediately if during the construction or any practice a previously unidentified endangered species, archeological, or historical site is encountered.

IV. VEGETATION AND COMPLIANCE MONITORING

Participant agrees to allow access to a WAFWA-approved technical service provider to monitor compliance, verify completion of restoration work, and measure vegetation. Regular vegetation monitoring is necessary to track changes in habitat quality which influences the number of offset units being generated and the resulting payments due to the Participant. The required vegetation monitoring schedule is as follows:

(1) Annual monitoring during the LPC breeding season (March 1 – July 15) until the maximum expected vegetation quality has been achieved or the end of the contract period, whichever comes first.
(2) Once the maximum vegetation quality has been reached, monitoring will continue every third year during the LPC breeding season (March 1 – July 15).

With 2 weeks advance notice, the Participant also agrees to also allow access to one U.S. Fish & Wildlife Service (USFWS) employee so long as that person is accompanied by a representative of WAFWA or the state fish and wildlife agency.

V. SELF REPORTING

Participants must immediately report to WAFWA any substantial changes to the habitat quality on any of the acreage contained within this contract. Those changes include, but are not limited to, breaking of sod for agricultural activities, natural or man-made disturbances outside of the activities contained within this contract, and new or remediated developments (e.g. well pads, transmission lines, distribution lines, roads, compressor stations, etc.).

VI. PAYMENTS

A. Subject to availability of funds, WAFWA will make payments to the participant in the amounts calculated by using the methods described in this management plan. The participant understands that payments are based upon the WAFWA habitat evaluation guide scores (HEG) and unimpacted acreages as defined by the LPC range-wide conservation plan. These values can fluctuate with changing environmental factors, management activities, energy

developments, etc. The participant acknowledges that the technical service provider made a good faith attempt to estimate future payments in this plan and that those figures may not correspond with the actual payments received.

B. Payments for sign-up incentives will not deviate from those calculated in this contract.

C. Payments for restoration practices will not deviate from those calculated in this contract if the work is completed during the first fiscal year as prescribed. Payments for restoration practices could be different in subsequent years.

D. Payment rates (per unimpacted acre) for implementation of management plans will not be lower for any level of habitat quality (HEG score) than at the time of sign-up (Tables 1-4). The payment rates for implementation of a management plan could however increase by up to 3% per year during the course of this contract. Payments due to the participant would be adjusted to correspond with any changes to payment rates.

E. Payments will only be issued for restoration practices and management plans that are being implemented according to this contract or surpass those standards.

F. The following schedule will be utilized by WAFWA to make payments to participants:

(1) *Sign-up Incentives* – A one-time payment will be authorized within 60 days of execution of a 5- or 10-year management contract.

(2) *Restoration Practices* – A payment will be authorized within 60 days from the time an approved technical service provider verifies completion of the practice. This applies to range planting and brush management.

(3) *Maintenance Practices* – A payment will be authorized annually within 60 days of the end of the federal fiscal year, which ends on Sept. 30. This applies to rangeland management plans and planted grass management plans.

All payments received as part of this contract will be reported to the United States Internal Revenue Service (IRS). For information related to tax liabilities, it is recommended that the Participant consult with a tax accountant or refer to IRS publication 225, Farmers Tax Guide.

Table 1. Payment rates (per unimpacted acre) offered to landowners in the **sand sagebrush service area** for sign-up incentives, management plans, restoration practices, and perpetual conservation easements, 2013.

	Habitat Quality (HEG Score)						
Location- activity	All Sites	0.05	0.2	0.4	0.6	0.8	1.0
CHAT 1							
Sign-up Incentive (5-yr contract)	--	$0.17	$0.68	$1.35	$2.03	$2.70	$3.38
Sign-up Incentive (10-yr contract)	--	$0.34	$1.35	$2.70	$4.05	$5.40	$6.75
Rangeland Management Plan	--	$0.90	$3.59	$7.18	$10.77	$14.35	$17.94
Planted Grass Management Plan	--	$2.50	$9.99	$19.99	$29.98	$39.98	$49.97
Range Planting	$95.81	--	--	--	--	--	--
Brush Management (<1% cover)	$166.71	--	--	--	--	--	--
Brush Management (1-5% cover)	$273.52	--	--	--	--	--	--
Brush Management (>5% cover)	$342.42	--	--	--	--	--	--
Perpetual Conservation Easement	$264.00[a]	--	--	--	--	--	--
CHAT 2							
Sign-up Incentive (5-yr contract)	--	$0.14	$0.55	$1.10	$1.65	$2.20	$2.75
Sign-up Incentive (10-yr contract)	--	$0.28	$1.10	$2.20	$3.30	$4.40	$5.50
Rangeland Management Plan	--	$0.73	$2.92	$5.85	$8.77	$11.70	$14.62
Planted Grass Management Plan	--	$2.04	$8.14	$16.29	$24.43	$32.58	$40.72
Range Planting	$91.46	--	--	--	--	--	--
Brush Management (<1% cover)	$159.13	--	--	--	--	--	--
Brush Management (1-5% cover)	$261.08	--	--	--	--	--	--
Brush Management (>5% cover)	$326.85	--	--	--	--	--	--
Perpetual Conservation Easement	$264.00[a]	--	--	--	--	--	--
CHAT 3							
Sign-up Incentive (5-yr contract)	--	$0.13	$0.50	$1.00	$1.50	$2.00	$2.50
Sign-up Incentive (10-yr contract)	--	$0.25	$1.00	$2.00	$3.00	$4.00	$5.00
Rangeland Management Plan	--	$0.66	$2.66	$5.32	$7.97	$10.63	$13.29
Planted Grass Management Plan	--	$1.85	$7.40	$14.81	$22.21	$29.61	$37.02
Range Planting	$74.04	--	--	--	--	--	--
Brush Management (<1% cover)	$128.82	--	--	--	--	--	--
Brush Management (1-5% cover)	$211.35	--	--	--	--	--	--
Brush Management (>5% cover)	$264.60	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]						
CHAT 4							
Sign-up Incentive (5-yr contract)	--	$0.11	$0.45	$0.90	$1.35	$1.80	$2.25
Sign-up Incentive (10-yr contract)	--	$0.23	$0.90	$1.80	$2.70	$3.60	$4.50
Rangeland Management Plan	--	$0.60	$2.39	$4.78	$7.18	$9.57	$11.96
Planted Grass Management Plan	--	$1.67	$6.66	$13.33	$19.99	$26.65	$33.32
Range Planting	$65.33	--	--	--	--	--	--
Brush Management (<1% cover)	$113.66	--	--	--	--	--	--
Brush Management (1-5% cover)	$186.49	--	--	--	--	--	--
Brush Management (>5% cover)	$233.47	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]	--	--	--	--	--	--

[a] This figure represents the maximum amount that can be paid for the easement. The actual figure will be negotiated between the landowner and the technical service provider based on terms of the easement, site potential, existing impacts, etc. [b] NE = not eligible without special authorization from the LPCIC

Table 2. Payment rates (per unimpacted acre) in the **shortgrass service area** for sign-up incentives, management plans, restoration practices, and perpetual conservation easements, 2013.

	Habitat Quality (HEG Score)						
Location- activity	All Sites	0.05	0.2	0.4	0.6	0.8	1.0
CHAT 1							
Sign-up Incentive (5-yr contract)	--	$0.17	$0.68	$1.35	$2.03	$2.70	$3.38
Sign-up Incentive (10-yr contract)	--	$0.34	$1.35	$2.70	$4.05	$5.40	$6.75
Rangeland Management Plan	--	$0.96	$3.82	$7.64	$11.47	$15.29	$19.11
Planted Grass Management Plan	--	$2.86	$11.44	$22.89	$34.33	$45.77	$57.22
Range Planting	$184.16	--	--	--	--	--	--
Brush Management (<1% cover)	$111.80	--	--	--	--	--	--
Brush Management (1-5% cover)	$184.38	--	--	--	--	--	--
Brush Management (>5% cover)	$460.61	--	--	--	--	--	--
Perpetual Conservation Easement	$363.00[a]	--	--	--	--	--	--
CHAT 2							
Sign-up Incentive (5-yr contract)	--	$0.14	$0.55	$1.10	$1.65	$2.20	$2.75
Sign-up Incentive (10-yr contract)	--	$0.28	$1.10	$2.20	$3.30	$4.40	$5.50
Rangeland Management Plan	--	$0.78	$3.11	$6.23	$9.34	$12.46	$15.57
Planted Grass Management Plan	--	$2.33	$9.32	$18.65	$27.97	$37.30	$46.62
Range Planting	$175.79	--	--	--	--	--	--
Brush Management (<1% cover)	$106.72	--	--	--	--	--	--
Brush Management (1-5% cover)	$176.00	--	--	--	--	--	--
Brush Management (>5% cover)	$439.68	--	--	--	--	--	--
Perpetual Conservation Easement	$363.00[a]	--	--	--	--	--	--
CHAT 3							
Sign-up Incentive (5-yr contract)	--	$0.13	$0.50	$1.00	$1.50	$2.00	$2.50
Sign-up Incentive (10-yr contract)	--	$0.25	$1.00	$2.00	$3.00	$4.00	$5.00
Rangeland Management Plan	--	$0.71	$2.83	$5.66	$8.49	$11.32	$14.16
Planted Grass Management Plan	--	$2.12	$8.48	$16.95	$25.43	$33.91	$42.38
Range Planting	$142.31	--	--	--	--	--	--
Brush Management (<1% cover)	$86.39	--	--	--	--	--	--
Brush Management (1-5% cover)	$142.48	--	--	--	--	--	--
Brush Management (>5% cover)	$355.93	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]						
CHAT 4							
Sign-up Incentive (5-yr contract)	--	$0.11	$0.45	$0.90	$1.35	$1.80	$2.25
Sign-up Incentive (10-yr contract)	--	$0.23	$0.90	$1.80	$2.70	$3.60	$4.50
Rangeland Management Plan	--	$0.64	$2.55	$5.10	$7.64	$10.19	$12.74
Planted Grass Management Plan	--	$1.91	$7.63	$15.26	$22.89	$30.52	$38.14
Range Planting	$125.57	--	--	--	--	--	--
Brush Management (<1% cover)	$76.23	--	--	--	--	--	--
Brush Management (1-5% cover)	$125.72	--	--	--	--	--	--
Brush Management (>5% cover)	$314.06	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]	--	--	--	--	--	--

[a] This figure represents the maximum amount that can be paid for the easement. The actual figure will be negotiated between the landowner and the technical service provider based on terms of the easement, site potential, existing impacts, etc. [b] NE = not eligible without special authorization from the LPCIC

Table 3. Payment rates (per unimpacted acre) in the **mixed grass service area** for sign-up incentives, management plans, restoration practices, and perpetual conservation easements, 2013.

	Habitat Quality (HEG Score)						
Location- activity	All Sites	0.05	0.2	0.4	0.6	0.8	1.0
CHAT 1							
Sign-up Incentive (5-yr contract)	--	$0.17	$0.68	$1.35	$2.03	$2.70	$3.38
Sign-up Incentive (10-yr contract)	--	$0.34	$1.35	$2.70	$4.05	$5.40	$6.75
Rangeland Management Plan	--	$1.35	$5.41	$10.83	$16.24	$21.66	$27.07
Planted Grass Management Plan	--	$2.94	$11.77	$23.55	$35.32	$47.09	$58.86
Range Planting	$248.14	--	--	--	--	--	--
Brush Management (<1% cover)	$111.80	--	--	--	--	--	--
Brush Management (1-5% cover)	$184.38	--	--	--	--	--	--
Brush Management (>5% cover)	$460.61	--	--	--	--	--	--
Perpetual Conservation Easement	$528.00[a]	--	--	--	--	--	--
CHAT 2							
Sign-up Incentive (5-yr contract)	--	$0.14	$0.55	$1.10	$1.65	$2.20	$2.75
Sign-up Incentive (10-yr contract)	--	$0.28	$1.10	$2.20	$3.30	$4.40	$5.50
Rangeland Management Plan	--	$1.10	$4.41	$8.82	$13.24	$17.65	$22.06
Planted Grass Management Plan	--	$2.40	$9.59	$19.19	$28.78	$38.37	$47.96
Range Planting	$236.86	--	--	--	--	--	--
Brush Management (<1% cover)	$106.72	--	--	--	--	--	--
Brush Management (1-5% cover)	$176.00	--	--	--	--	--	--
Brush Management (>5% cover)	$439.68	--	--	--	--	--	--
Perpetual Conservation Easement	$528.00[a]	--	--	--	--	--	--
CHAT 3							
Sign-up Incentive (5-yr contract)	--	$0.13	$0.50	$1.00	$1.50	$2.00	$2.50
Sign-up Incentive (10-yr contract)	--	$0.25	$1.00	$2.00	$3.00	$4.00	$5.00
Rangeland Management Plan	--	$1.00	$4.01	$8.02	$12.03	$16.04	$20.05
Planted Grass Management Plan	--	$2.18	$8.72	$17.44	$26.16	$34.88	$43.60
Range Planting	$191.74	--	--	--	--	--	--
Brush Management (<1% cover)	$86.39	--	--	--	--	--	--
Brush Management (1-5% cover)	$142.48	--	--	--	--	--	--
Brush Management (>5% cover)	$355.93	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]						
CHAT 4							
Sign-up Incentive (5-yr contract)	--	$0.11	$0.45	$0.90	$1.35	$1.80	$2.25
Sign-up Incentive (10-yr contract)	--	$0.23	$0.90	$1.80	$2.70	$3.60	$4.50
Rangeland Management Plan	--	$0.90	$3.61	$7.22	$10.83	$14.44	$18.05
Planted Grass Management Plan	--	$1.96	$7.85	$15.70	$23.55	$31.39	$39.24
Range Planting	$169.19	--	--	--	--	--	--
Brush Management (<1% cover)	$76.23	--	--	--	--	--	--
Brush Management (1-5% cover)	$125.72	--	--	--	--	--	--
Brush Management (>5% cover)	$314.06	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]	--	--	--	--	--	--

[a] This figure represents the maximum amount that can be paid for the easement. The actual figure will be negotiated between the landowner and the technical service provider based on terms of the easement, site potential, existing impacts, etc. [b] NE = not eligible without special authorization from the LPCIC

Table 4. Payment rates (per unimpacted acre) in the **shinnery oak service area** for sign-up incentives, management plans, restoration practices, and perpetual conservation easements, 2013.

	Habitat Quality (HEG Score)						
Location- activity	All Sites	0.05	0.2	0.4	0.6	0.8	1.0
CHAT 1							
Sign-up Incentive (5-yr contract)	--	$0.17	$0.68	$1.35	$2.03	$2.70	$3.38
Sign-up Incentive (10-yr contract)	--	$0.34	$1.35	$2.70	$4.05	$5.40	$6.75
Rangeland Management Plan	--	$0.50	$1.98	$3.96	$5.95	$7.93	$9.91
Planted Grass Management Plan	--	$2.19	$8.77	$17.54	$26.31	$35.08	$43.86
Range Planting	$95.81	--	--	--	--	--	--
Brush Management (<1% cover)	$166.71	--	--	--	--	--	--
Brush Management (1-5% cover)	$273.52	--	--	--	--	--	--
Brush Management (>5% cover)	$342.42	--	--	--	--	--	--
Perpetual Conservation Easement	$264.00[a]	--	--	--	--	--	--
CHAT 2							
Sign-up Incentive (5-yr contract)	--	$0.14	$0.55	$1.10	$1.65	$2.20	$2.75
Sign-up Incentive (10-yr contract)	--	$0.28	$1.10	$2.20	$3.30	$4.40	$5.50
Rangeland Management Plan	--	$0.40	$1.62	$3.23	$4.85	$6.46	$8.08
Planted Grass Management Plan	--	$1.79	$7.15	$14.29	$21.44	$28.59	$35.73
Range Planting	$91.46	--	--	--	--	--	--
Brush Management (<1% cover)	$159.13	--	--	--	--	--	--
Brush Management (1-5% cover)	$261.08	--	--	--	--	--	--
Brush Management (>5% cover)	$326.85	--	--	--	--	--	--
Perpetual Conservation Easement	$264.00[a]	--	--	--	--	--	--
CHAT 3							
Sign-up Incentive (5-yr contract)	--	$0.13	$0.50	$1.00	$1.50	$2.00	$2.50
Sign-up Incentive (10-yr contract)	--	$0.25	$1.00	$2.00	$3.00	$4.00	$5.00
Rangeland Management Plan	--	$0.37	$1.47	$2.94	$4.41	$5.87	$7.34
Planted Grass Management Plan	--	$1.62	$6.50	$12.99	$19.49	$25.99	$32.49
Range Planting	$74.04	--	--	--	--	--	--
Brush Management (<1% cover)	$128.82	--	--	--	--	--	--
Brush Management (1-5% cover)	$211.35	--	--	--	--	--	--
Brush Management (>5% cover)	$264.60	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]						
CHAT 4							
Sign-up Incentive (5-yr contract)	--	$0.11	$0.45	$0.90	$1.35	$1.80	$2.25
Sign-up Incentive (10-yr contract)	--	$0.23	$0.90	$1.80	$2.70	$3.60	$4.50
Rangeland Management Plan	--	$0.33	$1.32	$2.64	$3.96	$5.29	$6.61
Planted Grass Management Plan	--	$1.46	$5.85	$11.69	$17.54	$23.39	$29.24
Range Planting	$65.33	--	--	--	--	--	--
Brush Management (<1% cover)	$113.66	--	--	--	--	--	--
Brush Management (1-5% cover)	$186.49	--	--	--	--	--	--
Brush Management (>5% cover)	$233.47	--	--	--	--	--	--
Perpetual Conservation Easement	NE[b]	--	--	--	--	--	--

[a] This figure represents the maximum amount that can be paid for the easement. The actual figure will be negotiated between the landowner and the technical service provider based on terms of the easement, site potential, existing impacts, etc. [b] NE = not eligible without special authorization from the LPCIC

VII. OPERATION AND MAINTENANCE OF CONSERVATION PRACTICES (Operation and Maintenance Agreement)

The Participant agrees to the operation and maintenance (O&M) of all conservation practices included within this Contract.

These practices shall be operated and maintained for the practice lifespan as listed in the WAFWA Conservation Plan. This requirement also extends to those conservation practices installed before Contract execution, but included in the Contract to obtain the environmental benefits agreed upon in the ranking process.

A. The term O&M as used in the Contract shall collectively include:

(1) **Operation**: The administration, management, and performance of non-maintained activities necessary to keep a practice safe and functioning as planned;

(2) **Maintenance**: The recurring activities necessary to retain or restore a practice in a safe and functioning condition, including, but not limited to, the management of vegetation, the repair or replacement of failed components or conservation practices, the prevention of treatment of deterioration, and the repair of damages caused by vandalism or negligence, but excluding damage caused by local, state or nationally recognized natural disaster;

(3) **Repair**: The actions to return a deteriorated, damaged, abandoned, or failed practice and/or component to an acceptable and functional condition; and

(4) **Replacement**: The removal of a practice or component and installation of a similar, functional practice or component.

B. The Participant is responsible for the O&M activities and acknowledges that these activities may require labor, funds, and management in order to ensure the appropriate program purposes are met.

C. The Participant O&M responsibilities begin when the practice installation is completed, as determined by WAFWA, and shall continue through the end of the practice lifespan.

D. The Participant acknowledges that the “practice lifespan” is the time period in which the conservation practices are to be used and maintained for their intended purposes as defined by in the WAFWA Conservation Plan.

E. Specific O&M requirements for conservation practices covered within this Contract are defined in the WAFWA Conservation Plan narrative.

F. The Participant acknowledges that the conservation practices installed before the contract execution, but included in the Contract to obtain the environmental benefits agreed upon with the application ranking process, must be operated and maintained as specified in the Contract and within this paragraph.

G. The Participant agrees to the O&M requirements as listed within this section of the Certificate of Participation (Operation and Maintenance of Conservation Practices). Failure to carry-out the terms and conditions listed may result in WAFWA termination of this Contract.

VIII. CHANGES TO TERMS AND CONDITIONS OF THIS CONTRACT

A. The Participant and WAFWA may modify this Contract by mutual agreement when:

(1) Both the Participant and the appropriate approving authority (WAFWA-approved technical service provider) agree to this modification;

(2) At the request of the Participant, and upon approval of WAFWA, the modification is consistent with the purposes of the program; and

(3) A transfer of this Contract occurs, provided WAFWA approval is obtained, and an eligible transferee accepts all terms and responsibilities under this Contract including operation and maintenance of those practices already installed or to be installed.

B. The Participant and WAFWA may modify this contract by mutual agreement to revise or add to those practices already installed, provided that such revisions or additions are within the scope of this Contract.

C. All modification that require WAFWA approval must be approved in writing by the authorized WAFWA official and the Participant or an individual granted signature authority through a valid Power of Attorney filed with WAFWA. Any Participant on the Contract may approve modification for the Contract on behalf of all participants.

IX. CORRECTIONS

WAFWA reserves the right to correct all errors in entering data or the results of computations in this Contract. If the Participant does not agree to such corrections, WAFWA shall terminate the Contract.

X. CONTRACT TERMINATION

A. If a Participant fails to carry-out the terms and conditions of this Contract, WAFWA may terminate this Contract, or if not terminated, require the Participant to accept such adjustments in subsequent payments as are determined to be appropriate by WAFWA.

B. A Participant may also terminate this Contract at any time prior to the specified duration

C. The Contract terminates upon death of the Participant unless the Participant identifies an Executor of other Estate Representative to act on the Participant's behalf and such Executor or Estate Representative transfers the Contract to an eligible person or legal entity and such transfer is approved by WAFWA.

D. In the event that this Contract is terminated the Participant will refund payments received under this Contract according to the following terms

1. In the case of early termination of five year and ten year Contracts where no restoration practices have been implemented and paid by WAFWA, the Participant will repay all sign-up incentive payments that were received..

2. In the case of early termination of a ten year Contract where restoration practices have been paid by WAFWA, the Participant will repay all sign-up incentive payments as well as the restoration payments corresponding to the proportion of the contract remaining at the time of termination.

XI. RECOVERY OF COST

The Participant must notify WAFWA in writing of their intent to terminate the contract and WAFWA will respond in writing with an invoice for the termination fees as described in the previous section. WAFWA will charge interest on the munities it determines to be due and owing to WAFWA under this contract. Under debt collection procedures, unpaid bills accrue interest beginning 30 days after the billing date. The interest rate will be determined using the current value of funds rate, published annually in the Federal Register by the United State Department of Treasury. Upon receipt of payment in full, WAFWA will provide the Participant with documentation of the termination of the contract.

XII. CONFIDENTIALITY

The WAFWA shall allow access to the foregoing information to only the relevant State fish and wildlife agency, the USFWS, employees or agents of WAFWA, and the Participant that provided the information; provided, however, unless 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 USFWS, employees or agents of WAFWA, or the Participant to view the particular information for monitoring and reporting, as described herein, but not to download, possess, or distribute it.

USFWS and the State fish and wildlife agency shall take all necessary steps to maintain the confidentiality of such information under the relevant public information laws.

XII. COVERAGE

If the lesser prairie-chicken is listed as a Threatened species, the U.S. Fish & Wildlife Service (USFWS) has proposed a 4(d) special rule to allow "for take of LPC incidental to activities conducted pursuant to a comprehensive conservation program that was developed by or in coordination with a State agency and that has been determined by the Service to provide a net conservation benefit to the LPC." (Fed. Reg. FWS-R2-ES-2012-0071, May 6, 2013). The conservation practices implemented in this plan have been determined by the USFWS to be benign or beneficial to the lesser prairie-chicken. Thus, the 4(d) rule would exempt take incidental to implementing this conservation plan from the otherwise applicable take prohibitions of the ESA. The 4(d) rule would provide the regulatory relief otherwise obtainable only through permits.

XIV. EFFECTIVE DATE

By signing this Certificate of Participation, the Participant agrees to implement all of the conservation measures as prescribed and comply with the terms of this contract if the offer is accepted by WAFWA. This contract is subject to the availability of funds and no payments will be authorized for prescribed activities that occurred prior to its execution. The contract will be executed upon the signature of a WAFWA representative and the contract will be void if it is not executed within 30 days after the close of the sign-up period.

Participant Date

Address

Telephone

Email

WAFWA Representative Date

APPENDIX K. WAFWA CONSERVATION PLAN AND CERTIFICATE OF PARTICIPATION FOR PROPERTIES NOT GENERATING OFFSET UNITS.

WESTERN ASSOCIATION OF FISH &

WILDLIFE AGENCIES

(WAFWA) CONSERVATION PLAN AND

CERTIFICATE OF

PARTICIPATION FOR PROPERTIES NOT GENERATING OFFSET UNIT

Site ID:_____ **Service Area:**_____

Participant:_____ **County & State:**_____

Legal Description:_____

Total Acreage:_____ **Expiration Date:**_____

A map will be inserted here showing the numbered evaluation units overlaid on an aerial image. The evaluation units occurring in native rangeland also need to be labeled in the legend according to their ecological site description (matching Appendix C in the RWP). This information will be needed by the technical service providers to calculate AUMs and develop the prescribed grazing plans.

CONSERVATION PLAN

The conservation plan(s) must describe the appropriate practice(s) that will occur on each evaluation unit contained within this agreement. The NRCS practices specified in the LPC range-wide conservation plan must be utilized and they must be applied according to their specifications. The detailed practice specifications are contained within section IV of the NRCS electronic field office technical guide (http://efotg.sc.egov.usda.gov/). Remediation of existing infrastructure can also be prescribed in accordance with the specifications described in the conservation measures section of the LPC range-wide conservation plan.

Restoration Practices

Practice Name:	NRCS Code (if applicable):
Evaluation Unit(s):	
Planned Amount (Total Acres):	
Practice Description:	

Management Practices
(Prescribed Grazing Plan Required For Grazed Acreage)

Practice Name:	NRCS Code (if applicable):
Evaluation Unit(s):	
Planned Amount (Total Acres):	

Practice Description:

Practice Name:	NRCS Code (if applicable):
Evaluation Unit(s):	
Planned Amount (Total Acres):	
Practice Description:	

Practice Name:	NRCS Code (if applicable):
Evaluation Unit(s):	
Planned Amount (Total Acres):	

Practice Description:

CERTIFICATE OF PARTICIPATION

I. PARTICIPANT

A Participant is any person or entity with fee simple, leasehold, or other property interest sufficient to carry out the conservation measures described in this Certificate of Participation.

II. ELIGIBLITIY

D. By signing this agreement, the Participant certifies that they control the land subject to this agreement and shall, upon request, provide evidence to WAFWA demonstrating that such Participant control's the land.

E. The Participant is responsible for obtaining the authorities, permits, easements, or other approvals necessary for the implementation, operation, and maintenance of the conservation practices and activities in accordance with applicable laws and regulations. A Participant must comply with all laws and is responsible for all effects or actions resulting from the Participant's performance under this agreement.

III. AGREEMENT

The Participant agrees to:

(7) Establish, conservation practices or activities as described in this agreement and to comply with the terms and conditions of this agreement and all applicable Federal, State, Tribal, and local laws. In cases where the land is transferred to new ownership, the Participant must also ensure these responsibilities are transferred to subsequent owners as provided herein;

(8) Notify WAFWA within 60 days of the transfer of interest to an eligible transferee who accepts the agreement's terms and conditions;

(9) Discontinue work in the general area of the site and notify WAFWA immediately if during the construction or any practice a previously unidentified endangered species, archeological, or historical site is encountered.

IV. SELF REPORTING

Participants must immediately report any substantial deviation from the prescribed management activities or substantial changes to the habitat quality on any of the acreage contained within this agreement. Those changes include, but are not limited to, substantial changes to stocking rates, breaking of sod for agricultural activities, natural or man-made disturbances outside of the activities contained within this agreement, and new or remediated developments (e.g. well pads, transmission lines, distribution lines, roads, compressor stations, etc.).

V. TERMINATION OF AGREEMENT

E. The WAFWA will terminate this agreement if the Participant fails to carry-out the required terms and conditions.

F. A Participant may also terminate this agreement at any time by notifying WAFWA in writing of their intent to terminate the agreement.

G. The agreement terminates upon death of the Participant unless the Participant identifies an Executor of other Estate Representative to act on the Participant's behalf and such Executor or Estate Representative transfers the agreement to an eligible person or legal entity and such transfer is approved by WAFWA.

VI. CONFIDENTIALITY

The WAFWA shall allow access to the foregoing information to only the relevant State fish and wildlife agency, the USFWS, employees or agents of WAFWA, and the Participant that provided the information; provided, however, unless 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 USFWS, employees or agents of WAFWA, or the Participant to view the particular information for monitoring and reporting, as described herein, but not to download, possess, or distribute it. USFWS and the State fish and wildlife agency shall take all necessary steps to maintain the confidentiality of such information under the relevant public information laws.

VII. COVERAGE

If the lesser prairie-chicken is listed as a Threatened species, the U.S. Fish & Wildlife Service (USFWS) has proposed a 4(d) special rule to allow "for take of LPC incidental to activities conducted pursuant to a comprehensive conservation program that was developed by or in coordination with a State agency and that has been determined by the Service to provide a net conservation benefit to the LPC." (Fed. Reg. FWS-R2-ES-2012-0071, May 6, 2013). The conservation practices implemented in this plan have been determined by the USFWS to be benign or beneficial to the lesser prairie-chicken. Thus, the 4(d) rule would exempt take incidental to implementing this conservation plan from the otherwise applicable take prohibitions of the ESA. The 4(d) rule would provide the regulatory relief otherwise obtainable only through permits.

VIII. EFFECTIVE DATE

By signing this Certificate of Participation, the Participant agrees to implement all of the conservation measures as prescribed and comply with the terms of this agreement if the offer is accepted by WAFWA. The agreement will be executed upon the signature of a WAFWA representative.

Participant Date

Address

Telephone

Email

WAFWA Representative Date

APPENDIX L. WAFWA BUSINESS PLAN FOR IMPLEMENTING THE LPC RWP

Western Association of Fish and Wildlife Agencies
and
Foundation for Western Fish and Wildlife

Lesser Prairie Chicken
Conservation Delivery Business Plan

Approved By:

WAFWA / FWFW Directors

July 24, 2013

Updated

September 17, 2013

Authored By:

Lesser Prairie Chicken Sub-Committee

Ross Melinchuk, Chair

Steve Barton, Member

Jim Douglas, Member

Larry Kruckenberg, Member

Virgil Moore, Member

Bill Van Pelt, Advisor

This document contains confidential information. It is disclosed to you for informational purposes only. Its contents shall remain the property of the Western Association of Fish and Wildlife Agencies and the Foundation for Western Fish and Wildlife and shall be returned to both entities when requested.

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1. Executive Summary

The Western Association of Fish and Wildlife Agencies (WAFWA) was founded in 1922. WAFWA is comprised of 23 member states and provinces that have primary responsibility for protecting and managing fish and wildlife in the western United States and Canada. The 19 member states encompass over 2.5 million square miles. The Fiscal Year 2012 budgets for the member states exceeded $1.7 billion. The chief executive officer of each fish and wildlife agency is on the Board of Directors of both the Western Association of Fish and Wildlife Agencies and its fund-raising arm, the Foundation for Western Fish and Wildlife (FWFW).

WAFWA/FWFW promotes the principles of sound resource management, as well as strengthening partnerships and cooperation among local, state, and federal agencies, non-government conservation organizations, and private industry. The interagency coordination of fish and wildlife conservation activities are promoted by WAFWA initiatives. Each initiative has a coordinator that organizes the fish or wildlife conservation actions among the affected states and provinces. Current WAFWA initiatives include Wild Sheep, Western Native Trout, Sage Brush Steppe, and Western Grassland. The Sylvatic Plague project is part of the Western Grassland Initiative. WAFWA has a long and successful history of coordinating range-wide conservation plans and actions. On July 24, 2013, WAFWA directors unanimously voted to undertake the development of a range-wide plan for the lesser prairie chicken (LPC), a task of significant proportion.

Of all the various non-governmental organizations, WAFWA and FWFW are unique as they bring the state and provincial governmental agencies and their CEOs together in a manner where they can apply their collective expertise and resources in a coordinated fashion. This capability enhances the overall impacts of their actions and improves the prospects for success. Moreover, this approach helps ensure that states retain management authority over resident fish and wildlife, an underlying objective of WAFWA.

Outlined in the following pages is a business plan that closely examines the two not-for-profit entities, WAFWA and FWFW, that will lead the range-wide conservation efforts involving LPC. This plan also describes how WAFWA and FWFW evolved over the years, both in terms of the nature and scope of endeavors that have been undertaken, the staffing history up and through the present, and changes in operation and structure that will be necessary with the approval of this business plan. Also identified is the amount of money it will take to accomplish this task and the means to pay for it.

This business plan is grounded in discussions that took place over the latter half of 2012 among the five states within LPC range, and subsequently with WAFWA's Executive Committee. At the January 2013 business meeting, a proposal was advanced that would have WAFWA as the Permit Holder and Fiscal Agent for a Candidate Conservation Agreement with Assurances to influence the final listing decision for LPC by the U.S. Fish and Wildlife Service (USFWS), scheduled initially for September 2013.

With conditional approval obtained in January 2013, the Executive Committee formed a Lesser Prairie Chicken Conservation Delivery Business Plan Sub-Committee to follow through with development of a draft business plan. However, before work could commence, a legal review of both WAFWA's and FWFW's Bylaws and Articles of Incorporation was requested, to assure the directors that WAFWA has comprehensive protection of member agencies and directors, including liability and risk exposure. The results of that legal review, presented at a specially convened meeting of the directors in February 2013, confirmed that WAFWA and FWFW had the legal authority to hold such permits authorized under the Endangered Species Act and could handle the acceptance and disbursement of funds or real property for this purpose; furthermore, it was determined that WAFWA had the protections necessary to undertake this responsibility. All of the details of this important legal review and special meeting are included in this document. Several recommendations were also put forth as a part of this process and were incorporated into this business plan.

The Executive Committee was also asked to look at different alternatives for accomplishing the desired outcome. During the course of their work, the sub-committee looked at four alternatives, including one that examined an array of potential partners as potential permit holders. In the end, the sub-committee recommended and WAFWA directors approved WAFWA to be the Permit Holder and FWFW be the Fiscal Agent for this undertaking. The examination of the alternatives and the rationale behind the selected option are in Section 3 of this business plan. This approved approach will leave the existing WAFWA structure essentially intact, with the expansion of staffing and infrastructure occurring within FWFW. This document displays the new organizational structure for each entity. The existing Treasurer position will in effect become the Chief Financial Officer for both organizations. This will be a full-time position. Other additions include up to 19 full-time staff to accomplish all of the work and associated responsibilities for implementing the *Lesser Prairie Chicken Range-wide Conservation Plan* and serving as Permit Holder and Fiscal Agent. The positions and their duties are detailed within this plan, along with projected workflow of these positions. Similarly, additional management and organizational aspects associated with this undertaking are identified, as are the business goals, desired outcomes, keys to success and future plans.

Likewise, all of the financial assumptions that went into development of this business plan and the approved alternative are included in the body of this business plan. The amount of money associated with this plan is significant, but all projections have erred on the conservative side of the ledger. The sub-committee benefitted from the input of several outside sources in developing the financial aspects of this business plan, thus providing added confidence in the projections contained herein. The 10-year projections result in about $260.5 million in total revenue from all sources including investment earnings retained in and added to the trust fund balances. This comes from about $180.4 million from impact fees, $40.5 million from enrollment fees, and $26.5 million from investment earnings used for operations and $13.1 million from investment earnings retained in the trust funds. The fees are split between two "Trust Funds" – 87.5 percent for the Conservation Offset Trust Fund and 12.5 percent for the Operational Expenses Trust Fund. The Operational Expense Trust Funds is intended to support LPC field biologists and managers, as well as administrative support. The investment earnings are conservative, projecting a 'real' rate of return over the long term of 4.0%. (The 'real' rate of return is the gross rate of return less inflation). We used the Consumer Price Index - All Urban (CPI-U) in our reviews. For

comparative purposes, the Federal Funds Rate as published by the Federal Reserve Bank has averaged 5.284% over the long term. The Idaho Fish and Wildlife Foundation recently completed an analysis of earning rates and established a 5% annual funding rate after inflation for their projects. US Bank Brokerage also assisted with advice and information on the Russell Model Strategies. To determine the 4.0% real return rate for these projections we used the two most conservative models, the Russell Conservative Model Strategy and the Russell Moderate Model Strategy. Since each model's inception, the average rate of return for the two strategies was 6.81%. The average CPI-U was 2.61% resulting in simplified 4.2% 'real' return rate. We then rounded this product down to 4.0% for use in the estimates in this business plan.

Rounding out the business plan are financial appendices that depict and examine the projected income and expense, profit and loss, and the monthly fund balances.

This *Lesser Prairie Chicken Conservation Delivery Business Plan* was provided to the WAFWA directors in advance of the 2013 annual conference for their review. This plan and the broader question of future operations was the subject of a special three-hour Directors' Workshop that took place at the Directors' Retreat on Friday, July 19, 2013. Sub-committee and Executive Committee members presented their recommendation and responded to extensive questions regarding the draft plan. Thereafter, at the annual business meeting held on Wednesday, July 24th, the body as a whole voted unanimously to approve this business plan.

This *Lesser Prairie Chicken Conservation Delivery Business Plan* will be incorporated into the *Lesser Prairie Chicken Range-wide Conservation Plan.* This business plan complements and is a companion document to the *Lesser Prairie Chicken Range-wide Conservation Plan* developed by the LPC Interstate Working Group. The *Lesser Prairie Chicken Range-wide Conservation Plan* represents a voluntary, comprehensive range-wide conservation plan for the lesser prairie chicken. The goal of the *Lesser Prairie Chicken Range-wide Conservation Plan* is to conserve the LPC for future generations while facilitating continued and important economic activity throughout the 5-state range of the species. If implemented in a timely and effective manner, it is intended to preclude the need to list the species under the Endangered Species Act, as amended (ESA). Thus, it provides the expressed commitment by WAFWA and the certainty that the fiscal resources will be available to achieve the conservation provisions of the *Lesser Prairie Chicken Range-wide Conservation Plan* in a timely and effective manner.

2. WAFWA Background

Overview

WAFWA, founded in 1922, is a quasi-governmental organization of public agencies charged with the protection and management of fish and wildlife resources in the western part of the United States and Canada. Currently there are 23 members. WAFWA has been a key organization in the promotion of the principles of sound resource management and the strengthening of federal, state, and private cooperation in protecting and managing fish and wildlife and their habitats in the public interest.

WAFWA holds meetings, publishes proceedings of the annual conference, and reports to members on issues of immediate or special concern. Through its committee system, and involvement with the Association of Fish and Wildlife Agencies, WAFWA brings its expertise and prestige to bear to advance and reform fish and wildlife management at the state, national and international levels as needed. The meetings promote exchanges of ideas and philosophy between agency administrators, commissioners, professional fish and wildlife biologists, managers, and technical workers in related fields, as well as federal resource management agency personnel.

WAFWA serves as a strong advocate for each individual state's right to manage fish and wildlife within its political boundaries. It is also one of the few organizations that represent the interests of states and provinces on fish and wildlife issues. Another important benefit of WAFWA is that it provides the opportunity to exchange information and ideas with other states, provinces, and organizations, thus avoiding lengthy or costly experimentation on new programs.

Current WAFWA member agencies include the following: Alaska Department of Fish and Game; Alberta Department of Sustainable Resource Development; Arizona Game and Fish Department; British Columbia Ministry of Forestry, Lands and Natural Resources Operations; California Department of Fish and Wildlife; Colorado Division of Parks and Wildlife; Hawaii Department of Land and Natural Resources; Idaho Department of Fish and Game; Kansas Department of Wildlife, Parks and Tourism; Montana Fish, Wildlife and Parks; Nebraska Game and Parks Commission; Nevada Department of Wildlife; New Mexico Department of Game and Fish; North Dakota Game and Fish Department; Oklahoma Department of Wildlife Conservation; Oregon Department of Fish and Wildlife; Saskatchewan Ministry of Environment; South Dakota Game, Fish and Parks; Texas Parks and Wildlife Department; Utah Division of Wildlife Resources; Washington Department of Fish and Wildlife; Wyoming Game and Fish Department; and the Yukon Department of Environment.

2.1 WAFWA's Evolution

During the early 1920s, a few state game officials in the West felt the need to join to solve a series of game management questions that they had in common. Game commissions throughout the West were just beginning to assume their responsible positions with respect to the management of game and fisheries resources in these mostly undeveloped areas. Of particular importance at that time was a threat to state sovereignty in the matter of game management by the growing federal land management agencies. These federal agencies were

similarly undergoing a period of growth and were in the process of carving out areas of responsibility, which many people believed included the management of game on the vast areas of federal lands in the West.

The developing states, believing that the matter of state sovereignty was paramount, banded together for mutual assistance and protection against what was thought at that time to be a federal push leading toward the management of all wild land resources in these states.

In 1922, several "pioneers" from the western states' game departments met in Salt Lake City to form the Western Association of State Game Commissioners to combat this threat. The important players in this early movement were Dave Madsen of Utah, C. A. Jakways of Montana, A. E. (Cap) Burghduff of Oregon, and Rolly Parvin of Colorado. Seven game officials from some of the western states met in Dave Madsen's office in the State Capitol in Salt Lake City to form the first meeting of the Association. Madsen was elected President of the Association in 1922 to be followed by Jakways in 1923, Burghduff in 1924, and Parvin in 1925.The early organization Bylaws provided that membership should consist of the game commissioners or state game wardens of the states of Montana, Wyoming, Colorado, New Mexico, Nevada, Utah, Idaho, Arizona, California, Oregon, and Washington. In those days, fish and wildlife agencies were called "commissions," although few had a separate commission, as we know it today.

Objectives of the original organization were to promote harmony and unity among its members and members of like associations throughout the country, for the purpose of exercising a combined and powerful influence in securing the enactment of laws and amendments to present laws favoring the propagation of wildlife and fish; and to further provide for just, reasonable, and uniform laws and regulations for the protection of wildlife and fish.

During the first decade of operation, the chief interest of the Western Association was to combat federal inroads into game management, and particularly into deer management. The battle ended when the US Forest Service (USFS) retrenched from its position that it was responsible for the management of big game on National Forests in the West. This clearly solidified the right of the states as the primary managers of resident game and fish.

In the time since the resolution of this important issue, the Western Association and USFS have become working partners rather than combatants in the field of big game management on National Forests. Even though differences arise between state and federal policies from time to time, the Western Association, working with various federal agencies, has been able to arrive at generally satisfactory working arrangements.

While the major role played by the Western Association throughout the years has been to serve as a strong advocate for the rights of the states and provinces to retain full management control of resident species, it has also been involved in other issues. In the early years, members opposed passage of the Federal Hunting License Bill on the basis that it would divert hunting license revenue from the states. Strong action was also taken against a federal regulation that was considered an infringement on the states' prerogative to solely establish seasons, bag limits, and license structure on federal land. The Western Association was one of the first

organizations to support use of the excise tax on arms and ammunition to augment other funds for wildlife restoration and management.

After two decades, the Western Association began to broaden its activities. In the early 1940s, because of growth of the state game departments in the field of scientific game management, the Western Association began to take on other aspects of fish and wildlife management. In addition to becoming a meeting of fish and game commissioners and game department directors, a group of technicians from the various states banded together to exchange research and management information of importance to the western departments. Federal technicians from the Forest Service and US Fish and Wildlife Service (USFWS) working in the West also began to view this gathering of technicians as a place to exchange and gain management information. The first such meeting at which technicians formed an appreciable part of the audience took place in Wyoming in 1942. During the remainder of the war years, the Western Association held a series of smaller meetings of top officials.

In 1946, the Western Association started a new series of meetings that involved people interested in game and fisheries management including commissioners, directors, administrators, and technicians from the various states and Canadian provinces, and federal officials on the national and regional levels. Many complex problems involving the management of western wildlife resources have been brought to light, and to ultimate solution, because of this annual meeting. As member agencies began to alter their structure, so too did the Western Association. In 1957, the organization's name was changed to Western Association of State Game and Fish Commissioners to reflect the growing emphasis on fisheries programs. In 1978, the name was again altered to reflect changing times. As member agencies became "departments" rather than "commissions," the Western Association evolved to its current name, Western Association of Fish and Wildlife Agencies (WAFWA).

In 1979, to counter the growing urbanization of our society with the lessening of the public's awareness of fish and wildlife issues, WAFWA began development of a wildlife education program designed to be used by schoolteachers in the classroom. Member agencies provided personnel and financial support for the development of classroom activities and teaching aids and funded the implementation stages. The product, known as Project WILD, captured the imagination of teachers and helped shape state wildlife agency conservation education programs since its inception. Today, Project WILD is celebrating its 34th anniversary as an interdisciplinary, supplementary environmental and conservation education program for kindergarten through high school age youth. Over 1.2 million educators have been trained in Project WILD workshops, and they in turn have provided instruction to more than 48 million youth. Today, Project WILD is literally a worldwide phenomenon. WAFWA relinquished direct control of Project WILD more than 20 years ago, but remains very committed to its purpose.

In 1985, WAFWA began developing another program designed to help fish and wildlife agencies become more responsive to conflicting user and public demands on the natural resources. This program, Responsive Management, utilized survey techniques to provide information on public attitudes and opinions in order to tailor management programs. Originally, it included a training program specifically directed toward fish and wildlife agencies dealing with conflict resolution, marketing and managing change. Agencies quickly

began using Responsive Management techniques to improve agency image and performance. Again, because of the rapid rate of expansion, WAFWA transitioned out of direct program management responsibilities for Responsive Management in the mid-1990s. Today, Responsive Management, Inc., under the leadership of Mark Duda, has blossomed into one of the premier natural resource survey firms in the country. This program has left its mark on agencies and vastly improved our collective knowledge and understanding of our constituencies.

Since the early 1990s, WAFWA has helped pioneer the states' involvement in the various matters of the Convention on International Trade of Endangered Species (CITES). This persistence and representation has recently allowed all the regional associations to become involved and be heard in a meaningful way, thereby protecting state options, and strengthening the USFWS/State partnership in this arena.

In 1999 and 2000, WAFWA again set precedence with Memorandums of Understanding among member agencies involving the conservation and management of species such as the black-tailed prairie dog, Townsend's big-eared bat, and sage grouse. These multi-state, range-wide initiatives, led by WAFWA, are putting into place plans, protocol, and habitat standards that should preclude these species from being listed under the Endangered Species Act. More importantly, they will enhance the status of these populations throughout their range.

Accompanying these efforts has been WAFWA-driven university research on genetics, range-wide conservation assessments and strategies, and Memorandums of Understanding with federal agencies aimed at bringing about meaningful change on the landscape to benefit numerous species. An example of success is the Bureau of Land Management's *Sage Grouse Habitat Conservation Strategy* designed to support the states' sage grouse conservation plans and maintain sage grouse habitats in the West. Once again, strategic positioning by WAFWA directors has helped shape national policy and the arena in which the states must operate today.

Within the past 15 years, WAFWA has aggressively pursued research in the human dimensions arena and funded the first-of-its-kind pilot project in 2004 concerning public values toward wildlife in the West. The study examined the relationships between societal and lifestyle characteristics, wildlife value orientations, and attitudes toward specific wildlife management actions. This pioneering work, performed by researchers at Colorado State University, has benefitted all member agencies, because in addition to individual state-specific data, the regional component of the survey provides the basis for comparison between member states, and across the region. Work is ongoing to find a funding source to repeat the survey.

In 2005, WAFWA launched the Western Native Trout Initiative (WNTI). WNTI provides a new perspective and impetus to provide the return on investments of the time, money, and manpower dedicated to native trout conservation in the West. It is a collaborative, multi-state approach that requires the involvement of a wide range of partners - from private individuals to conservation-minded organizations and corporations. The National Fish Habitat Action Plan recognizes WNTI as a National Fish Habitat Partnership and all WAFWA member states with

western native trout are deeply engaged in the Initiative. Since 2006, WNTI has directed over $7 million toward the protection and recovery of 21 western native trout species.

Building upon previous successes, the WAFWA directors believed it was in their best long-term interest to move toward a landscape level approach that enabled better planning and coordination, efficiency in time and scale of accomplishment, and greater cost effectiveness. They also recognized that as they moved toward a landscape level or ecosystem-focused approach, they needed to ensure that their commitment to conservation and management of individual species was not diminished. Given these considerations, in 2004, WAFWA directed its Habitat and Nongame and Endangered Species committees to use renewal of the aforementioned MOU for black-tailed prairie dog conservation as a vehicle for transitioning toward an ecosystem approach (i.e. prairie) in the western Great Plains. WAFWA also directed the two committees to ensure that the prairie effort be fully coordinated with, and complementary to, a companion effort to conserve sagebrush and sage-steppe communities (and associated species of wildlife) in the Great Basin, because the two biomes share many important species.

The net effect of that transition was development of an MOU titled *Conservation and Management of Species of Conservation Concern Associated with Prairie Ecosystems*. The purpose of this MOU was to provide, under the auspices of WAFWA, for interagency cooperation in conservation and management of species associated with prairie ecosystems of the western Great Plains (i.e. parts of Arizona, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Wyoming, and Utah). The primary focus is on federally-listed species, state-listed species, and species of conservation concern. The participating agencies agreed that cooperation is necessary to collect and analyze data on these species and their habitats, and to plan and implement actions necessary to establish and/or maintain viable populations of each species sufficient to preclude present or future endangerment, within the constraints of approved budgets. The initial MOU was signed in January 2006.

This action led to other important conservation efforts being undertaken across the West by a subset of WAFWA member states and provinces that saw the benefits of this comprehensive conservation approach and desired to utilize the WAFWA umbrella of oversight and reporting. The first example was the *Five-State Memorandum of Understanding for Conservation and Management of Lesser Prairie Chickens and Associated Species and Their Habitats*, signed in early 2006, immediately after the Prairie Ecosystem MOU was signed. This transpired after the five-state directors approached WAFWA and the membership as a whole unanimously embraced the idea that LPC conservation under the WAFWA structure was a good thing and would be welcomed. The MOU set forth a series of objectives for the five states and WAFWA that still play prominent in the current discussions and proposed actions involving LPCs.

Another example includes the approval of the *Northern Sage Brush Steppe Initiative Memorandum of Understanding* between WAFWA and the State of Montana, and provinces of Alberta and Saskatchewan in 2007, and since renewed. The MOU provides for the cooperation among the participating state, provincial and federal land and wildlife agencies in

the conservation and management of native grassland and sage brush (*Artemisia spp*) habitats and their dependent wildlife in continuous ecosystems in Montana, Alberta, and Saskatchewan, referred to as the Northern Sagebrush Steppe.

In 2011, WAFWA approved the *Western Quail MOU*, the express purpose of which is to facilitate implementation of the *Western Quail Management Plan* that had previously been approved by the directors. Despite their importance, management of western quail has a varied history and quail management and research has received inconsistent attention. By all directors approving and signing the MOU, they directed additional emphasis be placed on consistent population indices, identification of threats and implementation of more habitat management for western quail, for the benefit of the birds and the public who enjoy them.

The latest in a long string of MOUs designed to improve cooperation and coordination among and between WAFWA and partner agencies on matters related to species conservation came about in late 2012, with the signing of the MOU involving landowner incentives. The purpose of this MOU is to facilitate cooperative conservation efforts in concert with willing landowners to maintain ranch land in prairie habitats, and to maintain the livestock operations that they support, while providing for the conservation and recovery of several wildlife species associated with prairie dogs. In particular, the recovery of the endangered black-footed ferret could be fully accomplished within the next decade through additional voluntary efforts by private landowners, if their concerns related to both profitability and wildlife conservation risks could be addressed. Additionally, several vulnerable species could benefit from these efforts and thereby preclude the need for additional future federal regulatory activities (e.g., burrowing owl, ferruginous hawk, mountain plover, golden eagle, and swift fox).The parties to this MOU include U.S. Department of Interior, USFWS; the U.S. Department of Agriculture, NRCS; the U.S. Department of Interior, Geological Survey; U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services; and WAFWA.

As WAFWA moves into the future, its directors can rely on past achievements to provide confidence that by working together, more can be accomplished than when any single agency or small cohort of agencies go at an issue alone. In the end, if history is any indication, the fish and wildlife resources of western North America and the habitat upon which those resources depend will be better served by these collective actions.

The uncertainties and opportunities provided by the potential listing of the LPC, and WAFWA's potential role as CCAA/CCA permit holder and/or fiscal agent, is yet another example of an evolving organization that already has a proven record of success when taking on challenging issues in the past. In the remaining pages of this business plan, the details of WAFWA’s proposed undertaking will be put forth, along with all of the factors considered, options reviewed, the rationale for the approved action, and the fiscal underpinnings that support this action.

2.2 WAFWA Staffing History
Secretary and Treasurer

For nearly seven decades of operation, WAFWA completely relied upon all volunteer labor from its member agencies to carry out the responsibilities of conferences and meetings, as well as the day-to-day business. But just as the issues evolved through time, so did the organization, adding staff support to address the business needs and conservation projects.

Among the officers elected in 1922, the year WAFWA was organized was the position of "Secretary-Treasurer." Unfortunately, most of the early records of WAFWA were destroyed in a fire in Colorado. It appears from scant records on file that from that point through the mid-1940s, the formal name of that officer position alternated between being called "Secretary-Treasurer" and "Secretary," though there are numerous references in the minutes to confirm that fiscal matters always remained a core part of that officer's function, even if it wasn't formally identified in the title.

Beginning in 1945, as confirmed in the WAFWA's first adopted formal Constitution and Bylaws, and continuing through 2003, that officer position was identified as "Secretary-Treasurer," though from 1950 through 1967, all references in communications refer to it as "Secretary." Beginning in 1968, the broader moniker "Secretary/Treasurer" was used. In 2004, as WAFWA began to get more active in addressing regional wildlife issues, the work load for the Secretary/Treasurer increased dramatically to the point that it was seriously impacting the individual's and agency's normal work expectations. That same year, the directors agreed to split the roles and functions of the Secretary/Treasurer to reduce the impact on the employee and his agency, and subsequently amended the Constitution and Bylaws accordingly.

That is as it remains today, where WAFWA has two salaried staff, the Secretary and the Treasurer, both of whom work on a part-time basis. The President and First, Second and Third Vice-Presidents are elected from the membership and serve without compensation. The Secretary and Treasurer are also elected officers.

It is worth highlighting, however, some significant decision-points by the directors related to this single staff support function, and more recently, the separate and distinct responsibilities carried out by the Secretary and Treasurer. As noted above, the secretarial and fiscal functions were separated into two distinct officer functions in 2004. For the next three years, these roles and responsibilities continued to be supplied by member agencies on a "volunteer" basis. The services provided by those agencies included the personnel to support the Secretary and Treasurer as separate positions. The supporting agency "donated" the salaries and operating expenses to WAFWA.

Beginning in July 2007, since the incumbent Treasurer had left state service six months prior, the Executive Committee, with concurrence from the directors, recommended in July 2007, to develop a long-term contract with that individual to provide Treasurer and related services to WAFWA on a quarter-time basis and identified the means to fund this change in operations. Thus, 85 years of relying exclusively on volunteer support from member agencies to staff

these positions ended. This signaled that times were changing and involved agencies simply could no longer afford to provide the time and money requirements associated with these WAFWA officer positions.

In January 2008, the Executive Committee concluded that it was highly unlikely and impractical that any agency would be willing to donate upper-management personnel time to help staff WAFWA's Secretarial services on the necessary half-time basis in the future. Thus, they concluded that the organization needed to transition to contracted Secretary Services as seamless as possible once the incumbent Secretary retired from state service. This would ensure there would be no disruption in the day-to-day business operations. This recommended approach was consistent with the action that the directors had taken six months earlier when addressing its long-term needs involving Treasurer services.

At that time, the body concurred unanimously with the recommendation and the Executive Committee was tasked with affecting this change in operations and following through with the means to pay for it. Explicit in the discussions that took place at the time was the belief that the organization's annual dues should reflect the cost of actual day to day operations of WAFWA, and all other projects and related staffing needs should be paid for through special assessments of member agencies, grants or other funding sources.

This change in Secretarial services was affected in May 2009 when the Executive Committee approved said contract with the current Secretary, with an effective start date to coincide with his retirement in January 2010. This action completed the multi-year director-mandated transition from all-volunteer support staff to an all-contracted support staff, following careful study and a pre-determined course and timeline. So as it presently stands and as it has been historically, the only two staff support positions for WAFWA's day-to-day operations are the officer positions of Secretary and Treasurer, but both are now contracted positions, half-time and quarter-time, respectively.

Use of Independent Contractors/Coordinators/Consultants

The use of independent contractors to accomplish work and/or develop work products that were directed and approved by the WAFWA directors dates back to the early-2000s. From the time this practice was instituted to the present, three undeniable facts have emerged: 1) arrangements have been many and varied, ranging from WAFWA contracting with a member agency to reimburse them for the services of an existing employee, to contracting with an independent contractor to get this work accomplished; 2) funding mechanisms for these contractor/coordinators have been quite varied ranging from totally state/province-funded through special assessments of member agencies, to federal funding from grants or direct federal agency contributions, to a combination of both, to contributions from other nongovernmental organizations; and 3) this practice has increased in number and expanded in scope as WAFWA has dealt with an expanding number of issues and more complex resource issues, many related to species that occupy huge geographic ranges and have the potential of being listed under the federal Endangered Species Act.

The first reference to this approach appears in the minutes of the July 1995 annual business meeting minutes wherein the assembled body of directors, "….reviewed Director Perry

Olson's (CO) letter to WAFWA members asking WAFWA to consider establishing or funding a position to coordinate prairie species management." While the directors did not decide at that meeting to move forward with creating such a position, it certainly set the stage for what was to follow.

And while coordination and collaborative work was being accomplished on sage-grouse and black-tailed prairie dogs, beginning in the late-1990s, it wasn't until 2000 that a formal contract was established between WAFWA and Wyoming Game and Fish Department to fund the first WAFWA coordinator position involving black-tailed prairie species conservation efforts. That coordinator position/contract later (2005) switched to the Arizona Game and Fish Department where it remains today and during the ensuing years has expanded and morphed into the Western Grasslands Coordinator position.

In early-2002, and building upon the model developed for prairie dog conservation efforts, WAFWA established a National Sage Grouse Coordinator position to lead the development of the Sage Grouse Conservation Assessment and later the Conservation Strategy for the Greater Sage Grouse. The role and function of this contract position continues at present and has expanded greatly to now coordinate all of WAFWA's engagement in sage-grouse matters, including direct staff support for the Sage-grouse Executive Oversight Committee and liaison with the federal agencies involved in sage-grouse conservation efforts.

In January 2006, following receipt of a Multi-State Conservation Grant, WAFWA directors approved moving forward with an interim report of the Inland Marine and Fisheries Committee that recommended, among other things, the establishment and hiring of a WNTI Coordinator. That person was hired a few months later and remains in that coordinator position at present.

In January 2007, the directors approved the creation of the Wild Sheep Working Group, and named a staff person from Wyoming as its Chair, with the initial charge being to develop recommendations for domestic sheep and goat management in wild sheep habitat. That led to a formal contract between WAFWA and the Wyoming Game and Fish Department to provide said services. That contract has subsequently transferred to Texas where a similar contractual arrangement currently exists between WAFWA and Texas Parks and Wildlife Department.

The most recent project coordinator contract came about in 2011, with the launch of WAFWA's Sylvatic Plague Vaccine Project. This effort involves the research, development, testing and eventual licensing of a vaccine to help control this disease that is a major health risk to prairie dogs and, in turn, has significant implications for recovery of the endangered black-footed ferret. The contract covers all aspects of coordination with all state and federal agencies and partners involved in this multi-year undertaking.

In summary, in addition to the two staff support positions, Secretary and Treasurer, which are paid through annual dues and other administrative funds sourced by the directors, WAFWA currently has five contract positions which serve in coordination roles, hence are referred to as "Coordinators."

WAFWA also utilizes independent contractors that are expected to accomplish specific work or research, much of it related to sage-grouse. This specific project started in 2000 with the initiation of the multi-year Sage-Grouse Populations Genetics Study conducted by Denver University, and later through a series of multiple contracts beginning in the early-mid 2000s, and continuing through the present with Colorado State University, and involving human dimensions research projects. More recently, specifically beginning in 2011 with multiple federal grants involving sage-grouse and lesser prairie chickens, WAFWA has entered into numerous (>30) contracts with independent contractors and universities. This practice is expected to continue and expand in the future.

WAFWA also utilizes a "Service Contract," of which there are currently two. The first, with Delaney Meeting Events and Management, involves assistance with WAFWA's annual conference and mid-winter meeting, The contractor provides services specifically in the areas of facility coordination, marketing and mailing, sponsorship and trade show management, registration processing and customer service, program development and special activities and miscellaneous services associated with the state or province hosting the annual conference and mid-winter meeting. This contract was first executed in 2010 and renewed in January 2013 to take in WAFWA events for the period 2014-2016.

The other service contract is with Volt Management, Inc., which began in 2012, to provide staffing and employment assistance. The contractor can either supply the personnel needed or provide payroll services for WAFWA-selected personnel. Currently, Volt Management provides services to include caring for captive black-footed ferrets, coordinating black-footed ferret releases, administrative and clerical support. Volt Management handles all related payroll taxes and insurances, which are then billed to WAFWA.

The fourth and final type of independent contractor WAFWA utilizes is of recent origin, and does not fit into the administrative category (i.e. Secretary and Treasurer), nor "Coordinators," nor the aforementioned project-specific contract that is the result of an RFP, nor service contracts. WAFWA currently only has two of these arrangements referred to as "Consulting Agreements." These were first implemented in December 2012, and the most recent in May 2013. The initial agreement calls for the consultant to help identify and prioritize short-term research needs for Greater Sage-grouse and funding to support research or data manipulation projects that fulfill these needs. The latter, the consultant is to coordinate efforts to develop concise, concrete, prioritized and integral actions that land managers and policy makers can implement to effectively preclude the dominance of invasive annual grasses in sagebrush ecosystems, where it is feasible to do so. Both consulting agreements are time-limited and 100 % federally-funded, at no cost to WAFWA member agencies.

2.3 Proposal's Legal Review

Legal Authority and Review

A critical first step in the development of this business plan, a threshold that had to be met by the Executive Committee before work could proceed, was to undertake a legal review and liability and risk exposure assessment of the proposed action in the context of WAFWA's Constitution and Bylaws and Articles of Incorporation. That action was requested in a motion

that was passed unanimously by the Directors at the January 6, 2013, mid-winter business meeting. The wording of that motion follows:

"The Executive Committee recommends that the Western Association of Fish and Wildlife Agencies serve as the fiscal agent and permit holder for a range-wide Candidate Conservation Agreement with Assurances (CCAA/CCA) involving lesser prairie chickens. Further, that the Executive Committee be immediately tasked with developing a draft business plan that ensures long-term funding support to meet the staffing requirements related to program administration, legal support, financial oversight, monitoring and reporting, as well as other comprehensive protection of individual member agencies and directors (i.e. liability and risk exposure), and. if proven such is the case, that the draft business plan also include options for the handling of finances. Further, that a conference call be convened to hear and discuss the results of that legal review on or about February 1, 2013. Further, that the Executive Committee report to the membership at the July 2013 annual business meeting."

Carol Bambery, the Association of Fish and Wildlife Agencies' Legal Counsel, conducted the review of the liability issues and risk assessment associated with proceeding as recommended in the aforementioned motion. She first did so in a January 23, 2013, memorandum on this topic that was subsequently distributed to the Directors, and more directly, during a special meeting of the WAFWA directors via conference call on February 4, 2013. Following are the verbatim minutes from that meeting:

"Ms. Bambery began her remarks by stating that during the January 6th session of the mid-winter business meeting, the Directors discussed and approved a recommendation from the Executive Committee that WAFWA serve as the fiscal agent and permit holder for a range-wide Candidate Conservation Agreement with Assurances (CCAA) involving lesser prairie chickens, contingent upon a legal review of the Bylaws and Articles of Incorporation to determine the liability and risk exposure to Directors.

Specifically, Ms. Bambery said the Executive Committee had asked her to investigate WAFWA, state agency, and individual member liability in their role as a lesser prairie chicken CCAA permit holder. The question includes whether or not engaging in this activity poses liability of member states for actions taken by WAFWA acting as permit holder. She noted further that Directors had expressed concern regarding whether the Articles of Incorporation or Bylaws for WAFWA give it authority to engage in this type of transaction. Ms. Bambery stated it was also prudent for the WAFWA Directors to consider the Foundation for Western Fish and Wildlife as the CCAA permit holder. She noted that over the past month she had conducted the requested review with the assistance of Secretary Larry Kruckenberg and Treasurer Stephen Barton.

To begin, she said, both WAFWA and the Foundation are incorporated in Wyoming as nonprofit corporations and both have been determined by the IRS to be tax-exempt. The certificate of incorporation generally eliminates or limits the personal liability of the corporation's directors.

Ms. Bambery also noted that WAFWA is a 501(c) (4) - organized as a social welfare or for benefit of the community entity - and the Foundation is a 501(c) (3) - organized as a charitable, scientific, or educational entity. As such, donations made to the Foundation are tax-exempt, charitable donations, while donations to WAFWA are not. Both are organized with the Board of Directors being responsible for the management of the corporations and they are the only voting members.

Ms. Bambery indicated that in matters of nonprofit governance, the Wyoming nonprofit statutes would apply to both WAFWA and the Foundation. She stated both the Articles of Incorporation and Bylaws for WAFWA and the Foundation are well written and have been drafted pursuant to Wyoming nonprofit statutes.

Ms. Bambery next quoted directly from several provisions of Wyoming nonprofit statutes. The first addressed the qualifications of a Director. It states:

"17-19-802. Qualifications of Directors.

All directors shall be individuals. The articles or bylaws may prescribe additional qualifications for directors".

Ms. Bambery then noted the Bylaws provide that the qualifications for Directors for the Foundation shall consist of the Chief Administrative Officers of the fish and game departments, or their equivalent, which are member agencies of WAFWA. In addition, the Foundation's Secretary and its Treasurer shall be ex-officio, voting members of the Board of Directors. She stated the qualifications for WAFWA Board members are the same.

The next Wyoming statute Ms. Bambery reviewed dealt with protection for Directors of a nonprofit corporation, as follows:

"17-19-830. Directors' standards and liabilities.

(a) A director shall not be deemed a trustee with respect to the corporation or with respect to any property held or administered by the corporation, including without limit, property that may be subject to restrictions imposed by the donor or transferor of such property.

(b) Members of a board of any nonprofit corporation organized under this act are not individually liable for any actions, inactions or omissions by the nonprofit corporation. This subsection does not affect individual liability for intentional torts or illegal acts. This subsection also does not prevent removal of a board member by court order pursuant to W.S. 17-19-810".

Further:

17-19-612. Member's liability to third parties.

A member of a corporation is not, as such, personally liable for the acts, debts, liabilities or obligations of the corporation".

Ms. Bambery concluded her review of Wyoming's nonprofit statutes by indicating they permit nonprofits to engage in a number of activities, including a catch-all provision, as follows:

"17-19-302. General Powers.

To do all things necessary or convenient, not inconsistent with law, to further the activities and affairs of the corporation".

Ms. Bambery continued her presentation by stating that dependent upon a thorough review of the proposed CCAA, it appears that the language in the Wyoming nonprofit statutes and the language in the WAFWA and Foundation Bylaws would allow either WAFWA or the Foundation to serve as the CCAA permit holder. She expressed the view that she believes the nonprofit statutes and corporate governance documents provide appropriate state agency and individual member liability protection in WAFWA's or the Foundation's role as a lesser prairie chicken CCAA permit holder. Ms. Bambery stressed that WAFWA's 501(c)(3) - the Foundation for Western Fish and Wildlife - serving as the CCAA permit holder merits strong consideration, since money or property given to the Foundation is a charitable donation which may be a requirement for other nonprofits to contribute to the project, as well as an incentive for donors to contribute.

Ms. Bambery reported that in order not to solely rely on the Wyoming nonprofit statutes and WAFWA's/Foundation's governance documents, she strongly urged the Directors to take additional steps to protect the individual Directors, state agency members, and WAFWA/Foundation through insurance. She stated that nonprofit organizations could protect themselves, as well as their Directors, officers and members through General Liability and with Directors and Officers (D & O) Liability insurance. An important feature of a D & O insurance policy is defense costs coverage if the nonprofit has to defend an allegation of a wrongful act.

Ms. Bambery indicated she was in the process of reviewing the Association's insurance policies and will consult with the carriers and report to the WAFWA/Foundation Boards with any further recommendations.

Ms. Bambery concluded by saying the terms of the CCAA will also be important to review. In particular, there is a need to assure state law and appropriate insurance cover any exposure the permit holder might have.

Discussion followed, with most of it requesting clarification or further illumination of specific points of Ms. Bambery's findings, not underlying objections to the proposal to proceed as originally set forth in the January 6, 2013, business meeting motion. In response to several questions, Ms. Bambery reiterated the following points; 1) the Wyoming non-profit statutes are very good and the Directors and member agencies are protected; 2) while either WAFWA or the Foundation could be the CCAA permit holder/fiscal agent, she believed there is a slight edge to the Foundation, for reasons that the donations are tax deductible and, while very remote, if something went awry, it would be better not to leave a mark on the 90+ year old impeccable reputation of the Association; 3) WAFWA has general liability insurance - to the tune of $2,000,000 per occasion, but D & O insurance is still needed; and 4) regardless of

whether WAFWA or the Foundation is the vehicle selected to serve as permit holder/fiscal agent, D & O insurance is needed.

It was moved by Jeff Vonk, and seconded by Ken Mayer, that Ms. Bambery's report be accepted as presented. The motion passed unanimously.

President Jim Douglas then called upon Ross Melinchuk to present a report on behalf of the sub-committee that the President recently established whose charge it is to prepare the business plan outlined in the aforementioned January 6, 2013, business meeting motion.

Mr. Melinchuk indicated that the sub-committee had held its initial telephonic meeting the previous Friday - February 1 - during which operating procedures and deadlines for completing the business plan were established. Among them, that the sub-committee would meet telephonically at least monthly; that by February 15 sub-committee members would secure and exchange examples of business plans to help inform and/or direct plan development; that by March 15 the basic framework and key sections of the business plan would be selected; that shortly thereafter writing assignments would be made; that regular progress reports would be made to the Executive Committee and, in turn, to the membership as a whole; that the sub-committee wants to complete the business plan in time for a July 1, 2013, release to Directors; and, finally, that the sub-committee, working with the Executive Committee, will conduct a Special Directors' Workshop at the July annual conference, wherein part of the presentation and discussion will center on the draft lesser prairie chicken Candidate CCAA business plan.

It was moved by Richard Hatcher, and seconded by Jim Lane, that the Business Plan Sub-Committee's report be accepted as presented. The motion passed unanimously.

President Jim Douglas next summarized the findings of the legal review and the actions taken at this meeting, after which he concluded that the Executive Committee had met the threshold established in the January 6, 2013, business meeting motion in order to proceed with business plan development, by successfully demonstrating and ensuring that the Association has comprehensive protection of individual member agencies and Directors (i.e. liability and risk exposure). As such, he further indicated that the next decision point would be when the draft business plan is presented to the Directors for discussion and final action in July. President Douglas then thanked the Sub-committee for its ongoing work on the business plan, and thanked Carol Bambery, Larry Kruckenberg and Stephen Barton for their role in the legal review. He then declared the meeting adjourned at 3:57 PM, CST".

This action fulfilled the terms of the motion at the January 6, 2013, business meeting, and in so doing, clearly established the legal authority and protections available to WAFWA and its Foundation relative to serving as a lesser prairie chicken CCAA/CCA permit holder and/or fiscal agent. The legal review satisfactorily addressed the questions surrounding liability and risk exposure for the directors and individual member agencies associated with such an undertaking, if approved. As such, formal development of the draft business plan was launched on February 4, 2013.

3. Alternatives and Recommendation

3.1 Recommended Alternative and Rationale

One of the items the directors discussed at the January 2013 business meeting, and appropriately was agreed to by the Executive Committee, was to look at a number of alternative approaches to arrive at the desired outcome, such that the directors could be assured that the recommended action was the best one available for WAFWA and its member agencies. During the course of that review, the LPC Business Plan Sub-Committee examined four possible alternatives - one of which looked at multiple potential partner arrangements.

Option #1 establishes WAFWA to serve as Permit Holder and Financial Agent. Under consultation with Carol Bambery, it was determined that WAFWA has the ability to hold funds, and the various permits available under the Endangered Species Act. Furthermore, WAFWA as the parent entity has the credibility of delivering conservation. However, the downside is that WAFWA does not have 501 (c) (3) status; therefore, funds or real property that were contributed would not be tax deductible to the donor. As such, this arrangement appeared to have a significant shortcoming, one that could affect the success of this undertaking.

Option #2 establishes WAFWA as the Permit Holder and the Foundation for Western Fish and Wildlife as Fiscal Agent. The advantages of WAFWA as Permit Holder were discussed under Option #1, above. The Foundation for Western Fish and Wildlife (FWFW) was established in 2009 to handle donations for wildlife conservation actions being implemented by a WAFWA initiative and it is a 501(c)(3). Funds contributed by donors are tax deductible. However, FWFW is not as well known as WAFWA as a conservation delivery entity.

Option #3 establishes FWFW as Permit Holder and Financial Agent. The strengths and weaknesses of FWFW involving each function have already been referenced, above. Additionally, under consultation with Carol Bambery, it was determined that FWFW has the ability to hold the various permits available under the Endangered Species Act, as well as all funds.

Option #4 establishes WAFWA/FWFW as the Permit Holder, working in partnership with third party entities through a contractual arrangement to accomplish some or all of the work and responsibilities associated with this business plan and/or associated finances. The National Fish and Wildlife Foundation (NFWF), Wildlife Management Institute (WMI), and Association of Fish and Wildlife Agencies (AFWA) were explored as potential agents for this effort. Like WAFWA, AFWA would have to establish the necessary personnel to deliver the program described in this business plan. While NFWF and WMI have the necessary administration in place to deliver the financial management, field personnel would need to be hired to deliver the conservation component. In addition, financial management appeared to be very cumbersome. In addition, current partners in the LPC conservation program, specifically industry, have requested a close working relationship with the permit provider, and they have not worked with any of these entities. Finally, administrative overhead costs could exceed WAFWA's 5% and could be

as high as 35%. This would limit the amount of work that could get accomplished on the ground. In effect, less work being done at greater expense.

Lastly, introducing a third party arrangement proved worrisome because at a minimum, it gives the appearance, if not the direct affect, of WAFWA and its member agencies relinquishing some authority and/or oversight, yet ultimately being held accountable for the actions of the third party. In short, the examination of this alternative proved there are no "turn-key" operations/entities that could take this on without substantial staffing and/or other retooling of their respective operations. In effect, the negatives of venturing into these unchartered waters appeared to outweigh any perceived positives that might have been envisioned when this review began.

Approved Recommendation and Rationale

After looking at all of the alternative approaches to accomplishing the work outlined and responsibilities assigned therein, the LPC Business Plan Sub-Committee recommended the acceptance of Option #2. WAFWA membership approved this recommendation. Option #2 is the most attractive and practical because it relies and builds upon the strengths of WAFWA for the Permit Holder component and FWFW for the Fiscal Agent component. Since the Board of Directors and officers for both entities mirror each other and consist of the 23 CEOs from the western state and provincial fish and wildlife agencies, decision-making would be coordinated, streamlined, and always consistent. Likewise, all benefits would directly accrue to WAFWA and FWFW, without third party involvement. As important, WAFWA as an entity would remain essentially intact, with all of the infrastructure needs and staffing expansion occurring with FWFW. In the remaining pages of this business plan, the details of how this will be accomplished are spelled out in some detail.

3.2 Proposed Range-wide Conservation Delivery Summary

Background

In August 2012, the five states within the range of the LPC, which include Colorado, Kansas, New Mexico, Oklahoma and Texas, were approached by a consortium of oil and gas associations and companies asking for assistance from the states in developing a Candidate Conservation Agreement with Assurances (CCAA) to influence the final listing decision for the LPC. A series of workgroups and meetings have occurred since this initial contact and the group believes they have a workable CCAA that could address potential impacts for the oil and gas industry and provide funding to improve LPC habitat across the range, and potentially influence a final listing decision that is now scheduled for March 2014. While some of the final CCAA components are still in development, the proposed CCAA agreement has the flexibility for individual states to create their own Certificates of Inclusion, associated conservation practices, and fee structure. Critical to this CCAA approach is the identification of a permit holder. Working with the oil and gas consortium, the draft CCAA currently specifies WAFWA as the permit holder. The CCAA would require a permit holder to collect habitat conservation fees, hold, and distribute those funds, and an organization to hold staff positions that would enroll and monitor leases and carry out conservation efforts.

Below, is a possible structure for WAFWA to be the single-permit holder. This approach maximizes the involvement of state fish and wildlife agencies and other conservation and industry partners across the LPC range. This approach is beneficial for the following reasons:

1. Ensures that WAFWA/FWFW retains the ultimate fiduciary responsibilities and overall administration for this initiative.

2. Maintains wildlife leadership at the state level, and most importantly affirms the authority of the five LPC state fish and wildlife agencies for management of the LPC. This would continue to strengthen relationships with both the oil and gas industry and state conservation agencies.

3. Avoids duplication of efforts and difficulties in coordination of conservation efforts associated with a different NGO framework in each state. The existing WAFWA Western Grassland Initiative facilitates coordination across the range.

4. Addresses concern of state fish and wildlife agencies related to hiring caps and difficulties with receiving, holding and distributing funds.

The LPC Initiative Council (Council) will be comprised of the directors, or their designees, of the five state fish and wildlife agencies within the LPC range and one member of the WAFWA Executive Committee, appointed by the president, that has extensive experience with the United States Endangered Species Act as it pertains to private lands issues. One member of the Council will serve as the LPC Initiative Chair. Acting on behalf of the WAFWA/FWFW, the Council provides oversight and strategic direction to implementation of the conservation provisions of the *Lesser Prairie Chicken Range-wide Conservation Plan*, serves as liaison between the LPC Advisory Committee and the WAFWA/FWFW Executive Committee, and makes recommendations to the WAFWA/FWFW Executive Committee related to the use of third party providers to carry out the conservation provisions of the *Lesser Prairie Chicken Range-wide Conservation Plan*. Unless specifically delegated to the Executive Committee, WAFWA/FWFW shall approve all changes and modifications to this business plan, including impact and enrollment fees, and all the other Assumptions detailed in Section 7, which are the basis of this business plan.

Proposed actions:

1. WAFWA serves as a permit holder for oil and gas CCAA agreements.

2. FWFW holds and distributes funds and serves as fiscal agent since it has the ability and experience with multi-state funding projects that could ensure that revenue from oil and gas and other industries from a given state can be distributed to benefit LPC conservation.
3. Funding from enrollment and impact fees support positions to carry out the work required by this agreement. WAFWA/FWFW can hire and hold positions to carry out this work or, if desired by the states, provide the necessary funding to those agencies to

support the positions internally, or if recommended by the LPC Initiative Council, contract with qualified third party contractors to implement conservation practices, conduct landowner negotiations, land acquisition, easement, lease, or habitat restoration/enhancement activities.

4. The directors of the state fish and wildlife agencies sit on the Boards of Directors for WAFWA and FWFW, and their officers mirror each other. This relationship ensures a decision-making role regarding expenditure of funds, as well as coordination with other LPC conservation efforts.
5. The multi-state structure of WAFWA and FWFW reduces costs in terms of personnel and increases coordination of efforts. A centralized LPC Program Manager, as well as a centralized administrative team of a full-time Treasurer/Chief Financial Officer (CFO), accounting, and support staff will direct and support on-the-ground staff in each state.

General staffing structure, roles, and responsibilities:

1. The WAFWA/FWFW Boards of Directors will approve and renew staffing contracts.
2. An LPC Program Manager will direct LPC field operations, supervise field staff, be responsible for annual reports to the USFWS, and report to the WAFWA Western Grassland Coordinator. The LPC Program Manager will request representation from oil and gas associations for an industry advisory committee. This committee will focus on addressing industry needs to streamline the process of enrollment and monitoring.
3. LPC field biologist positions placed in each state are responsible for working with oil and gas companies to enroll and monitor leases, working with landowners to direct conservation funding, and coordinating with local state fish and wildlife agencies, Natural Resources Conservation Service (NRCS), and USFWS Partners for Fish and Wildlife Program staff.
4. Field LPC staff for this project may be housed within the state fish and wildlife agency offices to promote coordination with the states and ensure projects support state planning efforts identified in their State Comprehensive Wildlife Conservation Strategies, also known as State Wildlife Action Plans (SWAPs).
5. FWFW administrative staff will report through the Treasurer/CFO and consist of:

    a. 1 accountant; prepare, analyze, and/or audit financial records and documents, accounting systems, financial statements, work papers, budgets, tax and payroll records, and other related documents.
    b. 2 account payable technicians; analyze, research, forecast, and reconcile financial documents; ensure compliance with laws, rules, and policies; prepare invoices for payment.
    c. 2 contract/grant technicians; maintain records on incoming funds, expenditures for conservation, travel costs, and salary; and
    d. 1 GIS coordinator; ensure that the field staff is producing data in a consistent fashion and maintain a central data-base of all enrolled leases and conservation efforts, and coordinate with the Software-as-a-Service supplier.

Coordination of conservation efforts:

1. WAFWA/FWFW field LPC staff will direct conservation efforts based on priorities laid out in the *Lesser Prairie Chicken Range-wide Conservation Plan*, the LPC Crucial Habitat Analysis Tool, and through direct coordination with the LPC Interstate Working Group (LPCIWG).
2. The LPCIWG will establish eco-regional implementation teams to establish local priorities for directing funding. The eco-regional implementation teams will include the state representative for the LPCIWG, as well as other staff from the state fish and wildlife agency, NRCS, USFWS, other conservation organizations, and industry. These teams will work with the LPC Eco-regional Coordinators.

4. Operating Plan

4.1 Location

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

4.2 Facility

Field personnel may work from their homes or from shared offices with state partners. Having WAFWA field staff housed within the state fish and wildlife agency offices will promote coordination with the states to ensure projects support state planning efforts identified in their Comprehensive Wildlife Conservation Strategies also called State Wildlife Action Plans (SWAPs). Essential equipment may include a lap-top computer and cell phone. Initially, field staff will use their personal vehicles and be reimbursed for business mileage. A GIS coordinator will track impact and conservation units and provide information to industry representatives for planning purposes. This position may be housed similar to field personnel or in the centralized administrative office.

4.3 Personnel Plan

The WAFWA/FWFW directors will approve and renew staffing contracts. In addition to the existing Western Grassland Coordinator position, the following additional personnel are needed:

1. The Lesser Prairie Chicken Program Manager (LPC Program Manager) will direct operations, supervise staff, be responsible for annual reports to USFWS, and report to the WAFWA Grassland Coordinator. The LPC Program Manager will be responsible for ensuring thorough communication and coordination among affected state, federal, and local agencies for the *Lesser Prairie Chicken Range-wide Conservation Plan*. The LPC Program Manager will also staff the LPC Advisory Committee. The LPC Program Manager will be responsible for annual monitoring and reporting related to the *Lesser Prairie Chicken Range-wide Conservation Plan* and WAFWA Conservation Agreement. To the extent consistent with applicable state law, information in annual reports will include, but is not limited to the following:

a) Number of participants enrolled under the WAFWA Conservation Agreement over the past year, including copies of the completed WAFWA Certificates of Participation, excluding any identifying information related to participants;
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) Effectiveness of habitat management activities implemented in previous years 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 of the species that was observed over the previous year; and

f) A discussion of the funds used for habitat conservation on private/state lands in the states.

2. Eight technical/biologist positions, two in each eco-region, responsible to work with industry and private landowners to enroll and monitor leases, work with landowners to direct conservation funding, and coordinate with local state fish and wildlife, NRCS, and USFWS Partners for Fish and Wildlife Program staff.

3. Four Lesser Prairie Chicken Eco-regional Coordinators will be placed one per eco-region. These positions will supervise the two biologist positions per eco-region and will be responsible to hold eco-regional meetings for identifying priorities for their eco-region.

4. FWFW administrative staff will report through the Treasurer and consist of:
   a) 1 accountant; prepare, analyze, and/or audit financial records and documents, accounting systems, financial statements, work papers, budgets, tax and payroll records, and other related documents.
   b) 2 account payable technicians; analyze, research, forecast, and reconcile financial documents; ensure compliance with laws, rules, and policies; prepare invoices for payment.
   c) 2 contract/grant technicians: maintain records on incoming funds, expenditures for conservation, travel costs, and salary; and
   d) 1 GIS coordinator; ensure that the field staff is producing data in a consistent fashion and maintain a central data-base of all enrolled leases and conservation efforts, and coordinate with the Software-as-a-Service supplier.

4.4 General Operations

A variety of actions will occur. The two primary field actions will work on balancing the industry impact (mitigation) and conservation units. Below is the work flow for each:

WAFWA/FWFW LPC Industry Mitigation Workflow

1. Initial industry contact for mitigation
   Request information on type of impact and timeline
   Request spatial data-lease boundaries
   Request contact information for access

2. Desktop analysis
   a) Overlay existing data:
      i. CHAT categories
      ii. Lease boundaries
      iii. Ecological Site Descriptions
      iv. Cropland
      v. Existing impact buffers
      vi. Proposed impact buffers
   b) Calculate proposed impact acres by CHAT category

c) Generate assessment areas and sites
d) Generate maps of property for participant and WAFWA staff

3. Site visit
   a) Coordinate with surface owner or owners for access
   b) Conduct Habitat Impact Assessment at each assessment site
   c) Conduct visual assessment of existing impacts and proposed impacts
   d) Upload data to system
   e) Utilize site assessment data for future impacts for up to five years unless the participant requests a new assessment due to changed conditions. Future impacts may be assessed based on a desktop analysis

4. Report generation
   a) Cost for proposed impact and payment information
   b) Recommendations for modifying the location of the proposed impacts and cost estimate (if applicable)
   c) Recommendations for avoidance and minimization of impacts

5. Process payments

6. Generate and distribute permits

7. Monitoring
   a) Collect reporting information from participants
   b) Review of annual randomly-selected National Agricultural and Imagery Project enrolled parcels
   c) Notification of non-compliance to participant and USFWS

WAFWA/FWFW LPC Conservation Delivery Workflow

1. Initial landowner contact
   a) Request spatial data-Boundary shape file or Keyhole Markup Language (NRCS can provide most of these with agreement from landowner)

2. Desktop analysis
   a) Overlay existing data
   b) CHAT categories
   c) Lease boundaries
   d) Ecological Site Descriptions
   e) Cropland
   f) Existing impact buffers

3. Site visit
   a) Coordinate with landowner, owners, or leaseholder for access
   b) Conduct Habitat Impact Assessment at each assessment site

c) Conduct visual assessment of existing impacts and proposed impacts
d) Upload data to system

4. Landowner consultation and management plan development
   a) Discuss current state of the property and credit generation (total acreage, habitat condition, existing impact buffers, and what that means for annual payments)
   b) Discuss potential state of the property and credit generation (how much the landowner could make annually.
   c) Identify habitat restoration opportunities (Tree control, native range reestablishment, infrastructure removal, etc.)
   d) Identify habitat maintenance needs (Grazing, prescribed fire, herbicide, etc.)
   e) Discuss contract duration, incentive payments, and required practices

5. Generate and sign management contract

6. Process Incentive payment

7. Conduct semi-annual landowner/leaseholder status meetings as needed

8. Conduct annual monitoring
   a) Conduct annual Habitat Impact Assessment at each assessment site
   b) Review existing impact buffers
   c) Interview landowner on management status
   d) Upload data

9. Process annual payment

WAFWA/FWFW LPC Management Effectiveness Monitoring - Randomly select a sample of contracts within each eco-region

1. Use a modified version of the NRCS LPC Initiative monitoring protocol to assess how LPC habitat is responding to the treatments applied.
2. Utilize Science Team to develop this protocol, sampling timeframe, etc.

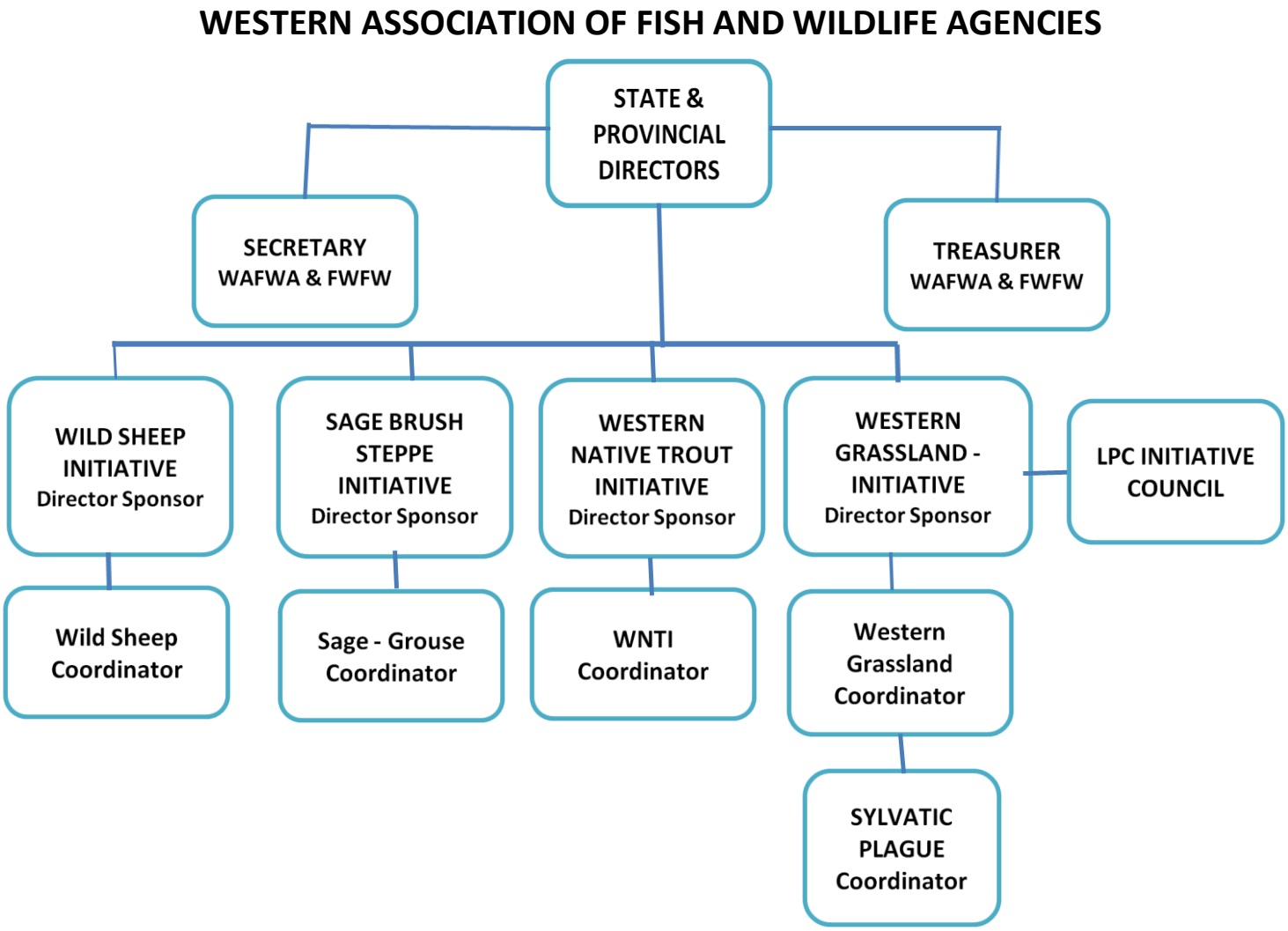
5. Management and Organization

As previously stated in Section 3.2, the directors of the state fish and wildlife agencies within the LPC range are members of the WAFWA and FWFW Boards of Directors. They will comprise the LPC Initiative Council along with a member of the Executive Committee, appointed by the President, representing an agency with extensive experience with the United States Endangered Species Act as it pertains to private lands issues. This relationship will ensure appropriate decision-making roles for disbursement of funds, as well as coordination with other WAFWA/FWFW conservation efforts.

5.1 Management/Principles

The *Lesser Prairie Chicken Range-wide Conservation Plan* and WAFWA Conservation Agreement are based on adaptive management principles. WAFWA recognizes that implementation of the conservation measures herein must be consistent with the concepts and principles of adaptive management. The Advisory Committee, WAFWA, and participants will review the effectiveness of the conservation measures, monitoring methods, and new technologies periodically over the life of the WAFWA Conservation Agreement. Upon such evaluation, appropriate modifications to the conservation strategy may be incorporated to enhance further the goals of this WAFWA Conservation Agreement. Additionally, research projects that are designed to determine the effectiveness of management practices will be encouraged and utilized to determine what adaptive management is necessary. WAFWA and participants agree to work together in good faith to resolve any disputes, using dispute resolution procedures established by the Advisory Committee and agreed upon by all Parties.

5.2 Organizational Structure



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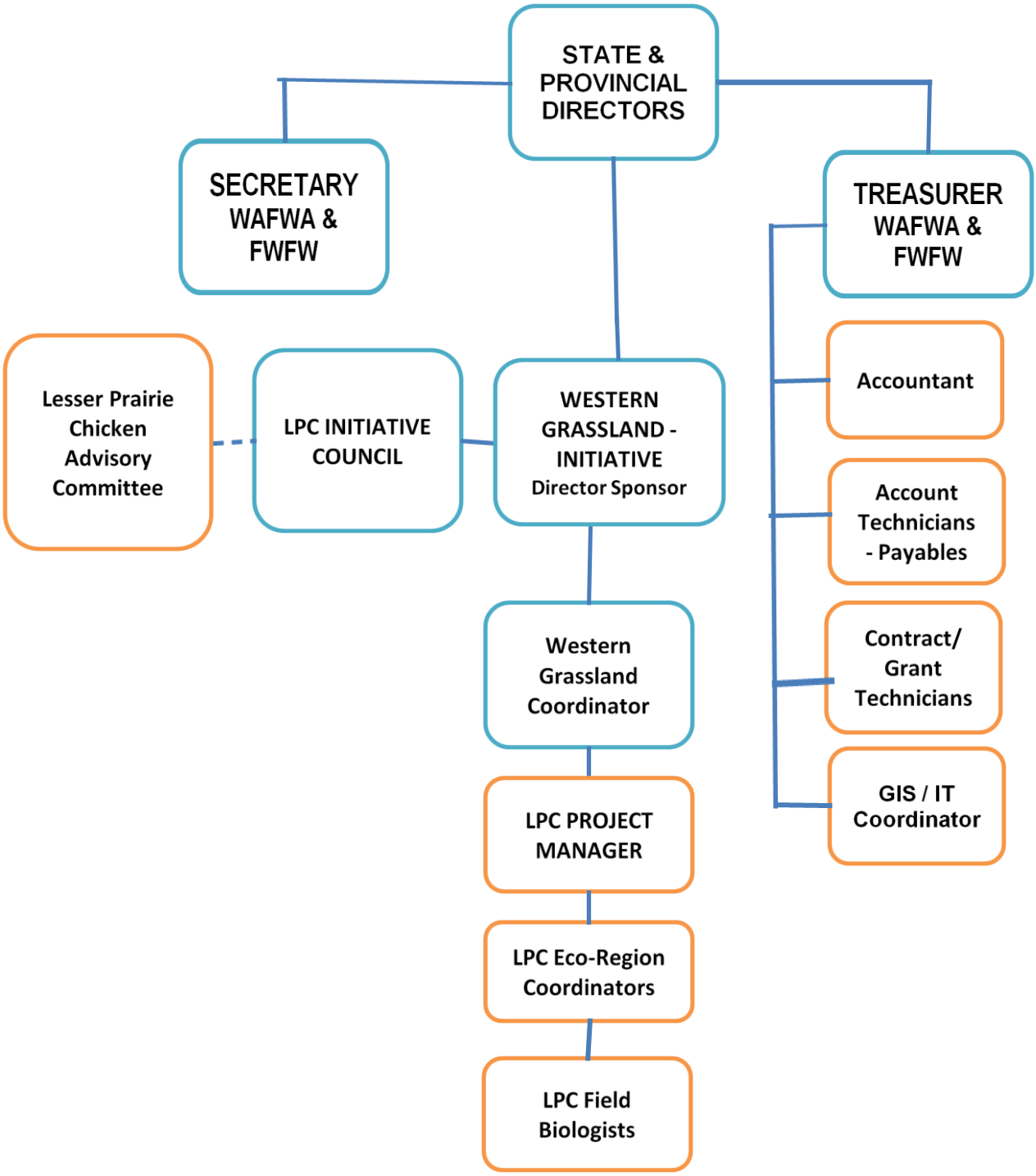

5.3 Boards and Committees

5.3.1 WAFWA/FWFW Boards of Directors Oversight

As previously stated in Section 3.2 and Section 5, the directors of the state fish and wildlife agencies within the LPC range are members of the WAFWA and FWFW Boards of Directors. They comprise the LPC Initiative Council along with a member of the Executive Committee, appointed by the President, representing an agency with extensive experience with the United States Endangered Species Act as it pertains to private lands issues. This relationship will ensure appropriate decision-making roles for disbursement of funds, as well as coordination with other WAFWA/FWFW conservation efforts.

5.3.2 Committees

The LPC Initiative Council will establish an Advisory Committee, associated subcommittees, and will continue the Interstate Working Group (IWG). Committees will be developed to provide necessary expertise and diverse representation of affected stakeholders. The Advisory Committee and IWG will be strictly advisory in nature and will provide recommendations to the LPC Initiative Council for final approval. The intent of these groups is to support the *Lesser Prairie Chicken Range-wide Conservation Plan*, promote effective communication between the parties, dispute resolution, cost structures, and adaptive management activities. Two subcommittees will support the Advisory Committee: (1) Fee Structure Subcommittee and (2) Science Subcommittee.

Committee Composition

Interstate Working Group

1) One representative from each of the 5 state fish and wildlife agencies

Advisory Committee

1) The WAFWA LPC Program Manager will coordinate and facilitate the Advisory Committee as an ex officio member
2) An additional 16 representatives will compose the committee
    a) One representative from 3 of the 5 state fish and wildlife agencies, to serve on a rotating schedule
    b) One representative from each of the 2 primary federal departments closely involved with LPC conservation (USFWS and NRCS),
    c) Three representatives from industry organizations (e.g. oil & gas, wind, transmission),
    d) Three representatives from agricultural and landowner organizations (e.g. Cattlemen's Association, Corn Growers Association, Farm Bureau)
    e) Three representatives from conservation organizations (e.g., The Nature Conservancy, Audubon, North American Grouse Partnership)
    f) Three representatives from local government

Fee Structure Subcommittee

1) The WAFWA LPC Program Manager will coordinate and facilitate the Fee Structure Subcommittee as an ex officio member.
2) An additional 16 representatives will compose the committee.
   a) One representative from 3 of the 5 state fish and wildlife agencies, to serve on a rotating schedule
   b) One representative from each of the 5 LPC states from NRCS
   c) One representative from each of the 5 LPC states from USDA Farm Service Agency
   d) One representative each from USFWS Region 2, USFWS Region 6, and the USFWS Partners for Fish and Wildlife Program

Science Subcommittee

1) The WAFWA LPC Program Manager will coordinate and facilitate the Science Subcommittee as an ex officio member.
2) Up to a maximum of an additional 15 representatives will compose the committee:

   a) One representative from each of the 5 LPC state fish and wildlife agencies

   b) Up to 10 additional members with expertise in LPC ecology, habitat modeling, population monitoring, impact evaluation, and other relevant topics may serve on the subcommittee

Implementation Teams

Implementation Teams will be established in each of the four eco-regions to provide information to the Advisory Committee on priority areas for the implementation of conservation measures. The CHAT categories provide an initial level of prioritization for conservation implementation, but addition spatial targeting of conservation practices (e.g. permanent easements to enhance strongholds, habitat restoration, and enhancement near to active leks) will likely be necessary and beneficial. The Implementation Teams will be appointed by the Advisory Committee composed of members familiar with LPC ecology, landscape design, and the delivery and implementation of conservation measures. A WAFWA LPC Eco-regional Lead will staff these Teams.

5.3.3 Committee Appointments and Terms

The LPC Initiative Council will approve all committee membership.

Interstate Working Group

Representatives will be appointed by state fish and wildlife agencies.

Advisory Committee

1) Representatives from state and federal agencies will be appointed by their respective agencies.
2) Representatives from industry, agricultural/landowner, conservation organizations,

and local government stakeholder groups will be considered by nominations submitted to the LPC Initiative Council. Nominations will be reviewed by the LPC Initiative Council and representatives selected.

3) Upon initiation, one-half of the appointments will initially be for a one-year term and one-half of the appointments will be for a two-year term. This will result in one-half of the membership of the committee being replaced or reconsidered for membership annually. After the first year, committee appointments will be for two years and may be renewed.

Fee Structure Subcommittee

1) Representatives from state and federal agencies will be appointed by their respective agencies for two-year, renewable terms.

Science Subcommittee

1) Representatives from state agencies will be appointed by their respective agencies.
2) Additional members will be nominated by the IWG for two-year renewable terms.

5.3.4 Committee Responsibilities

Committees will have the following responsibilities and will make recommendations to the LPC Initiative Council for appropriate action:

Interstate Working Group

The Interstate working group will:

1) Update and revise the *Lesser Prairie Chicken Range-wide Conservation Plan*
2) Update and revise the CHAT
3) Review and update as necessary eco-regions, focal areas, and connectivity zones
4) Make nominations to the Science Subcommittee
5) Annually provide a report to the LPC Initiative Council

Advisory Committee

The Advisory Committee will:

1) Review annual reports from Eco-regional Implementation Teams and Technical Service Providers concerning enrollment, monitoring, and conservation delivery related to the *Lesser Prairie Chicken Range-wide Conservation Plan*.
2) Review overall progress toward meeting conservation goals through the mitigation framework, and as necessary, make recommendations for changes to the mitigation framework
3) Review and recommend applications for Technical Service Providers
4) Review compliance and reporting by Technical Service Providers
5) Review non-compliance issues by participants and recommend corrective action if necessary.
6) Review research needs and if needed, recommend a portion of annual Habitat Conservation Fees for research.
7) Review reports and evaluate recommendations from the Fee Structure and Science Subcommittee and the IWG.
8) Annually provide a report to the LPC Initiative Council.

Fee Structure Subcommittee
The Fee Structure Subcommittee will:

1) Annually review and update mitigation costs and landowner enrollments in specific practices

2) Annually review adaptive management triggers and evaluated actions related to the fee structure for the mitigation framework
3) Annually provide a report to the Advisory Committee

Science Subcommittee
The Science Subcommittee will:

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

5.3.5 Committee Meetings

The committees will meet annually, at minimum. Additional meetings of these committees can be scheduled as requested by members of the committees or the LPC Initiative Council.

5.3.6 Reporting Requirements to Member Agencies

WAFWA will be responsible for annual monitoring and reporting related to the WAFWA Conservation Agreement. To the extent consistent with applicable state law, information in annual reports will include, but is not limited to the following:

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

6. Goals and Strategies

6.1 Business Goals

Under the leadership of WAFWA's Western Grassland Initiative, the Lesser Prairie-Chicken Interstate Working Group has developed the *Lesser Prairie Chicken Range-wide Conservation Plan* that outlines a conservation strategy for the LPC that identifies and coordinates conservation actions that can be implemented to ensure the continued sustainability of the species throughout its current or expanded range. As part of the *Lesser Prairie Chicken Range-wide Conservation Plan*, a WAFWA Conservation Agreement was developed to allow interested parties to participate in LPC conservation and it represents an effort to harmonize with and complement the conservation strategy set forth in the *Lesser Prairie Chicken Range-wide Conservation Plan*.

The WAFWA Conservation Agreement is a voluntary agreement that would be administered by WAFWA through the Foundation for Western Fish and Wildlife (FWFW). It will be the responsibility of FWFW staff to work with and enroll participants using WAFWA Certificates of Participation, which will facilitate the voluntary cooperation of private landowners, industry, and other interested stakeholders, thereby providing conservation benefits to the LPC. When fully implemented, this WAFWA Conservation Agreement and the *Lesser Prairie Chicken Range-wide Conservation Plan* will provide guidance for the conservation and management of the LPC by eliminating and/or reducing threats to this species associated with non-Federal activities. Participants will implement conservation measures and receive payments for beneficial management of private lands or contribute funding for conservation for unavoidable impacts as part of their WAFWA Certificates of Participation. Funds contributed as part of this WAFWA Conservation Agreement may or may not be used on the enrolled property, since other habitat areas may be a higher priority for implementation of habitat improvement projects. The conservation measures implemented by participants would generally consist of habitat restoration and enhancement activities, and minimization of habitat fragmentation to preclude or remove current threats to the species.

Implementation of this effort will result in a variety of conservation benefits to the LPC in the form of avoidance of negative impacts and enhancement and restoration of habitat intended to contribute to establishing, augmenting, and maintaining viable populations of LPCs. Conservation measures that minimize new surface disturbance thus minimize habitat fragmentation and preserve contiguous expanses of LPC habitat. Conservation measures that require the removal of existing equipment and infrastructure and reclamation of existing disturbance restore and enhance LPC habitat. LPC reproductive behavior is promoted by conservation measures that limit activities and operations during lekking, nesting, and brooding season. Similarly, threats to the LPC are removed by conservation measures that require removal of existing vertical structures and other features, which may fragment habitats, limit the possibility of LPC becoming trapped in open water sources, and require marked fences. Furthermore, the conservation activities implemented with funds contributed by participants are expected to enhance further LPC habitat. When considered together, the conservation measures and provisions of the WAFWA Conservation Agreement are expected to preserve, enhance, and restore LPC habitat and remove threats to the LPC, which are expected to yield increases to LPC

populations. In addition, conservation of LPCs would be enhanced by improving and encouraging cooperative management efforts between WAFWA, USFWS, and participants who own and control LPC habitat. This WAFWA Conservation Agreement is intended to provide incentives to property and company owners to initiate conservation measures for this species.

Desired Outcomes

This WAFWA Conservation Agreement, along with the *Lesser Prairie Chicken Range-wide Conservation Plan*, is designed to include conservation measures that eliminate and/or reduce threats by land uses including mineral, oil/gas, and, wind-energy developments, agricultural practices, and civil infrastructure (including transmission and distribution lines, radio/cell towers, and roads) on state and private property. This WAFWA Conservation Agreement also establishes a mechanism to enroll private or state lands to generate conservation benefits to LPC by implementing management strategies that will improve habitat quality and quantity. If enough participants implement conservation measures through their participation in the WAFWA Conservation Agreement, the likelihood that the species will be listed will be greatly reduced. A federal decision not to list the LPC must be based upon the removal of threats and stabilization or improvement of the species. The decision to list is a regulatory process and this WAFWA Conservation Agreement cannot predetermine the outcome. The actions and successes of this WAFWA Conservation Agreement will be evaluated in accordance with USFWS Policy for Evaluation of Conservation Efforts (2003) and factored into the five-factor analysis of the listing decision. If the species is listed, prohibitions on activities covered under this plan may be exempted via a 4(d) rule for participants enrolled via this WAFWA Conservation Agreement and associated WAFWA Certificate of Participation or other USFWS-approved permitting agreements (i.e. CCAA/CCA/HCP). Ultimately, either direction will maintain state wildlife agency leadership for this wildlife species and provide the necessary resources for managing the LPC.

6.2 Keys to Success

WAFWA is a non-profit organization representing 23 states and Canadian provinces, advocating appropriate management of fish and wildlife within the borders of those jurisdictions. Since WAFWA's establishment in 1922, the organization has been innovative in its approach to identifying and pursuing meaningful applied research that has resulted in practical solutions in the environment. WAFWA has a broad capacity in these areas due to the combined experience of its member organizations and its directors and staff members. WAFWA has also been able to develop strong partnerships with universities, agencies, research institutions, and private industry to bring together additional expertise as needed to meet challenges of various endeavors.

WAFWA and/or their member states within the range of the LPC will maintain positions to facilitate enrollment of property, collection, and distribution of funds for conservation efforts through coordination with other state and federal agency staff and outreach to property owners. The LPC Conservation Offset Fund and the Operational Expense Fund will be used to further the effort of the WAFWA Conservation Agreement in conserving

the LPC and their habitats. WAFWA, through its fiscal agent, the Foundation for Western Fish and Wildlife, will use funds contributed by participants to administer the plan, implement conservation activities to benefit the LPC such as habitat restoration, habitat enhancement, and removal of threats. Success will be measured on an annual basis with the balancing of impacts to conservation efforts.

6.3 Future Plans

The *Lesser Prairie Chicken Range-wide Conservation Plan* and WAFWA Conservation Agreement are based on adaptive management principles. WAFWA recognizes that implementation of the conservation measures herein must be consistent with the concepts and principles of adaptive management. The Advisory Committee, WAFWA/FWFW, and participants will review the effectiveness of the conservation measures, monitoring methods, and new technologies periodically over the life of the WAFWA Conservation Agreement. Upon such evaluation, appropriate modifications to the conservation strategy may be incorporated to enhance further the goals of this agreement. Additionally, research projects that are designed to determine the effectiveness of management practices will be encouraged and utilized to determine what adaptive management is necessary.

In terms of WAFWA and FWFW, the next steps began upon the approval of the *Lesser Prairie Chicken Conservation Delivery Business Plan* by the directors at the July 24, 2013, annual business meeting. Work commenced immediately to affect implementation of this plan. The Executive Committee will spearhead this effort. Of utmost importance is getting properties enrolled in the program. In addition to the building of the required infrastructure for the FWFW, as noted when this concept was discussed at the January 2013 business meeting, some modification of the Constitution and Bylaws will be required. Given the USFWS' recent announcement of a six-month extension on making the LPC listing decision, proposed changes to the Constitution and Bylaws can be made at the January 2014 business meeting, pursuant to the process set forth in that document. All other work was initiated immediately. Conversely, the budget reflected in this business plan will be ratified and reflected as the FWFW's 2014 budget, which runs on a calendar year basis.

The six-month extension recently granted by the USFWS for the LPC listing decision gives WAFWA and FWFW some additional time to get properties enrolled. This was not known or envisioned during the entirety of development of this plan and it is certainly welcome news. In the end, it changes nothing that has been outlined in these pages, but it certainly provides added confidence that a successful launch of this conservation initiative can be achieved and sustained over time.

As approved, appropriate portions of this *Lesser Prairie Chicken Conservation Delivery Business Plan* will be incorporated into the *Lesser Prairie Chicken Range-wide Conservation Plan*. Thus, it provides the expressed commitment by WAFWA/FWFW and certainty that the fiscal resources will be available to achieve the conservation provisions of the *Lesser Prairie Chicken Range-wide Conservation Plan*.

7. Assumptions and Definitions

7.1 Definitions

1) **Long-term easements/permanent conservation**—are permanent conservation measures including but not limited to: perpetual easements, fee simple acquisitions, and mitigation bank credits purchased from willing landowners. The goal for permanent easements is the value of 25% of the total offset units generated by mitigation within each eco-region, where offset units are defined as the product of the acreage impacted, the habitat quality of that acreage and the mitigation ratio in each CHAT category.
2) **Short-term agreements**—are 5 or 10 year contracts, with landowners and agricultural lease-holders, to implement conservation practices on their lands to provide LPC conservation benefits. These contracts are voluntary, renewable, and compensate landowners for eligible practice costs on a variable scale reflective of established NRCS/FSA costs. The goal for short-term agreements is the value of 75% of the total offset units generated by mitigation within each eco-region, where offset units are defined as the product of the acreage impacted, the habitat quality of that acreage and the mitigation ratio in each CHAT category.
3) **Incentive payment**—upon enrollment in 5 or 10 year offset contracts; participants receive a modest incentive payment based on the acreage enrolled, and the quality of that acreage, and the offset multiplier for the CHAT category in which they are located. These incentive payments provide funding for landowners and operators to implement changes to their operations that increase the habitat quality for LPCs.

4) **Maintenance payment**—participants will receive annual maintenance payments each fall for both short-term contracts and permanent easements. Those payments are based on the acreage enrolled, the habitat quality of those acres, the offset multiplier for the CHAT category they are located within, and average per acre habitat management costs that are calculated annually based on current USDA habitat management practice costs. Those practices include prescribed grazing, prescribed burning, disking, and inter-seeding, selected herbicide applications and more.

5) **Restoration payment**—restoration practices include control of tall woody vegetation and native grass seeding. Upon completion and verification of those practices, participants will receive payment for performing them. Payment rates for restoration practices are determined based on current USDA practice costs, and the offset multiplier for the CHAT category in which the restored acreage is located.

6) **Crucial Habitat Assessment Tool (CHAT)** -- an accessible online system of maps displaying crucial wildlife habitat and corridors in the Southern Great Plains. The Southern Great Plains CHAT is a spatial model put together to designate and prioritize

areas for LPC 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. In many ways, it is the spatial representation of the *Lesser Prairie Chicken Range-wide Conservation Plan*. 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 LPC.

Below is a description of each category.

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. The goal in this category is to have 70% of the area within, managed under LEPC conservation plans. They were 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 for LEPC conservation. The corridor areas were designated by teams in each state that prioritized and identified intact LEPC habitat. The goal in this category is to have 40% of the area within, managed under LEPC conservation plans. They were 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 on the lek Maxent models. Maxent is short 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, land cover, abiotic site condition) in a manner that allows for the results to characterize that habitat on the landscape.

d. CHAT 4- This category is comprised of the estimated occupied range (EOR) for the LEPC plus 10 miles. The EOR is an expert derived delineation that has had 10 miles added to it for range expansion and planning.

In addition to the CHAT score, the Southern Great Plains CHAT also includes a suite of other data layers including current and historical LPC range, land cover, oil/gas well density, vertical structures, and a 1-square mile hexagon summary to provide users contextual information about the surrounding landscape.

The CHAT will be updated as needed. Every effort we will be made to inform stakeholders when future changes will occur and make them aware of the process. It is expected that this version of the CHAT will have a 3-5 year lifetime.

7.2 Assumptions

While the *Lesser Prairie Chicken Range-wide Conservation Plan* provides mitigation opportunities for all threats identified for LPC, it is difficult to estimate the full funding from all industries. The only industry with any history and information on rates of production is the oil and gas industry. Based upon this information, and the immediacy for the need for this industry to mitigate impacts, WAFWA calculated conservation delivery and establishment of two endowment accounts using financial figures generated from funds initially from oil and gas development. We recognize that as other industries participate in the WAFWA CCAA, that the business plan will need to be adapted to meet the situation at that time. Further, we acknowledge that the revenue and expenditure projections, work flow, committee make-up, and staffing levels may change to meet other industry involvement.

1) The first assumption comes from the impact analysis for oil and gas. We assumed an average of 5,034 oil and gas wells will be drilled on a yearly basis within the estimated occupied range plus 10 miles. We also understood that one or more wells could be placed on one pad. This number is variable, as the common number of wells per pad could be 1 for in-field development, whereas 5 wells per pad is now common for new-field development. For the purpose of this business plan, we chose an average of 3 wells per pad. On that basis, we projected 1,678 new well pads within the EOR +10 per year. We started with the average cost across the four eco-regions for an oil/gas pad in CHAT 3 for the costing of offsetting the impact of an oil/gas pad. This amount is $21,937.40. We estimated that on the average approximately 60% of each pad would be in previously unimpacted habitat. This figured was derived from current spatial oil and gas well data which show that on the average, 17.94 acres of each 31.05 acres associated with a well pad buffer does not overlap other existing impact buffers. This is approximately 58% of the well pad buffer space. We chose to round to an even 60% of the well pad buffer space that we estimate will be in previously unimpacted habitat. Finally, we multiplied the median impact unit cost per pad of $21,937.40, multiplied by 60% to calculate the estimated median impact cost per pad. This median impact cost per well pad is calculated to be $13,162.44. Actual impacts are assessed per pad or surface location under the *Lesser Prairie-Chicken Range-wide Conservation Plan*, but we calculated the cost on a per well basis to match well projection assumptions. With this impact amount, the enrollment fees will offset 855 well pads. The remaining 823 well pads, assessed at the same median value, should account for $10,832,668 in impact fees.

2) Another assumption made was with the enrollment acres within the estimated occupied range plus 10 miles. Working with oil and gas companies and associations, we requested an estimate of potential acres they would be willing to enroll in the plan. We were informed by our partners there would be initially a minimum of 5 million acres to enroll in the *Lesser Prairie Chicken Range-wide Conservation Plan*. After the initial enrollment, newly enrolled acreage would drop off significantly. Between the collection of enrollment fees for the first 3 years and additional impact fees, it is estimated approximately $220,878,078 would be generated within the first ten years of the plan (See the 10-Year Summary of Income and Expenses in Appendix 8).

3) The implementation timeframe assumes start date immediately upon approval of the CCAA. For example, if the CCAA is approved on November 1, 2013, then Year 1 in the business plan is assumed to be from November 1, 2013, (Month 1) through October 31, 2014, (Month 12).

4) During the first year, the plan assumes that costs and revenues are phased in. Because of the ongoing discussions with some oil and gas companies who have stated that they are prepared to enroll their areas immediately, the enrollment fees for the first year are received in the first two months. For the remaining 9 years in the business plan, total enrollment fees are much less and assumed to be received throughout the year. Impact fees for oil and gas pads are assumed to be received throughout each year beginning with year 1.

5) Because the *Lesser Prairie Chicken Range-wide Conservation Plan* contemplates negotiating landowner agreements as soon as possible after the approval of the CCAA, the business plan assumes that state fish and wildlife agencies will carry some of the initial burden in the enrollment activities before the actual start date for new employees funded by the program.

6) The financial estimates and projections in this business plan only include participation by oil and gas entities. The oil and gas industry had the best data for developing financial estimates. The plan assumes both conservative revenues and expenditures as the projections do not reflect any estimated enrollment and impact fees for other types of industries, e.g. wind energy, transmission lines.

7) The fee structure has its basis in Natural Resources Conservation Service (NRCS) conservation practice costs. The Interstate Working Group (IWG) used this regionally-based cost structure as the starting point for determining the cost to deliver habitat enhancement practices within each service area. The specific practices used to establish these costs are detailed in the *Lesser Prairie Chicken Range-wide Conservation Plan*. Additionally, the IWG included incentive payments for five and 10 year contracts at $2.50 and $5.00 per acre. They also increased by 35% the payments for grazing and prescribed fire to incentivize practices critical to LPC. The IWG also proposes to pay up to 50% of NRCS Fair Market Value Assessments for perpetual easements. The IWG used the per acre cost for each program/practice in each service area since the costs in each service area differs. Additionally, the IWG used existing FSA and NRCS contracts to determine the enrollment in each program by service area, and used these figures to predict the level of participation for each practice by service area.

8) The investment assumptions are based on using the multi-asset approach in the Russell Model Strategies that are globally diversified. For the *Lesser Prairie Chicken Conservation Business Plan,* we assumed an investment mixture between the Russell

Conservative Model Strategy and the Russell Moderate Model Strategy. By combining funds from the conservative and moderate Russell Model Strategies, it provides WAFWA an exposure to a mix of stocks, bonds, and alternative investments and a variety of underlying money managers and investment styles. We anticipate this blending will emphasize acceptable return potential while attempting to manage risk and may help provide returns that are more consistent over time. We understand that strategic asset allocation and diversification do not assure profit or protect against a loss in declining markets. However, we anticipate that during in increasing markets, the investment returns and profits will provide the long-term rate of return target of 4% after inflation.

9) We assumed an annual increase to the Operational Expense costs over the 10-year period. We used a cost-increase factor that varies from 1.5% to 2.0%.

7. Financial Assumptions

7.2 Assumptions

INCOME: 9/18/2013 0:03

Enrollment Fees:

Initial acres enrolled in first year	5,000,000	$	2.25	Enrollment Fee per acre per year for three years
Estimated number of acres enrolled per year for the next 9 years	125,000	$	2.25	Enrollment Fee per acre per year for three years

Impact Fees:

Estimated No. Well Pads per Year	Median Impact Cost Per Pad CHAT 3 Medium	
1,678	$ 13,162	

FUNDS:

	Years 1 - 2 Percent	Years 3 -10 Percent
1. Conservation Offset: % of income directed to the Conservation Offset Fund: Amounts that are not immediately used for Conservation Offset payments are transferred to the Conservation Offset Trust Fund .	87.50%	87.50%
2. Operational Expense: % of income directed to the Operational Expense Account which is used for field/biological and administrative expenses. The Operational Expense Trust Fund (OE Trust Fund) will be funded by net income from the OE Account. It will be used to fund future OE costs and operations.	12.50%	12.50%

3. Investment Income from the Conservation Offset and Operational Expense accounts and the Conservation Offset and Operational Expense Trust Funds is estimated to earn a "real" return (after inflation) of 4%. The amount of investment income is reduced by the estimated inflation rate which is added to the principle of each trust fund.

Long Term Easements:

Easement Acquisition at 7,750 Acres per year. Easement Payment estimate at $500 per acre.

Long Term Easements	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	10 Years TOTALS
Running total of Easement Acres Acquired	**7,750**	**15,500**	**23,250**	**31,000**	**38,750**	**46,500**	**54,250**	**62,000**	**69,750**	**77,500**	
Easement Payment = Cost per Acre	$ 500.00										
CHAT 1 Restoration cost / Acre	$ 231.42										
Easement Acquisition Cost Per Year	**$ 1,937,500**	**$ 3,875,000**	**$ 3,875,000**	**$ 3,875,000**	**$ 3,875,000**	**$ 3,875,000**	**$ 3,875,000**	**$ 3,875,000**	**$ 3,875,000**	**$ 3,875,000**	**$ 36,812,500**
Easement restoration one-time payment using CHAT 1 restoration cost/Acre											
Easement Restoration Cost Per Year		**$ 1,793,505**	**$ 1,793,505**	**$ 1,793,505**	**$ 1,793,505**	**$ 1,793,505**	**$ 1,793,505**	**$ 1,793,505**	**$ 1,793,505**	**$ 1,793,505**	**$ 16,141,545**

Short Term Agreements:

Acres Under Short Habitat Agreements / Year	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	10 Years TOTALS
Total Acres	**23,250**	**46,500**	**69,750**	**93,000**	**116,250**	**120,900**	**125,550**	**130,200**	**134,850**	**139,500**	
Assume percent of acres enrolled each year that are 10 year agreements			20%	Assume percent of acres enrolled each year that are 5 year agreements					80%		
Incentive Payments for 10 year agreements	$ 5.00			Incentive Payments for 5 year agreements				$ 2.50			
Incentive Payments	**$ 69,750**	**$ 69,750**	**$ 69,750**	**$ 69,750**	**$ 69,750**	**$ 69,750**	**$ 69,750**	**$ 69,750**	**$ 69,750**	**$ 69,750**	**$ 697,500**
Restoration on Short and Long Term Acres	**Costs/Acre**										
CHAT 1	$ 231.42										
CHAT 2	$ 210.39										
AVERAGE RESTORATION COST / Acres	$ 220.91										
Restoration - 10 Year Agreements		**$ 1,027,208**	**$ 1,027,208**	**$ 1,027,208**	**$ 1,027,208**	**$ 1,027,208**	**$ 1,027,208**	**$ 1,027,208**	**$ 1,027,208**	**$ 1,027,208**	**$ 9,244,874**
10-Year Restoration Costs are one-time & start 2nd year after sign-up			**20%**								
Maintenance Costs on Short and Long Term	**Costs/Acre**										
CHAT 1	$ 35.10	= Maintenance Costs for 10-year Long-term Easement Acres Starts on the 3rd year after sign-up									
CHAT 2	$ 24.75										
Average Maintenance Cost - Short Term.	$ 29.93	= Maintenance Costs for 5-year Short-Term Acres Start on the 2nd year after sign up									
Annual L.T. and S.T. Maintenance Cost		**$ 556,605**	**$ 1,524,386**	**$ 2,492,168**	**$ 3,459,949**	**$ 4,427,730**	**$ 4,838,906**	**$ 5,250,083**	**$ 5,661,259**	**$ 6,072,435**	**$ 34,283,520**
Long Term Restoration & ST LT Maintenance Costs		**$ 1,583,813**	**$ 2,551,595**	**$ 3,519,376**	**$ 4,487,157**	**$ 5,454,938**	**$ 5,866,115**	**$ 6,277,291**	**$ 6,688,467**	**$ 7,099,643**	**$ 43,528,394**

8. Appendices

This section contains the following reports and supporting documentation:

- 10-Year Summary Fund Transfers, Income, and Expenses
- Monthly Projections Fund Balances, Income, and Expenses

Foundation for Western Fish Wildlife
Lesser Prairie Chicken Conservation Delivery Business Plan
10 Year Income, Expense Trust Fund Transfer Estimate
September 16, 2013

	Year 1	Year 2	Year 3	Year 4	Year 5
LPC Program Income					
Enrollment Fees					
Total Enrollment Fees	$ 11,250,000	$ 11,531,250	$ 11,812,500	$ 843,750	$ 843,750
Impact Fees	$ 10,832,688	$ 10,556,277	$ 10,279,866	$ 21,244,178	$ 21,244,178
Total LPC · Program Income	$ 22,082,688	$ 22,087,527	$ 22,092,366	$ 22,087,928	$ 22,087,928
Total Investment Earnings	$ 482,080	$ 1,176,692	$ 1,665,995	$ 1,899,703	$ 2,369,676
Total Estimated Income - All Sources	**$ 22,564,768**	**$ 23,264,219**	**$ 23,758,361**	**$ 23,987,631**	**$ 24,457,604**
Income and Expense: Conservation Offset Trust Fund					
Conservation Offset Income					
From Enrollment Fees	$ 9,843,750	$ 10,089,844	$ 10,335,938	$ 738,281	$ 738,281
From Impact Fees	$ 9,478,602	$ 9,236,742	$ 8,994,882	$ 18,588,656	$ 18,588,656
Investment Earnings For Cons. Offset Expenses	$ 444,323	$ 1,121,266	$ 1,597,449	$ 1,845,202	$ 2,304,617
Sub-Total Conservation Offset Income	$ 19,766,675	$ 20,447,852	$ 20,928,268	$ 21,172,139	$ 21,631,555
Conservation Offset Expenses					
Conservation Contracts with Land Owners					
Short term Incentive Payments	$ 69,750	$ 69,750	$ 69,750	$ 69,750	$ 69,750
Long Term Easement Acquisition	$ 1,937,500	$ 3,875,000	$ 3,875,000	$ 3,875,000	$ 3,875,000
Short & Long term Restoration/Maint Payments	$ 0	$ 1,583,813	$ 2,551,595	$ 3,519,376	$ 4,487,157
Long Term Restoration Cost	$ -	$ 1,793,505	$ 1,793,505	$ 1,793,505	$ 1,793,505
Sub-Total Conservation Offset Expenses	$ 2,007,250	$ 7,322,068	$ 8,289,850	$ 9,257,631	$ 10,225,412
Net Income (Loss) Transfer To (From) Trust Fund	$ 17,759,425	$ 13,125,784	$ 12,638,419	$ 11,914,508	$ 11,406,143
Total Conservation Offset Expenses and Transfer	$ 19,766,675	$ 20,447,852	$ 20,928,268	$ 21,172,139	$ 21,631,555
Income and Expense: Operational Expense Trust Fund					
Income for Operational Expenses					
From Enrollment Fees	$ 1,406,250	$ 1,441,406	$ 1,476,563	$ 105,469	$ 105,469
From Impact Fees	$ 1,354,086	$ 1,319,535	$ 1,284,983	$ 2,655,522	$ 2,655,522
Investment Earnings For Operational Expenses	$ 37,757	$ 55,426	$ 68,546	$ 54,501	$ 65,058
Sub-Total Income for Operational Expenses	$ 2,798,093	$ 2,816,366	$ 2,830,092	$ 2,815,492	$ 2,826,049
Operational Expense		$ 109,961			
Services					
Field/Bio Staff Costs	$ 802,645	$ 885,527	$ 901,023	$ 919,044	$ 937,425
Administrative Staff Costs	$ 369,104	$ 407,218	$ 414,344	$ 422,631	$ 431,084
Professional Services - Audit & Legal	$ 20,000	$ 40,600	$ 41,311	$ 42,137	$ 42,979
Operating Expenses					
Postage, Mailing Service	$ 1,748	$ 1,929	$ 1,962	$ 2,001	$ 2,041
Printing and Copying	$ 3,220	$ 3,553	$ 3,615	$ 3,687	$ 3,761
Supplies	$ 4,600	$ 5,075	$ 5,164	$ 5,267	$ 5,372
Office Rent (Administrative)	$ 16,100	$ 17,763	$ 18,073	$ 18,435	$ 18,804
Home Office	$ 11,960	$ 13,195	$ 13,426	$ 13,694	$ 13,968
Equipment	$ 14,250	$ 14,464	$ 14,717	$ 15,011	$ 15,311
IT Cloud, Licenses and Software fees	$ 172,700	$ 175,291	$ 178,358	$ 181,925	$ 185,564
Aerial Surveys - Flights	$ 425,000	$ 431,375	$ 438,924	$ 447,703	$ 456,657
Phone - Cell	$ 12,420	$ 13,703	$ 13,942	$ 14,221	$ 14,506
Internet Access home and Admin Office	$ 20,810	$ 22,959	$ 23,361	$ 23,828	$ 24,305
Insurance	$ 4,600	$ 5,075	$ 5,164	$ 5,267	$ 5,372
Miscellaneous	$ 27,600	$ 30,450	$ 30,983	$ 31,603	$ 32,235
Vehicle rental	$ 91,080	$ 100,485	$ 102,244	$ 104,288	$ 106,374
Conference, Convention, Meeting Travel	$ 3,220	$ 3,553	$ 3,615	$ 3,687	$ 3,761
Project Travel	$ 135,792	$ 149,814	$ 152,436	$ 155,484	$ 158,594
Sub - Total Expense	$ 2,136,849	$ 2,322,026	$ 2,362,661	$ 2,409,914	$ 2,458,113
General Operations	$ 106,842	$ 116,101	$ 118,133	$ 120,496	$ 122,906
TOTAL - Operational Expenses	$ 2,243,692	$ 2,438,127	$ 2,480,794	$ 2,530,410	$ 2,581,018
Net Income (Loss) Transfer To (From) Trust Fund	$ 554,402	$ 378,239	$ 349,298	$ 285,082	$ 245,031
Total Operational Expenses and Transfers	$ 2,798,093	$ 2,816,366	$ 2,830,092	$ 2,815,492	$ 2,826,049
TOTAL EXPENSES & TRANSFERS ALL SOURCES	**$ 22,564,768**	**$ 23,264,219**	**$ 23,758,361**	**$ 23,987,631**	**$ 24,457,604**

Foundation for Western Fish Wildlife
Lesser Prairie Chicken Conservation Delivery Business Plan
10 Year Income, Expense Trust Fund Transfer Estimate
September 16, 2013

	Year 6	Year 7	Year 8	Year 9	Year 10	10 Year Total
LPC Program Income						
Enrollment Fees						
Total Enrollment Fees	$ 843,750	$ 843,750	$ 843,750	$ 843,750	$ 843,750	$ 40,500,000
Impact Fees	$ 21,244,178	$ 21,244,178	$ 21,244,178	$ 21,244,178	$ 21,244,178	$ 180,378,078
Total LPC · Program Income	$ 22,087,928	$ 22,087,928	$ 22,087,928	$ 22,087,928	$ 22,087,928	$ 220,878,078
Total Investment Earnings	$ 2,835,846	$ 3,298,670	$ 3,770,054	$ 4,250,515	$ 4,740,524	$ 26,489,754
Total Estimated Income - All Sources	**$ 24,923,774**	**$ 25,386,598**	**$ 25,857,982**	**$ 26,338,443**	**$ 26,828,452**	**$ 247,367,832**
	Income and Expense: Conservation Offset Trust Fund					
Conservation Offset Income						
From Enrollment Fees	$ 738,281	$ 738,281	$ 738,281	$ 738,281	$ 738,281	$ 35,437,500
From Impact Fees	$ 18,588,656	$ 18,588,656	$ 18,588,656	$ 18,588,656	$ 18,588,656	$ 157,830,818
Investment Earnings For Cons. Offset Expenses	$ 2,761,166	$ 3,215,779	$ 3,680,484	$ 4,155,923	$ 4,642,701	$ 25,768,910
Sub-Total Conservation Offset Income	$ 22,088,103	$ 22,542,716	$ 23,007,421	$ 23,482,860	$ 23,969,638	$ 219,037,228
Conservation Offset Expenses						
Conservation Contracts with Land Owners						
Short term Incentive Payments	$ 69,750	$ 69,750	$ 69,750	$ 69,750	$ 69,750	$ 697,500
Long Term Easement Acquisition	$ 3,875,000	$ 3,875,000	$ 3,875,000	$ 3,875,000	$ 3,875,000	$ 36,812,500
Short & Long term Restoration/Maint Payments	$ 5,454,938	$ 5,866,115	$ 6,277,291	$ 6,688,467	$ 7,099,643	$ 43,528,394
Long Term Restoration Cost	$ 1,793,505	$ 1,793,505	$ 1,793,505	$ 1,793,505	$ 1,793,505	$ 16,141,545
Sub-Total Conservation Offset Expenses	$ 11,193,193	$ 11,604,370	$ 12,015,546	$ 12,426,722	$ 12,837,898	$ 97,179,939
Net Income (Loss) Transfer To (From) Trust Fund	$ 10,894,909	$ 10,938,347	$ 10,991,876	$ 11,056,138	$ 11,131,740	$ 121,857,288
Total Conservation Offset Expenses and Transfer	$ 22,088,103	$ 22,542,716	$ 23,007,421	$ 23,482,860	$ 23,969,638	$ 219,037,228
	Income and Expense: Operational Expense Trust Fund					
Income for Operational Expenses						
From Enrollment Fees	$ 105,469	$ 105,469	$ 105,469	$ 105,469	$ 105,469	$ 5,062,500
From Impact Fees	$ 2,655,522	$ 2,655,522	$ 2,655,522	$ 2,655,522	$ 2,655,522	$ 22,547,260
Investment Earnings For Operational Expenses	$ 74,680	$ 82,890	$ 89,570	$ 94,592	$ 97,823	$ 720,844
Sub-Total Income for Operational Expenses	$ 2,835,671	$ 2,843,882	$ 2,850,561	$ 2,855,583	$ 2,858,814	$ 28,330,604
Operational Expense						
Services						
Field/Bio Staff Costs	$ 956,173	$ 975,297	$ 994,803	$ 1,014,699	$ 1,034,993	$ 9,421,627
Administrative Staff Costs	$ 439,706	$ 448,500	$ 457,470	$ 466,619	$ 475,951	$ 4,332,626
Professional Services - Audit & Legal	$ 43,839	$ 44,716	$ 45,610	$ 46,522	$ 47,453	$ 415,167
Operating Expenses						
Postage, Mailing Service	$ 2,082	$ 2,124	$ 2,166	$ 2,210	$ 2,254	$ 20,517
Printing and Copying	$ 3,836	$ 3,913	$ 3,991	$ 4,071	$ 4,152	$ 37,797
Supplies	$ 5,480	$ 5,589	$ 5,701	$ 5,815	$ 5,932	$ 53,995
Office Rent (Administrative)	$ 19,180	$ 19,563	$ 19,955	$ 20,354	$ 20,761	$ 188,986
Home Office	$ 14,248	$ 14,533	$ 14,823	$ 15,120	$ 15,422	$ 140,390
Equipment	$ 15,618	$ 15,930	$ 16,249	$ 16,574	$ 16,905	$ 155,028
IT Cloud, Licenses and Software fees	$ 189,275	$ 193,061	$ 196,922	$ 200,860	$ 204,877	$ 1,878,833
Aerial Surveys - Flights	$ 465,790	$ 475,106	$ 484,608	$ 494,300	$ 504,186	$ 4,623,647
Phone - Cell	$ 14,796	$ 15,092	$ 15,393	$ 15,701	$ 16,015	$ 145,788
Internet Access home and Admin Office	$ 24,791	$ 25,287	$ 25,793	$ 26,308	$ 26,835	$ 244,277
Insurance	$ 5,480	$ 5,589	$ 5,701	$ 5,815	$ 5,932	$ 53,995
Miscellaneous	$ 32,879	$ 33,537	$ 34,208	$ 34,892	$ 35,590	$ 323,976
Vehicle rental	$ 108,502	$ 110,672	$ 112,885	$ 115,143	$ 117,446	$ 1,069,118
Conference, Convention, Meeting Travel	$ 3,836	$ 3,913	$ 3,991	$ 4,071	$ 4,152	$ 37,797
Project Travel	$ 161,766	$ 165,001	$ 168,301	$ 171,667	$ 175,101	$ 1,593,957
Sub - Total Expense	$ 2,507,275	$ 2,557,420	$ 2,608,569	$ 2,660,740	$ 2,713,955	$ 24,737,522
General Operations	$ 125,364	$ 127,871	$ 130,428	$ 133,037	$ 135,698	$ 1,236,876
TOTAL - Operational Expenses	$ 2,632,639	$ 2,685,291	$ 2,738,997	$ 2,793,777	$ 2,849,653	$ 25,974,398
Net Income (Loss) Transfer To (From) Trust Fund	$ 203,033	$ 158,590	$ 111,563	$ 61,806	$ 9,161	$ 2,356,206
Total Operational Expenses and Transfers	$ 2,835,671	$ 2,843,882	$ 2,850,561	$ 2,855,583	$ 2,858,814	$ 28,330,604
TOTAL EXPENSES & TRANSFERS ALL SOURCES	**$ 24,923,774**	**$ 25,386,598**	**$ 25,857,982**	**$ 26,338,443**	**$ 26,828,452**	**$ 247,367,832**

FWFW

Monthly Fund Balances, Income, and Expenses Projections $ 10,832,688

Conservation Offset Trust Fund

	Year	1	1	1	1	1	1	1	1	1	1	1	1	Year 1
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ -	$ 3,969,763	$ 11,038,440	$ 11,567,540	$ 12,008,562	$ 12,556,155	$ 13,203,714	$ 13,951,708	$ 14,703,661	$ 15,498,525	$ 16,317,047	$ 17,130,285	$ -
	Income/Exp Category													
	Income - enrollment	$ 3,281,250	$ 6,562,500											$ 9,843,750
	Income - Impact	$ 789,884	$ 789,884	$ 789,884	$ 789,884	$ 789,884	$ 789,884	$ 789,884	$ 789,884	$ 789,884	$ 789,884	$ 789,884	$ 789,884	$ 9,478,602
	Investment Income Transfer for Cons Offset		$ 6,612	$ 24,998	$ 37,653	$ 39,269	$ 40,916	$ 42,906	$ 45,231	$ 47,729	$ 50,306	$ 52,993	$ 55,711	$ 444,323
	Conservation Offset Income	$ 4,071,134	$ 7,358,996	$ 814,882	$ 827,537	$ 829,152	$ 830,799	$ 832,790	$ 835,114	$ 837,613	$ 840,189	$ 842,876	$ 845,594	$ 19,766,675
	Conservation Offset Expenses	$ 103,850	$ 299,693	$ 299,902	$ 401,241	$ 296,903	$ 199,330	$ 101,758	$ 101,060	$ 61,613	$ 41,540	$ 50,530	$ 49,833	$ 2,007,250
	Cash from Operations	$ 3,967,284	$ 7,059,303	$ 514,980	$ 426,296	$ 532,250	$ 631,469	$ 731,032	$ 734,054	$ 776,000	$ 798,649	$ 792,346	$ 795,762	$ 17,759,425
	Estimated Investment Earnings	$ 9,092	$ 34,372	$ 51,773	$ 53,995	$ 56,259	$ 58,996	$ 62,192	$ 65,628	$ 69,170	$ 72,865	$ 76,602	$ 80,337	$ 691,282
	Est. Rate of Earnings	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	$ 1
	Est. CPI to Ret to Bal	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	$ 0
Transfer	Investment Earnings to Trust Fund Balance	$ 2,480	$ 9,374	$ 14,120	$ 14,726	$ 15,343	$ 16,090	$ 16,962	$ 17,898	$ 18,865	$ 19,872	$ 20,892	$ 21,910	$ 188,532
	Ending Trust Fund Balance	**$ 3,969,763**	**$ 11,038,440**	**$ 11,567,540**	**$ 12,008,562**	**$ 12,556,155**	**$ 13,203,714**	**$ 13,951,708**	**$ 14,703,661**	**$ 15,498,525**	**$ 16,317,047**	**$ 17,130,285**	**$ 17,947,957**	**$ 17,947,957**
	Investment Earnings for Conservation Offset Exp	$ 6,612	$ 24,998	$ 37,653	$ 39,269	$ 40,916	$ 42,906	$ 45,231	$ 47,729	$ 50,306	$ 52,993	$ 55,711	$ 58,427	$ 502,750
	EXPENSES AND TRANSFER DETAIL													
	Short term Incentive Payments	$ 6,975	$ 9,068	$ 9,277	$ 13,741	$ 6,278	$ 5,580	$ 4,883	$ 4,185	$ 3,488	$ 2,790	$ 2,093	$ 1,395	$ 69,750
	Long Term Easement Acquisition	$ 96,875	$ 290,625	$ 290,625	$ 387,500	$ 290,625	$ 193,750	$ 96,875	$ 96,875	$ 58,125	$ 38,750	$ 48,438	$ 48,438	$ 1,937,500
	Short Term Restoration/ST & LT Maint Payments	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
	Long Term Restoration Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Sub-Total Conservation Offset Expenses	$ 103,850	$ 299,693	$ 299,902	$ 401,241	$ 296,903	$ 199,330	$ 101,758	$ 101,060	$ 61,613	$ 41,540	$ 50,530	$ 49,833	$ 2,007,250
	Income From Operations Transfer to Trust Fund	$ 3,967,284	$ 7,059,303	$ 514,980	$ 426,296	$ 532,250	$ 631,469	$ 731,032	$ 734,054	$ 776,000	$ 798,649	$ 792,346	$ 795,762	$ 17,759,425
	Total Expenses and Transfers From Income	$ 4,071,134	$ 7,358,996	$ 814,882	$ 827,537	$ 829,152	$ 830,799	$ 832,790	$ 835,114	$ 837,613	$ 840,189	$ 842,876	$ 845,594	$ 19,766,675

Operational Expense Trust Fund

	Year	1	1	1	1	1	1	1	1	1	1	1	1	Year 1
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ -	$ 332,622	$ 1,292,062	$ 1,306,162	$ 1,301,625	$ 1,276,822	$ 1,231,663	$ 1,166,054	$ 1,100,178	$ 1,013,724	$ 926,908	$ 772,782	$ -
	Income/Exp Category													
	Income - enrollment	$ 468,281	$ 937,969											$ 1,406,250
	Income - Impact	$ 112,841	$ 112,841	$ 112,841	$ 112,841	$ 112,841	$ 112,841	$ 112,841	$ 112,841	$ 112,841	$ 112,841	$ 112,841	$ 112,841	$ 1,354,086
	Investment income for Ops		$ 554	$ 2,706	$ 4,328	$ 4,344	$ 4,295	$ 4,178	$ 3,994	$ 3,775	$ 3,521	$ 3,232	$ 2,831	$ 37,757
	Sub-Total Income for Operational Expenses	$ 581,122	$ 1,051,363	$ 115,547	$ 117,168	$ 117,184	$ 117,135	$ 117,019	$ 116,834	$ 116,615	$ 116,361	$ 116,073	$ 115,672	$ 2,798,093
	Operational Expenses	$ 248,707	$ 92,938	$ 103,070	$ 123,334	$ 143,598	$ 163,862	$ 184,125	$ 184,125	$ 204,389	$ 204,389	$ 271,260	$ 319,894	$ 2,243,692
	Cash from Operations	332,414	958,425	12,477	(6,166)	(26,414)	(46,726)	(67,107)	(67,291)	(87,774)	(88,028)	(155,188)	(204,222)	554,401
	Estimated Investment Earnings	$ 762	$ 3,721	$ 5,951	$ 5,972	$ 5,905	$ 5,745	$ 5,491	$ 5,190	$ 4,841	$ 4,445	$ 3,893	$ 3,074	$ 54,990
	Est. Rate of Earnings	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	
	Est. CPI to Ret to Bal	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
	Investment Earnings to Trust Fund Balance	$ 208	$ 1,015	$ 1,623	$ 1,629	$ 1,611	$ 1,567	$ 1,498	$ 1,416	$ 1,320	$ 1,212	$ 1,062	$ 838	$ 14,997
	Ending Trust Fund Balance	**$ 332,622**	**$ 1,292,062**	**$ 1,306,162**	**$ 1,301,625**	**$ 1,276,822**	**$ 1,231,663**	**$ 1,166,054**	**$ 1,100,178**	**$ 1,013,724**	**$ 926,908**	**$ 772,782**	**$ 569,398**	**$ 569,398**
	Investment Earnings For Operational Expenses	$ 554	$ 2,706	$ 4,328	$ 4,344	$ 4,295	$ 4,178	$ 3,994	$ 3,775	$ 3,521	$ 3,232	$ 2,831	$ 2,236	$ 39,993
	EXPENSES AND TRANSFER DETAIL													
	Field/Bio Staff Costs	$ 20,066	$ 36,119	$ 40,132	$ 48,159	$ 56,185	$ 64,212	$ 72,238	$ 72,238	$ 80,264	$ 80,264	$ 106,752	$ 126,015	$ 802,645
	Administrative Staff Costs	$ 9,228	$ 16,610	$ 18,455	$ 22,146	$ 25,837	$ 29,528	$ 33,219	$ 33,219	$ 36,910	$ 36,910	$ 49,091	$ 57,949	$ 369,104
	Professional Services - Audit & Legal	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 1,667	$ 20,000
	Subtotal Contract/Personnel Services	$ 30,960	$ 54,395	$ 60,254	$ 71,972	$ 83,689	$ 95,407	$ 107,124	$ 107,124	$ 118,842	$ 118,842	$ 157,509	$ 185,631	$ 1,191,749
	Postage, Mailing Service	$ 44	$ 79	$ 87	$ 105	$ 122	$ 140	$ 157	$ 157	$ 175	$ 175	$ 232	$ 274	$ 1,748
	Printing and Copying	$ 81	$ 145	$ 161	$ 193	$ 225	$ 258	$ 290	$ 290	$ 322	$ 322	$ 428	$ 506	$ 3,220
	Supplies	$ 115	$ 207	$ 230	$ 276	$ 322	$ 368	$ 414	$ 414	$ 460	$ 460	$ 612	$ 722	$ 4,600
	Office Rent (Administrative)	$ 403	$ 725	$ 805	$ 966	$ 1,127	$ 1,288	$ 1,449	$ 1,449	$ 1,610	$ 1,610	$ 2,141	$ 2,528	$ 16,100
	Home Office	$ 299	$ 538	$ 598	$ 718	$ 837	$ 957	$ 1,076	$ 1,076	$ 1,196	$ 1,196	$ 1,591	$ 1,878	$ 11,960
	Equipment	$ 14,250												$ 14,250
	IT Cloud, Licenses and Software fees	$ 172,700												$ 172,700
	Aerial Surveys - Flights	$ 10,625	$ 19,125	$ 21,250	$ 25,500	$ 29,750	$ 34,000	$ 38,250	$ 38,250	$ 42,500	$ 42,500	$ 56,525	$ 66,725	$ 425,000
	Phone - Cell	$ 311	$ 559	$ 621	$ 745	$ 869	$ 994	$ 1,118	$ 1,118	$ 1,242	$ 1,242	$ 1,652	$ 1,950	$ 12,420
	Internet Access home and Admin Office	$ 520	$ 936	$ 1,041	$ 1,249	$ 1,457	$ 1,665	$ 1,873	$ 1,873	$ 2,081	$ 2,081	$ 2,768	$ 3,267	$ 20,810
	Insurance	$ 115	$ 207	$ 230	$ 276	$ 322	$ 368	$ 414	$ 414	$ 460	$ 460	$ 612	$ 722	$ 4,600
	Miscellaneous	$ 690	$ 1,242	$ 1,380	$ 1,656	$ 1,932	$ 2,208	$ 2,484	$ 2,484	$ 2,760	$ 2,760	$ 3,671	$ 4,333	$ 27,600
	Subtotal Operating/IT Expenses	$ 200,151	$ 23,763	$ 26,403	$ 31,684	$ 36,964	$ 42,245	$ 47,525	$ 47,525	$ 52,806	$ 52,806	$ 70,232	$ 82,905	$ 715,008
	Vehicle rental	$ 2,277	$ 4,099	$ 4,554	$ 5,465	$ 6,376	$ 7,286	$ 8,197	$ 8,197	$ 9,108	$ 9,108	$ 12,114	$ 14,300	$ 91,080
	Conference, Convention, Meeting Travel	$ 81	$ 145	$ 161	$ 193	$ 225	$ 258	$ 290	$ 290	$ 322	$ 322	$ 428	$ 506	$ 3,220
	Project Travel	$ 3,395	$ 6,111	$ 6,790	$ 8,148	$ 9,505	$ 10,863	$ 12,221	$ 12,221	$ 13,579	$ 13,579	$ 18,060	$ 21,319	$ 135,792
	Subtotal Travel Expenses	$ 5,752	$ 10,354	$ 11,505	$ 13,806	$ 16,106	$ 18,407	$ 20,708	$ 20,708	$ 23,009	$ 23,009	$ 30,602	$ 36,124	$ 230,092
		$ 236,864	$ 88,512	$ 98,162	$ 117,461	$ 136,760	$ 156,059	$ 175,358	$ 175,358	$ 194,657	$ 194,657	$ 258,343	$ 304,661	$ 2,136,849
	General operations	$ 11,843	$ 4,426	$ 4,908	$ 5,873	$ 6,838	$ 7,803	$ 8,768	$ 8,768	$ 9,733	$ 9,733	$ 12,917	$ 15,233	$ 106,843
	Sub-Total Operational Expenses	$ 248,707	$ 92,938	$ 103,070	$ 123,334	$ 143,598	$ 163,862	$ 184,125	$ 184,125	$ 204,389	$ 204,389	$ 271,260	$ 319,894	$ 2,243,692
	Income From Operations Transfer to Trust Fund	$ 332,414	$ 958,425	$ 12,477	$ (6,166)	$ (26,414)	$ (46,726)	$ (67,107)	$ (67,291)	$ (87,774)	$ (88,028)	$ (155,188)	$ (204,222)	$ 554,401
	TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 581,122	$ 1,051,363	$ 115,547	$ 117,168	$ 117,184	$ 117,135	$ 117,019	$ 116,834	$ 116,615	$ 116,361	$ 116,073	$ 115,672	$ 2,798,093
	TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 4,652,255	$ 8,410,359	$ 930,428	$ 944,705	$ 946,337	$ 947,934	$ 949,808	$ 951,949	$ 954,228	$ 956,550	$ 958,949	$ 961,266	$ 22,564,768

FWFW

Monthly Fund Balances, Income, and Expenses Projections

Conservation Offset Trust Fund

	Year	2	2	2	2	2	2	2	2	2	2	2	2	Year 2
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 17,947,957	$ 28,058,934	$ 28,350,862	$ 28,660,494	$ 28,971,515	$ 29,283,959	$ 29,597,833	$ 29,913,143	$ 30,229,896	$ 30,548,098	$ 30,867,757	$ 31,188,878	$ 17,947,957
	Income/Exp Category													
	Income - enrollment	$ 9,864,258	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 10,089,844
	Income - Impact	$ 769,729	$ 769,729	$ 769,729	$ 769,729	$ 769,729	$ 769,729	$ 769,729	$ 769,729	$ 769,729	$ 769,729	$ 769,729	$ 769,729	$ 9,236,742
	Investment Income Transfer for Cons Offset	$ 58,427	$ 76,630	$ 93,958	$ 94,960	$ 95,993	$ 97,032	$ 98,075	$ 99,123	$ 100,176	$ 101,233	$ 102,296	$ 103,363	$ 1,121,266
	Conservation Offset Income	$ 10,692,414	$ 866,867	$ 884,194	$ 885,196	$ 886,230	$ 887,268	$ 888,311	$ 889,359	$ 890,412	$ 891,470	$ 892,532	$ 893,599	$ 20,447,852
	Conservation Offset Expenses	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 7,322,068
	Cash from Operations	$ 10,082,241	$ 256,694	$ 274,022	$ 275,024	$ 276,057	$ 277,096	$ 278,139	$ 279,187	$ 280,240	$ 281,297	$ 282,360	$ 283,427	$ 13,125,784
	Estimated Investment Earnings	$ 105,367	$ 129,192	$ 130,569	$ 131,991	$ 133,419	$ 134,853	$ 136,294	$ 137,742	$ 139,196	$ 140,657	$ 142,124	$ 143,599	$ 1,605,002
	Est. Rate of Earnings	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	$ 1
	Est. CPI to Ret to Bal	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	$ 0
Transfer	Investment Earnings to Trust Fund Balance	$ 28,736	$ 35,234	$ 35,610	$ 35,998	$ 36,387	$ 36,778	$ 37,171	$ 37,566	$ 37,963	$ 38,361	$ 38,761	$ 39,163	$ 437,728
	Ending Trust Fund Balance	**$ 28,058,934**	**$ 28,350,862**	**$ 28,660,494**	**$ 28,971,515**	**$ 29,283,959**	**$ 29,597,833**	**$ 29,913,143**	**$ 30,229,896**	**$ 30,548,098**	**$ 30,867,757**	**$ 31,188,878**	**$ 31,511,468**	**$ 31,511,468**
	Investment Earnings for Conservation Offset Exp	$ 76,630	$ 93,958	$ 94,960	$ 95,993	$ 97,032	$ 98,075	$ 99,123	$ 100,176	$ 101,233	$ 102,296	$ 103,363	$ 104,435	$ 1,167,274
	EXPENSES AND TRANSFER DETAIL													
	Short term Incentive Payments	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 69,750
	Long Term Easement Acquisition	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 3,875,000
	Short Term Restoration/ST & LT Maint Payments	$ 131,984	$ 131,984	$ 131,984	$ 131,984	$ 131,984	$ 131,984	$ 131,984	$ 131,984	$ 131,984	$ 131,984	$ 131,984	$ 131,984	$ 1,583,813
	Long Term Restoration Cost	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 1,793,505
	Sub-Total Conservation Offset Expenses	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 610,172	$ 7,322,068
	Income From Operations Transfer to Trust Fund	$ 10,082,241	$ 256,694	$ 274,022	$ 275,024	$ 276,057	$ 277,096	$ 278,139	$ 279,187	$ 280,240	$ 281,297	$ 282,360	$ 283,427	$ 13,125,784
	Total Expenses and Transfers From Income	$ 10,692,414	$ 866,867	$ 884,194	$ 885,196	$ 886,230	$ 887,268	$ 888,311	$ 889,359	$ 890,412	$ 891,470	$ 892,532	$ 893,599	$ 20,447,852

Operational Expense Trust Fund

	Year	2	2	2	2	2	2	2	2	2	2	2	2	Year 2
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 569,398	$ 1,889,133	$ 1,805,249	$ 1,723,320	$ 1,641,012	$ 1,558,328	$ 1,475,265	$ 1,391,822	$ 1,307,998	$ 1,223,790	$ 1,139,196	$ 1,054,215	$ 569,398
	Income/Exp Category													
	Income - enrollment	$ 1,409,180	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 1,441,406
	Income - Impact	$ 109,961	$ 109,961	$ 109,961	$ 109,961	$ 109,961	$ 109,961	$ 109,961	$ 109,961	$ 109,961	$ 109,961	$ 109,961	$ 109,961	$ 1,319,535
	Investment income for Ops	$ 2,236	$ 4,095	$ 6,154	$ 5,877	$ 5,604	$ 5,329	$ 5,053	$ 4,776	$ 4,497	$ 4,217	$ 3,936	$ 3,653	$ 55,426
	Sub-Total Income for Operational Expenses	$ 1,521,377	$ 116,986	$ 119,044	$ 118,768	$ 118,495	$ 118,220	$ 117,944	$ 117,666	$ 117,388	$ 117,108	$ 116,827	$ 116,544	$ 2,816,366
	Operational Expenses	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 2,438,128
	Cash from Operations	1,318,199	(86,191)	(84,133)	(84,409)	(84,683)	(84,957)	(85,234)	(85,511)	(85,790)	(86,069)	(86,351)	(86,633)	378,238
	Estimated Investment Earnings	$ 5,631	$ 8,461	$ 8,081	$ 7,705	$ 7,327	$ 6,948	$ 6,566	$ 6,183	$ 5,798	$ 5,412	$ 5,023	$ 4,633	$ 77,769
	Est. Rate of Earnings	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	
	Est. CPI to Ret to Bal	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	
	Investment Earnings to Trust Fund Balance	$ 1,536	$ 2,308	$ 2,204	$ 2,101	$ 1,998	$ 1,895	$ 1,791	$ 1,686	$ 1,581	$ 1,476	$ 1,370	$ 1,264	$ 21,210
	Ending Trust Fund Balance	**$ 1,889,133**	**$ 1,805,249**	**$ 1,723,320**	**$ 1,641,012**	**$ 1,558,328**	**$ 1,475,265**	**$ 1,391,822**	**$ 1,307,998**	**$ 1,223,790**	**$ 1,139,196**	**$ 1,054,215**	**$ 968,846**	**$ 968,846**
	Investment Earnings For Operational Expenses	$ 4,095	$ 6,154	$ 5,877	$ 5,604	$ 5,329	$ 5,053	$ 4,776	$ 4,497	$ 4,217	$ 3,936	$ 3,653	$ 3,370	$ 56,560
	EXPENSES AND TRANSFER DETAIL													
	Field/Bio Staff Costs	$ 73,794	$ 73,794	$ 73,794	$ 73,794	$ 73,794	$ 73,794	$ 73,794	$ 73,794	$ 73,794	$ 73,794	$ 73,794	$ 73,794	$ 885,527
	Administrative Staff Costs	$ 33,935	$ 33,935	$ 33,935	$ 33,935	$ 33,935	$ 33,935	$ 33,935	$ 33,935	$ 33,935	$ 33,935	$ 33,935	$ 33,935	$ 407,218
	Professional Services - Audit & Legal	$ 3,383	$ 3,383	$ 3,383	$ 3,383	$ 3,383	$ 3,383	$ 3,383	$ 3,383	$ 3,383	$ 3,383	$ 3,383	$ 3,383	$ 40,600
	Subtotal Contract/Personnel Services	$ 111,112	$ 111,112	$ 111,112	$ 111,112	$ 111,112	$ 111,112	$ 111,112	$ 111,112	$ 111,112	$ 111,112	$ 111,112	$ 111,112	$ 1,333,345
	Postage, Mailing Service	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 161	$ 1,929
	Printing and Copying	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 3,553
	Supplies	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 5,075
	Office Rent (Administrative)	$ 1,480	$ 1,480	$ 1,480	$ 1,480	$ 1,480	$ 1,480	$ 1,480	$ 1,480	$ 1,480	$ 1,480	$ 1,480	$ 1,480	$ 17,763
	Home Office	$ 1,100	$ 1,100	$ 1,100	$ 1,100	$ 1,100	$ 1,100	$ 1,100	$ 1,100	$ 1,100	$ 1,100	$ 1,100	$ 1,100	$ 13,195
	Equipment	$ 1,205	$ 1,205	$ 1,205	$ 1,205	$ 1,205	$ 1,205	$ 1,205	$ 1,205	$ 1,205	$ 1,205	$ 1,205	$ 1,205	$ 14,464
	IT Cloud, Licenses and Software fees	$ 14,608	$ 14,608	$ 14,608	$ 14,608	$ 14,608	$ 14,608	$ 14,608	$ 14,608	$ 14,608	$ 14,608	$ 14,608	$ 14,608	$ 175,291
	Aerial Surveys - Flights	$ 35,948	$ 35,948	$ 35,948	$ 35,948	$ 35,948	$ 35,948	$ 35,948	$ 35,948	$ 35,948	$ 35,948	$ 35,948	$ 35,948	$ 431,375
	Phone - Cell	$ 1,142	$ 1,142	$ 1,142	$ 1,142	$ 1,142	$ 1,142	$ 1,142	$ 1,142	$ 1,142	$ 1,142	$ 1,142	$ 1,142	$ 13,703
	Internet Access home and Admin Office	$ 1,913	$ 1,913	$ 1,913	$ 1,913	$ 1,913	$ 1,913	$ 1,913	$ 1,913	$ 1,913	$ 1,913	$ 1,913	$ 1,913	$ 22,959
	Insurance	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 423	$ 5,075
	Miscellaneous	$ 2,538	$ 2,538	$ 2,538	$ 2,538	$ 2,538	$ 2,538	$ 2,538	$ 2,538	$ 2,538	$ 2,538	$ 2,538	$ 2,538	$ 30,450
	Subtotal Operating/IT Expenses	$ 61,236	$ 61,236	$ 61,236	$ 61,236	$ 61,236	$ 61,236	$ 61,236	$ 61,236	$ 61,236	$ 61,236	$ 61,236	$ 61,236	$ 734,830
	Vehicle rental	$ 8,374	$ 8,374	$ 8,374	$ 8,374	$ 8,374	$ 8,374	$ 8,374	$ 8,374	$ 8,374	$ 8,374	$ 8,374	$ 8,374	$ 100,485
	Conference, Convention, Meeting Travel	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 296	$ 3,553
	Project Travel	$ 12,485	$ 12,485	$ 12,485	$ 12,485	$ 12,485	$ 12,485	$ 12,485	$ 12,485	$ 12,485	$ 12,485	$ 12,485	$ 12,485	$ 149,814
	Subtotal Travel Expenses	$ 21,154	$ 21,154	$ 21,154	$ 21,154	$ 21,154	$ 21,154	$ 21,154	$ 21,154	$ 21,154	$ 21,154	$ 21,154	$ 21,154	$ 253,852
		$ 193,502	$ 193,502	$ 193,502	$ 193,502	$ 193,502	$ 193,502	$ 193,502	$ 193,502	$ 193,502	$ 193,502	$ 193,502	$ 193,502	$ 2,322,026
	General operations	$ 9,675	$ 9,675	$ 9,675	$ 9,675	$ 9,675	$ 9,675	$ 9,675	$ 9,675	$ 9,675	$ 9,675	$ 9,675	$ 9,675	$ 116,102
	Sub-Total Operational Expenses	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 203,177	$ 2,438,128
	Income From Operations Transfer to Trust Fund	$ 1,318,199	$ (86,191)	$ (84,133)	$ (84,409)	$ (84,683)	$ (84,957)	$ (85,234)	$ (85,511)	$ (85,790)	$ (86,069)	$ (86,351)	$ (86,633)	$ 378,238
	TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 1,521,377	$ 116,986	$ 119,044	$ 118,768	$ 118,495	$ 118,220	$ 117,944	$ 117,666	$ 117,388	$ 117,108	$ 116,827	$ 116,544	$ 2,816,366
	TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 12,213,790	$ 983,853	$ 1,003,238	$ 1,003,964	$ 1,004,724	$ 1,005,488	$ 1,006,255	$ 1,007,026	$ 1,007,800	$ 1,008,578	$ 1,009,359	$ 1,010,144	$ 23,264,219

FWFW

Monthly Fund Balances, Income, and Expenses Projections

Conservation Offset Trust Fund

	Year	3	3	3	3	3	3	3	3	3	3	3	3	Year 3
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 31,511,468	$ 41,836,129	$ 42,090,734	$ 42,362,560	$ 42,635,604	$ 42,909,898	$ 43,185,447	$ 43,462,257	$ 43,740,334	$ 44,019,683	$ 44,300,310	$ 44,582,222	$ 31,511,468
	Income/Exp Category													
	Income - enrollment	$ 10,110,352	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 20,508	$ 10,335,938
	Income - Impact	$ 749,574	$ 749,574	$ 749,574	$ 749,574	$ 749,574	$ 749,574	$ 749,574	$ 749,574	$ 749,574	$ 749,574	$ 749,574	$ 749,574	$ 8,994,882
	Investment Income Transfer for Cons Offset	$ 104,435	$ 116,849	$ 133,703	$ 134,542	$ 135,410	$ 136,282	$ 137,158	$ 138,038	$ 138,922	$ 139,810	$ 140,702	$ 141,598	$ 1,597,449
	Conservation Offset Income	$ 10,964,360	$ 886,931	$ 903,785	$ 904,623	$ 905,491	$ 906,363	$ 907,239	$ 908,119	$ 909,003	$ 909,891	$ 910,783	$ 911,679	$ 20,928,268
	Conservation Offset Expenses	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 8,289,850
	Cash from Operations	$ 10,273,540	$ 196,110	$ 212,964	$ 213,802	$ 214,670	$ 215,542	$ 216,418	$ 217,298	$ 218,182	$ 219,070	$ 219,962	$ 220,859	$ 12,638,419
	Estimated Investment Earnings	$ 167,971	$ 192,198	$ 193,404	$ 194,652	$ 195,905	$ 197,164	$ 198,429	$ 199,700	$ 200,977	$ 202,259	$ 203,547	$ 204,841	$ 2,351,048
	Est. Rate of Earnings	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	$ 1
	Est. CPI to Ret to Bal	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	$ 0
Transfer	Investment Earnings to Trust Fund Balance	$ 51,122	$ 58,495	$ 58,862	$ 59,242	$ 59,623	$ 60,007	$ 60,392	$ 60,778	$ 61,167	$ 61,557	$ 61,949	$ 62,343	$ 715,536
	Ending Trust Fund Balance	**$ 41,836,129**	**$ 42,090,734**	**$ 42,362,560**	**$ 42,635,604**	**$ 42,909,898**	**$ 43,185,447**	**$ 43,462,257**	**$ 43,740,334**	**$ 44,019,683**	**$ 44,300,310**	**$ 44,582,222**	**$ 44,865,423**	**$ 44,865,423**
	Investment Earnings for Conservation Offset Exp	$ 116,849	$ 133,703	$ 134,542	$ 135,410	$ 136,282	$ 137,158	$ 138,038	$ 138,922	$ 139,810	$ 140,702	$ 141,598	$ 142,498	$ 1,635,511
	EXPENSES AND TRANSFER DETAIL													
	Short term Incentive Payments	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 69,750
	Long Term Easement Acquisition	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 3,875,000
	Short Term Restoration/ST & LT Maint Payments	$ 212,633	$ 212,633	$ 212,633	$ 212,633	$ 212,633	$ 212,633	$ 212,633	$ 212,633	$ 212,633	$ 212,633	$ 212,633	$ 212,633	$ 2,551,595
	Long Term Restoration Cost	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 1,793,505
	Sub-Total Conservation Offset Expenses	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 690,821	$ 8,289,850
	Income From Operations Transfer to Trust Fund	$ 10,273,540	$ 196,110	$ 212,964	$ 213,802	$ 214,670	$ 215,542	$ 216,418	$ 217,298	$ 218,182	$ 219,070	$ 219,962	$ 220,859	$ 12,638,419
	Total Expenses and Transfers From Income	$ 10,964,360	$ 886,931	$ 903,785	$ 904,623	$ 905,491	$ 906,363	$ 907,239	$ 908,119	$ 909,003	$ 909,891	$ 910,783	$ 911,679	$ 20,928,268

Operational Expense Trust Fund

	Year	3	3	3	3	3	3	3	3	3	3	3	3	Year 3
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 968,846	$ 2,319,192	$ 2,230,880	$ 2,144,457	$ 2,057,635	$ 1,970,416	$ 1,882,797	$ 1,794,777	$ 1,706,355	$ 1,617,528	$ 1,528,295	$ 1,438,653	$ 968,846
	Income/Exp Category													
	Income - enrollment	$ 1,444,336	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 2,930	$ 1,476,563
	Income - Impact	$ 107,082	$ 107,082	$ 107,082	$ 107,082	$ 107,082	$ 107,082	$ 107,082	$ 107,082	$ 107,082	$ 107,082	$ 107,082	$ 107,082	$ 1,284,983
	Investment income for Ops	$ 3,370	$ 5,238	$ 7,249	$ 6,970	$ 6,694	$ 6,417	$ 6,139	$ 5,859	$ 5,578	$ 5,295	$ 5,012	$ 4,727	$ 68,546
	Sub-Total Income for Operational Expenses	$ 1,554,788	$ 115,250	$ 117,260	$ 116,982	$ 116,706	$ 116,429	$ 116,150	$ 115,870	$ 115,589	$ 115,307	$ 115,023	$ 114,738	$ 2,830,092
	Operational Expenses	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 2,480,795
	Cash from Operations	1,348,055	(91,483)	(89,473)	(89,751)	(90,027)	(90,304)	(90,583)	(90,863)	(91,144)	(91,426)	(91,710)	(91,995)	349,297
	Estimated Investment Earnings	$ 7,530	$ 10,420	$ 10,020	$ 9,623	$ 9,225	$ 8,824	$ 8,422	$ 8,018	$ 7,612	$ 7,204	$ 6,795	$ 6,383	$ 100,075
	Est. Rate of Earnings	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	5.75%	
	Est. CPI to Ret to Bal	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	1.75%	
	Investment Earnings to Trust Fund Balance	$ 2,292	$ 3,171	$ 3,050	$ 2,929	$ 2,808	$ 2,686	$ 2,563	$ 2,440	$ 2,317	$ 2,193	$ 2,068	$ 1,943	$ 30,458
	Ending Trust Fund Balance	**$ 2,319,192**	**$ 2,230,880**	**$ 2,144,457**	**$ 2,057,635**	**$ 1,970,416**	**$ 1,882,797**	**$ 1,794,777**	**$ 1,706,355**	**$ 1,617,528**	**$ 1,528,295**	**$ 1,438,653**	**$ 1,348,601**	**$ 1,348,601**
	Investment Earnings For Operational Expenses	$ 5,238	$ 7,249	$ 6,970	$ 6,694	$ 6,417	$ 6,139	$ 5,859	$ 5,578	$ 5,295	$ 5,012	$ 4,727	$ 4,440	$ 69,617
	EXPENSES AND TRANSFER DETAIL													
	Field/Bio Staff Costs	$ 75,085	$ 75,085	$ 75,085	$ 75,085	$ 75,085	$ 75,085	$ 75,085	$ 75,085	$ 75,085	$ 75,085	$ 75,085	$ 75,085	$ 901,023
	Administrative Staff Costs	$ 34,529	$ 34,529	$ 34,529	$ 34,529	$ 34,529	$ 34,529	$ 34,529	$ 34,529	$ 34,529	$ 34,529	$ 34,529	$ 34,529	$ 414,344
	Professional Services - Audit & Legal	$ 3,443	$ 3,443	$ 3,443	$ 3,443	$ 3,443	$ 3,443	$ 3,443	$ 3,443	$ 3,443	$ 3,443	$ 3,443	$ 3,443	$ 41,311
	Subtotal Contract/Personnel Services	$ 113,057	$ 113,057	$ 113,057	$ 113,057	$ 113,057	$ 113,057	$ 113,057	$ 113,057	$ 113,057	$ 113,057	$ 113,057	$ 113,057	$ 1,356,678
	Postage, Mailing Service	$ 164	$ 164	$ 164	$ 164	$ 164	$ 164	$ 164	$ 164	$ 164	$ 164	$ 164	$ 164	$ 1,962
	Printing and Copying	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 3,615
	Supplies	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 5,164
	Office Rent (Administrative)	$ 1,506	$ 1,506	$ 1,506	$ 1,506	$ 1,506	$ 1,506	$ 1,506	$ 1,506	$ 1,506	$ 1,506	$ 1,506	$ 1,506	$ 18,073
	Home Office	$ 1,119	$ 1,119	$ 1,119	$ 1,119	$ 1,119	$ 1,119	$ 1,119	$ 1,119	$ 1,119	$ 1,119	$ 1,119	$ 1,119	$ 13,426
	Equipment	$ 1,226	$ 1,226	$ 1,226	$ 1,226	$ 1,226	$ 1,226	$ 1,226	$ 1,226	$ 1,226	$ 1,226	$ 1,226	$ 1,226	$ 14,717
	IT Cloud, Licenses and Software fees	$ 14,863	$ 14,863	$ 14,863	$ 14,863	$ 14,863	$ 14,863	$ 14,863	$ 14,863	$ 14,863	$ 14,863	$ 14,863	$ 14,863	$ 178,358
	Aerial Surveys - Flights	$ 36,577	$ 36,577	$ 36,577	$ 36,577	$ 36,577	$ 36,577	$ 36,577	$ 36,577	$ 36,577	$ 36,577	$ 36,577	$ 36,577	$ 438,924
	Phone - Cell	$ 1,162	$ 1,162	$ 1,162	$ 1,162	$ 1,162	$ 1,162	$ 1,162	$ 1,162	$ 1,162	$ 1,162	$ 1,162	$ 1,162	$ 13,942
	Internet Access home and Admin Office	$ 1,947	$ 1,947	$ 1,947	$ 1,947	$ 1,947	$ 1,947	$ 1,947	$ 1,947	$ 1,947	$ 1,947	$ 1,947	$ 1,947	$ 23,361
	Insurance	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 430	$ 5,164
	Miscellaneous	$ 2,582	$ 2,582	$ 2,582	$ 2,582	$ 2,582	$ 2,582	$ 2,582	$ 2,582	$ 2,582	$ 2,582	$ 2,582	$ 2,582	$ 30,983
	Subtotal Operating/IT Expenses	$ 62,307	$ 62,307	$ 62,307	$ 62,307	$ 62,307	$ 62,307	$ 62,307	$ 62,307	$ 62,307	$ 62,307	$ 62,307	$ 62,307	$ 747,689
	Vehicle rental	$ 8,520	$ 8,520	$ 8,520	$ 8,520	$ 8,520	$ 8,520	$ 8,520	$ 8,520	$ 8,520	$ 8,520	$ 8,520	$ 8,520	$ 102,244
	Conference, Convention, Meeting Travel	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 301	$ 3,615
	Project Travel	$ 12,703	$ 12,703	$ 12,703	$ 12,703	$ 12,703	$ 12,703	$ 12,703	$ 12,703	$ 12,703	$ 12,703	$ 12,703	$ 12,703	$ 152,436
	Subtotal Travel Expenses	$ 21,524	$ 21,524	$ 21,524	$ 21,524	$ 21,524	$ 21,524	$ 21,524	$ 21,524	$ 21,524	$ 21,524	$ 21,524	$ 21,524	$ 258,294
		$ 196,888	$ 196,888	$ 196,888	$ 196,888	$ 196,888	$ 196,888	$ 196,888	$ 196,888	$ 196,888	$ 196,888	$ 196,888	$ 196,888	$ 2,362,661
	General operations	$ 9,845	$ 9,845	$ 9,845	$ 9,845	$ 9,845	$ 9,845	$ 9,845	$ 9,845	$ 9,845	$ 9,845	$ 9,845	$ 9,845	$ 118,134
	Sub-Total Operational Expenses	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 206,733	$ 2,480,795
	Income From Operations Transfer to Trust Fund	$ 1,348,055	$ (91,483)	$ (89,473)	$ (89,751)	$ (90,027)	$ (90,304)	$ (90,583)	$ (90,863)	$ (91,144)	$ (91,426)	$ (91,710)	$ (91,995)	$ 349,297
	TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 1,554,788	$ 115,250	$ 117,260	$ 116,982	$ 116,706	$ 116,429	$ 116,150	$ 115,870	$ 115,589	$ 115,307	$ 115,023	$ 114,738	$ 2,830,092
	TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 12,519,148	$ 1,002,181	$ 1,021,045	$ 1,021,605	$ 1,022,197	$ 1,022,792	$ 1,023,389	$ 1,023,989	$ 1,024,592	$ 1,025,198	$ 1,025,806	$ 1,026,418	$ 23,758,361

FWFW

Monthly Fund Balances, Income, and Expenses Projections

Conservation Offset Trust Fund

	Year	4	4	4	4	4	4	4	4	4	4	4	4	Year 4
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 44,865,423	$ 45,916,325	$ 46,964,919	$ 48,018,322	$ 49,076,547	$ 50,139,614	$ 51,207,546	$ 52,280,366	$ 53,358,095	$ 54,440,756	$ 55,528,372	$ 56,620,966	$ 44,865,423
	Income/Exp Category													
	Income - enrollment	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 738,281
	Income - Impact	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 18,588,656
	Investment Income Transfer for Cons Offset	$ 142,498	$ 138,589	$ 141,794	$ 145,002	$ 148,226	$ 151,465	$ 154,718	$ 157,986	$ 161,269	$ 164,567	$ 167,880	$ 171,209	$ 1,845,202
	Conservation Offset Income	$ 1,753,076	$ 1,749,167	$ 1,752,372	$ 1,755,581	$ 1,758,804	$ 1,762,043	$ 1,765,296	$ 1,768,564	$ 1,771,847	$ 1,775,145	$ 1,778,458	$ 1,781,787	$ 21,172,139
	Conservation Offset Expenses	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 9,257,631
	Cash from Operations	$ 981,607	$ 977,697	$ 980,902	$ 984,111	$ 987,335	$ 990,573	$ 993,827	$ 997,095	$ 1,000,378	$ 1,003,676	$ 1,006,989	$ 1,010,317	$ 11,914,508
	Estimated Investment Earnings	$ 207,883	$ 212,690	$ 217,504	$ 222,339	$ 227,197	$ 232,077	$ 236,979	$ 241,903	$ 246,850	$ 251,820	$ 256,813	$ 261,828	$ 2,815,883
	Est. Rate of Earnings	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	$ 1
	Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	$ 0
Transfer	Investment Earnings to Trust Fund Balance	$ 69,294	$ 70,897	$ 72,501	$ 74,113	$ 75,732	$ 77,359	$ 78,993	$ 80,635	$ 82,284	$ 83,940	$ 85,604	$ 87,276	$ 938,628
	Ending Trust Fund Balance	**$ 45,916,325**	**$ 46,964,919**	**$ 48,018,322**	**$ 49,076,547**	**$ 50,139,614**	**$ 51,207,546**	**$ 52,280,366**	**$ 53,358,095**	**$ 54,440,756**	**$ 55,528,372**	**$ 56,620,966**	**$ 57,718,559**	**$ 57,718,559**
	Investment Earnings for Conservation Offset Exp	$ 138,589	$ 141,794	$ 145,002	$ 148,226	$ 151,465	$ 154,718	$ 157,986	$ 161,269	$ 164,567	$ 167,880	$ 171,209	$ 174,552	$ 1,877,255
	EXPENSES AND TRANSFER DETAIL													
	Short term Incentive Payments	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 69,750
	Long Term Easement Acquisition	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 3,875,000
	Short Term Restoration/ST & LT Maint Payments	$ 293,281	$ 293,281	$ 293,281	$ 293,281	$ 293,281	$ 293,281	$ 293,281	$ 293,281	$ 293,281	$ 293,281	$ 293,281	$ 293,281	$ 3,519,376
	Long Term Restoration Cost	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 1,793,505
	Sub-Total Conservation Offset Expenses	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 771,469	$ 9,257,631
	Income From Operations Transfer to Trust Fund	$ 981,607	$ 977,697	$ 980,902	$ 984,111	$ 987,335	$ 990,573	$ 993,827	$ 997,095	$ 1,000,378	$ 1,003,676	$ 1,006,989	$ 1,010,317	$ 11,914,508
	Total Expenses and Transfers From Income	$ 1,753,076	$ 1,749,167	$ 1,752,372	$ 1,755,581	$ 1,758,804	$ 1,762,043	$ 1,765,296	$ 1,768,564	$ 1,771,847	$ 1,775,145	$ 1,778,458	$ 1,781,787	$ 21,172,139

Operational Expense Trust Fund

	Year	4	4	4	4	4	4	4	4	4	4	4	4	Year 4
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 1,348,601	$ 1,374,334	$ 1,399,824	$ 1,425,430	$ 1,451,154	$ 1,476,996	$ 1,502,955	$ 1,529,034	$ 1,555,232	$ 1,581,550	$ 1,607,988	$ 1,634,547	$ 1,348,601
	Income/Exp Category													
	Income - enrollment	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 105,469
	Income - Impact	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 2,655,522
	Investment income for Ops	$ 4,440	$ 4,157	$ 4,235	$ 4,313	$ 4,391	$ 4,470	$ 4,549	$ 4,629	$ 4,709	$ 4,789	$ 4,869	$ 4,950	$ 54,501
	Sub-Total Income for Operational Expenses	$ 234,523	$ 234,239	$ 234,318	$ 234,396	$ 234,474	$ 234,553	$ 234,632	$ 234,711	$ 234,791	$ 234,871	$ 234,952	$ 235,033	$ 2,815,492
	Operational Expenses	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 2,530,411
	Cash from Operations	23,655	23,372	23,450	23,528	23,606	23,685	23,764	23,844	23,923	24,004	24,084	24,165	285,081
	Estimated Investment Earnings	$ 6,235	$ 6,353	$ 6,470	$ 6,587	$ 6,705	$ 6,824	$ 6,943	$ 7,063	$ 7,183	$ 7,304	$ 7,425	$ 7,547	$ 82,638
	Est. Rate of Earnings	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	
	Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	
	Investment Earnings to Trust Fund Balance	$ 2,078	$ 2,118	$ 2,157	$ 2,196	$ 2,235	$ 2,275	$ 2,314	$ 2,354	$ 2,394	$ 2,435	$ 2,475	$ 2,516	$ 27,546
	Ending Trust Fund Balance	**$ 1,374,334**	**$ 1,399,824**	**$ 1,425,430**	**$ 1,451,154**	**$ 1,476,996**	**$ 1,502,955**	**$ 1,529,034**	**$ 1,555,232**	**$ 1,581,550**	**$ 1,607,988**	**$ 1,634,547**	**$ 1,661,228**	**$ 1,661,228**
	Investment Earnings For Operational Expenses	$ 4,157	$ 4,235	$ 4,313	$ 4,391	$ 4,470	$ 4,549	$ 4,629	$ 4,709	$ 4,789	$ 4,869	$ 4,950	$ 5,031	$ 55,092
	EXPENSES AND TRANSFER DETAIL													
	Field/Bio Staff Costs	$ 76,587	$ 76,587	$ 76,587	$ 76,587	$ 76,587	$ 76,587	$ 76,587	$ 76,587	$ 76,587	$ 76,587	$ 76,587	$ 76,587	$ 919,044
	Administrative Staff Costs	$ 35,219	$ 35,219	$ 35,219	$ 35,219	$ 35,219	$ 35,219	$ 35,219	$ 35,219	$ 35,219	$ 35,219	$ 35,219	$ 35,219	$ 422,631
	Professional Services - Audit & Legal	$ 3,511	$ 3,511	$ 3,511	$ 3,511	$ 3,511	$ 3,511	$ 3,511	$ 3,511	$ 3,511	$ 3,511	$ 3,511	$ 3,511	$ 42,137
	Subtotal Contract/Personnel Services	$ 115,318	$ 115,318	$ 115,318	$ 115,318	$ 115,318	$ 115,318	$ 115,318	$ 115,318	$ 115,318	$ 115,318	$ 115,318	$ 115,318	$ 1,383,812
	Postage, Mailing Service	$ 167	$ 167	$ 167	$ 167	$ 167	$ 167	$ 167	$ 167	$ 167	$ 167	$ 167	$ 167	$ 2,001
	Printing and Copying	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 3,687
	Supplies	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 5,267
	Office Rent (Administrative)	$ 1,536	$ 1,536	$ 1,536	$ 1,536	$ 1,536	$ 1,536	$ 1,536	$ 1,536	$ 1,536	$ 1,536	$ 1,536	$ 1,536	$ 18,435
	Home Office	$ 1,141	$ 1,141	$ 1,141	$ 1,141	$ 1,141	$ 1,141	$ 1,141	$ 1,141	$ 1,141	$ 1,141	$ 1,141	$ 1,141	$ 13,694
	Equipment	$ 1,251	$ 1,251	$ 1,251	$ 1,251	$ 1,251	$ 1,251	$ 1,251	$ 1,251	$ 1,251	$ 1,251	$ 1,251	$ 1,251	$ 15,011
	IT Cloud, Licenses and Software fees	$ 15,160	$ 15,160	$ 15,160	$ 15,160	$ 15,160	$ 15,160	$ 15,160	$ 15,160	$ 15,160	$ 15,160	$ 15,160	$ 15,160	$ 181,925
	Aerial Surveys - Flights	$ 37,309	$ 37,309	$ 37,309	$ 37,309	$ 37,309	$ 37,309	$ 37,309	$ 37,309	$ 37,309	$ 37,309	$ 37,309	$ 37,309	$ 447,703
	Phone - Cell	$ 1,185	$ 1,185	$ 1,185	$ 1,185	$ 1,185	$ 1,185	$ 1,185	$ 1,185	$ 1,185	$ 1,185	$ 1,185	$ 1,185	$ 14,221
	Internet Access home and Admin Office	$ 1,986	$ 1,986	$ 1,986	$ 1,986	$ 1,986	$ 1,986	$ 1,986	$ 1,986	$ 1,986	$ 1,986	$ 1,986	$ 1,986	$ 23,828
	Insurance	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 439	$ 5,267
	Miscellaneous	$ 2,634	$ 2,634	$ 2,634	$ 2,634	$ 2,634	$ 2,634	$ 2,634	$ 2,634	$ 2,634	$ 2,634	$ 2,634	$ 2,634	$ 31,603
	Subtotal Operating/IT Expenses	$ 63,554	$ 63,554	$ 63,554	$ 63,554	$ 63,554	$ 63,554	$ 63,554	$ 63,554	$ 63,554	$ 63,554	$ 63,554	$ 63,554	$ 762,643
	Vehicle rental	$ 8,691	$ 8,691	$ 8,691	$ 8,691	$ 8,691	$ 8,691	$ 8,691	$ 8,691	$ 8,691	$ 8,691	$ 8,691	$ 8,691	$ 104,288
	Conference, Convention, Meeting Travel	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 307	$ 3,687
	Project Travel	$ 12,957	$ 12,957	$ 12,957	$ 12,957	$ 12,957	$ 12,957	$ 12,957	$ 12,957	$ 12,957	$ 12,957	$ 12,957	$ 12,957	$ 155,484
	Subtotal Travel Expenses	$ 21,955	$ 21,955	$ 21,955	$ 21,955	$ 21,955	$ 21,955	$ 21,955	$ 21,955	$ 21,955	$ 21,955	$ 21,955	$ 21,955	$ 263,460
		$ 200,826	$ 200,826	$ 200,826	$ 200,826	$ 200,826	$ 200,826	$ 200,826	$ 200,826	$ 200,826	$ 200,826	$ 200,826	$ 200,826	$ 2,409,914
	General operations	$ 10,041	$ 10,041	$ 10,041	$ 10,041	$ 10,041	$ 10,041	$ 10,041	$ 10,041	$ 10,041	$ 10,041	$ 10,041	$ 10,041	$ 120,497
	Sub-Total Operational Expenses	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 210,868	$ 2,530,411
	Income From Operations Transfer to Trust Fund	$ 23,655	$ 23,372	$ 23,450	$ 23,528	$ 23,606	$ 23,685	$ 23,764	$ 23,844	$ 23,923	$ 24,004	$ 24,084	$ 24,165	$ 285,081
	TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 234,523	$ 234,239	$ 234,318	$ 234,396	$ 234,474	$ 234,553	$ 234,632	$ 234,711	$ 234,791	$ 234,871	$ 234,952	$ 235,033	$ 2,815,492
	TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 1,987,599	$ 1,983,406	$ 1,986,689	$ 1,989,976	$ 1,993,278	$ 1,996,595	$ 1,999,928	$ 2,003,275	$ 2,006,638	$ 2,010,016	$ 2,013,410	$ 2,016,819	$ 23,987,631

FWFW

Monthly Fund Balances, Income, and Expenses Projections

Conservation Offset Trust Fund

	Year	5	5	5	5	5	5	5	5	5	5	5	5	Year 5
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 57,718,559	$ 58,740,465	$ 59,767,171	$ 60,798,575	$ 61,834,699	$ 62,875,565	$ 63,921,194	$ 64,971,609	$ 66,026,830	$ 67,086,881	$ 68,151,783	$ 69,221,558	$ 57,718,559
	Income/Exp Category													
	Income - enrollment	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 738,281
	Income - Impact	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 18,588,656
	Investment Income Transfer for Cons Offset	$ 174,552	$ 177,788	$ 180,915	$ 184,057	$ 187,213	$ 190,384	$ 193,569	$ 196,769	$ 199,984	$ 203,213	$ 206,457	$ 209,716	$ 2,304,617
	Conservation Offset Income	$ 1,785,130	$ 1,788,366	$ 1,791,493	$ 1,794,635	$ 1,797,791	$ 1,800,962	$ 1,804,148	$ 1,807,347	$ 1,810,562	$ 1,813,791	$ 1,817,035	$ 1,820,294	$ 21,631,555
	Conservation Offset Expenses	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 10,225,412
	Cash from Operations	$ 933,012	$ 936,248	$ 939,376	$ 942,518	$ 945,674	$ 948,845	$ 952,030	$ 955,230	$ 958,444	$ 961,673	$ 964,917	$ 968,176	$ 11,406,143
	Estimated Investment Earnings	$ 266,682	$ 271,373	$ 276,086	$ 280,820	$ 285,576	$ 290,354	$ 295,154	$ 299,976	$ 304,819	$ 309,685	$ 314,574	$ 319,484	$ 3,514,582
	Est. Rate of Earnings	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	$ 1
	Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	$ 0
Transfer	Investment Earnings to Trust Fund Balance	$ 88,894	$ 90,458	$ 92,029	$ 93,607	$ 95,192	$ 96,785	$ 98,385	$ 99,992	$ 101,607	$ 103,229	$ 104,858	$ 106,495	$ 1,171,528
	Ending Trust Fund Balance	**$ 58,740,465**	**$ 59,767,171**	**$ 60,798,575**	**$ 61,834,699**	**$ 62,875,565**	**$ 63,921,194**	**$ 64,971,609**	**$ 66,026,830**	**$ 67,086,881**	**$ 68,151,783**	**$ 69,221,558**	**$ 70,296,229**	**$ 70,296,229**
	Investment Earnings for Conservation Offset Exp	$ 177,788	$ 180,915	$ 184,057	$ 187,213	$ 190,384	$ 193,569	$ 196,769	$ 199,984	$ 203,213	$ 206,457	$ 209,716	$ 212,990	$ 2,343,055
	EXPENSES AND TRANSFER DETAIL													
	Short term Incentive Payments	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 69,750
	Long Term Easement Acquisition	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 3,875,000
	Short Term Restoration/ST & LT Maint Payments	$ 373,930	$ 373,930	$ 373,930	$ 373,930	$ 373,930	$ 373,930	$ 373,930	$ 373,930	$ 373,930	$ 373,930	$ 373,930	$ 373,930	$ 4,487,157
	Long Term Restoration Cost	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 1,793,505
	Sub-Total Conservation Offset Expenses	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 852,118	$ 10,225,412
	Income From Operations Transfer to Trust Fund	$ 933,012	$ 936,248	$ 939,376	$ 942,518	$ 945,674	$ 948,845	$ 952,030	$ 955,230	$ 958,444	$ 961,673	$ 964,917	$ 968,176	$ 11,406,143
	Total Expenses and Transfers From Income	$ 1,785,130	$ 1,788,366	$ 1,791,493	$ 1,794,635	$ 1,797,791	$ 1,800,962	$ 1,804,148	$ 1,807,347	$ 1,810,562	$ 1,813,791	$ 1,817,035	$ 1,820,294	$ 21,631,555

Operational Expense Trust Fund

	Year	5	5	5	5	5	5	5	5	5	5	5	5	Year 5
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 1,661,228	$ 1,683,810	$ 1,706,502	$ 1,729,298	$ 1,752,198	$ 1,775,203	$ 1,798,314	$ 1,821,530	$ 1,844,852	$ 1,868,281	$ 1,891,818	$ 1,915,462	$ 1,661,228
	Income/Exp Category													
	Income - enrollment	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 105,469
	Income - Impact	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 2,655,522
	Investment income for Ops	$ 5,031	$ 5,107	$ 5,176	$ 5,245	$ 5,315	$ 5,385	$ 5,455	$ 5,526	$ 5,597	$ 5,668	$ 5,740	$ 5,812	$ 65,058
	Sub-Total Income for Operational Expenses	$ 235,114	$ 235,189	$ 235,258	$ 235,328	$ 235,398	$ 235,468	$ 235,538	$ 235,609	$ 235,680	$ 235,751	$ 235,823	$ 235,895	$ 2,826,049
	Operational Expenses	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 2,581,019
	Cash from Operations	20,029	20,104	20,173	20,243	20,313	20,383	20,453	20,524	20,595	20,666	20,738	20,810	245,030
	Estimated Investment Earnings	$ 7,660	$ 7,764	$ 7,868	$ 7,972	$ 8,077	$ 8,183	$ 8,289	$ 8,396	$ 8,503	$ 8,610	$ 8,718	$ 8,827	$ 98,867
	Est. Rate of Earnings	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	
	Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	
	Investment Earnings to Trust Fund Balance	$ 2,553	$ 2,588	$ 2,623	$ 2,657	$ 2,693	$ 2,728	$ 2,763	$ 2,799	$ 2,834	$ 2,870	$ 2,906	$ 2,942	$ 32,956
	Ending Trust Fund Balance	**$ 1,683,810**	**$ 1,706,502**	**$ 1,729,298**	**$ 1,752,198**	**$ 1,775,203**	**$ 1,798,314**	**$ 1,821,530**	**$ 1,844,852**	**$ 1,868,281**	**$ 1,891,818**	**$ 1,915,462**	**$ 1,939,214**	**$ 1,939,214**
	Investment Earnings For Operational Expenses	$ 5,107	$ 5,176	$ 5,245	$ 5,315	$ 5,385	$ 5,455	$ 5,526	$ 5,597	$ 5,668	$ 5,740	$ 5,812	$ 5,885	$ 65,911
	EXPENSES AND TRANSFER DETAIL													
	Field/Bio Staff Costs	$ 78,119	$ 78,119	$ 78,119	$ 78,119	$ 78,119	$ 78,119	$ 78,119	$ 78,119	$ 78,119	$ 78,119	$ 78,119	$ 78,119	$ 937,425
	Administrative Staff Costs	$ 35,924	$ 35,924	$ 35,924	$ 35,924	$ 35,924	$ 35,924	$ 35,924	$ 35,924	$ 35,924	$ 35,924	$ 35,924	$ 35,924	$ 431,084
	Professional Services - Audit & Legal	$ 3,582	$ 3,582	$ 3,582	$ 3,582	$ 3,582	$ 3,582	$ 3,582	$ 3,582	$ 3,582	$ 3,582	$ 3,582	$ 3,582	$ 42,979
	Subtotal Contract/Personnel Services	$ 117,624	$ 117,624	$ 117,624	$ 117,624	$ 117,624	$ 117,624	$ 117,624	$ 117,624	$ 117,624	$ 117,624	$ 117,624	$ 117,624	$ 1,411,488
	Postage, Mailing Service	$ 170	$ 170	$ 170	$ 170	$ 170	$ 170	$ 170	$ 170	$ 170	$ 170	$ 170	$ 170	$ 2,041
	Printing and Copying	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 3,761
	Supplies	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 5,372
	Office Rent (Administrative)	$ 1,567	$ 1,567	$ 1,567	$ 1,567	$ 1,567	$ 1,567	$ 1,567	$ 1,567	$ 1,567	$ 1,567	$ 1,567	$ 1,567	$ 18,804
	Home Office	$ 1,164	$ 1,164	$ 1,164	$ 1,164	$ 1,164	$ 1,164	$ 1,164	$ 1,164	$ 1,164	$ 1,164	$ 1,164	$ 1,164	$ 13,968
	Equipment	$ 1,276	$ 1,276	$ 1,276	$ 1,276	$ 1,276	$ 1,276	$ 1,276	$ 1,276	$ 1,276	$ 1,276	$ 1,276	$ 1,276	$ 15,311
	IT Cloud, Licenses and Software fees	$ 15,464	$ 15,464	$ 15,464	$ 15,464	$ 15,464	$ 15,464	$ 15,464	$ 15,464	$ 15,464	$ 15,464	$ 15,464	$ 15,464	$ 185,564
	Aerial Surveys - Flights	$ 38,055	$ 38,055	$ 38,055	$ 38,055	$ 38,055	$ 38,055	$ 38,055	$ 38,055	$ 38,055	$ 38,055	$ 38,055	$ 38,055	$ 456,657
	Phone - Cell	$ 1,209	$ 1,209	$ 1,209	$ 1,209	$ 1,209	$ 1,209	$ 1,209	$ 1,209	$ 1,209	$ 1,209	$ 1,209	$ 1,209	$ 14,506
	Internet Access home and Admin Office	$ 2,025	$ 2,025	$ 2,025	$ 2,025	$ 2,025	$ 2,025	$ 2,025	$ 2,025	$ 2,025	$ 2,025	$ 2,025	$ 2,025	$ 24,305
	Insurance	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 448	$ 5,372
	Miscellaneous	$ 2,686	$ 2,686	$ 2,686	$ 2,686	$ 2,686	$ 2,686	$ 2,686	$ 2,686	$ 2,686	$ 2,686	$ 2,686	$ 2,686	$ 32,235
	Subtotal Operating/IT Expenses	$ 64,825	$ 64,825	$ 64,825	$ 64,825	$ 64,825	$ 64,825	$ 64,825	$ 64,825	$ 64,825	$ 64,825	$ 64,825	$ 64,825	$ 777,896
	Vehicle rental	$ 8,865	$ 8,865	$ 8,865	$ 8,865	$ 8,865	$ 8,865	$ 8,865	$ 8,865	$ 8,865	$ 8,865	$ 8,865	$ 8,865	$ 106,374
	Conference, Convention, Meeting Travel	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 313	$ 3,761
	Project Travel	$ 13,216	$ 13,216	$ 13,216	$ 13,216	$ 13,216	$ 13,216	$ 13,216	$ 13,216	$ 13,216	$ 13,216	$ 13,216	$ 13,216	$ 158,594
	Subtotal Travel Expenses	$ 22,394	$ 22,394	$ 22,394	$ 22,394	$ 22,394	$ 22,394	$ 22,394	$ 22,394	$ 22,394	$ 22,394	$ 22,394	$ 22,394	$ 268,729
		$ 204,843	$ 204,843	$ 204,843	$ 204,843	$ 204,843	$ 204,843	$ 204,843	$ 204,843	$ 204,843	$ 204,843	$ 204,843	$ 204,843	$ 2,458,113
	General operations	$ 10,242	$ 10,242	$ 10,242	$ 10,242	$ 10,242	$ 10,242	$ 10,242	$ 10,242	$ 10,242	$ 10,242	$ 10,242	$ 10,242	$ 122,906
	Sub-Total Operational Expenses	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 215,085	$ 2,581,019
	Income From Operations Transfer to Trust Fund	$ 20,029	$ 20,104	$ 20,173	$ 20,243	$ 20,313	$ 20,383	$ 20,453	$ 20,524	$ 20,595	$ 20,666	$ 20,738	$ 20,810	$ 245,030
	TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 235,114	$ 235,189	$ 235,258	$ 235,328	$ 235,398	$ 235,468	$ 235,538	$ 235,609	$ 235,680	$ 235,751	$ 235,823	$ 235,895	$ 2,826,049
	TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 2,020,244	$ 2,023,555	$ 2,026,752	$ 2,029,963	$ 2,033,189	$ 2,036,430	$ 2,039,685	$ 2,042,956	$ 2,046,242	$ 2,049,542	$ 2,052,858	$ 2,056,189	$ 24,457,604

FWFW

Monthly Fund Balances, Income, and Expenses Projections

Conservation Offset Trust Fund

	Year	6	6	6	6	6	6	6	6	6	6	6	6	Year 6
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 70,296,229	$ 71,295,108	$ 72,298,681	$ 73,306,846	$ 74,319,626	$ 75,337,040	$ 76,359,110	$ 77,385,857	$ 78,417,304	$ 79,453,470	$ 80,494,379	$ 81,540,051	$ 70,296,229
	Income/Exp Category													
	Income - enrollment	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 738,281
	Income - Impact	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 18,588,656
	Investment Income Transfer for Cons Offset	$ 212,990	$ 216,155	$ 219,212	$ 222,283	$ 225,368	$ 228,468	$ 231,581	$ 234,709	$ 237,851	$ 241,007	$ 244,178	$ 247,364	$ 2,761,166
	Conservation Offset Income	$ 1,823,568	$ 1,826,733	$ 1,829,790	$ 1,832,861	$ 1,835,946	$ 1,839,046	$ 1,842,159	$ 1,845,287	$ 1,848,429	$ 1,851,585	$ 1,854,756	$ 1,857,942	$ 22,088,103
	Conservation Offset Expenses	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 11,193,193
	Cash from Operations	$ 890,802	$ 893,967	$ 897,024	$ 900,095	$ 903,180	$ 906,280	$ 909,393	$ 912,521	$ 915,663	$ 918,819	$ 921,990	$ 925,176	$ 10,894,909
	Estimated Investment Earnings	$ 324,232	$ 328,818	$ 333,425	$ 338,052	$ 342,701	$ 347,372	$ 352,063	$ 356,776	$ 361,511	$ 366,267	$ 371,045	$ 375,845	$ 4,198,109
	Est. Rate of Earnings	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	$ 1
	Est. CPI to Ret to Bal	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	$ 0
Transfer	Investment Earnings to Trust Fund Balance	$ 108,078	$ 109,606	$ 111,142	$ 112,684	$ 114,234	$ 115,791	$ 117,354	$ 118,926	$ 120,504	$ 122,089	$ 123,682	$ 125,282	$ 1,399,370
	Ending Trust Fund Balance	**$ 71,295,108**	**$ 72,298,681**	**$ 73,306,846**	**$ 74,319,626**	**$ 75,337,040**	**$ 76,359,110**	**$ 77,385,857**	**$ 78,417,304**	**$ 79,453,470**	**$ 80,494,379**	**$ 81,540,051**	**$ 82,590,508**	**$ 82,590,508**
	Investment Earnings for Conservation Offset Exp	$ 216,155	$ 219,212	$ 222,283	$ 225,368	$ 228,468	$ 231,581	$ 234,709	$ 237,851	$ 241,007	$ 244,178	$ 247,364	$ 250,564	$ 2,798,740
	EXPENSES AND TRANSFER DETAIL													
	Short term Incentive Payments	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 69,750
	Long Term Easement Acquisition	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 3,875,000
	Short Term Restoration/ST & LT Maint Payments	$ 454,578	$ 454,578	$ 454,578	$ 454,578	$ 454,578	$ 454,578	$ 454,578	$ 454,578	$ 454,578	$ 454,578	$ 454,578	$ 454,578	$ 5,454,938
	Long Term Restoration Cost	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 1,793,505
	Sub-Total Conservation Offset Expenses	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 932,766	$ 11,193,193
	Income From Operations Transfer to Trust Fund	$ 890,802	$ 893,967	$ 897,024	$ 900,095	$ 903,180	$ 906,280	$ 909,393	$ 912,521	$ 915,663	$ 918,819	$ 921,990	$ 925,176	$ 10,894,909
	Total Expenses and Transfers From Income	$ 1,823,568	$ 1,826,733	$ 1,829,790	$ 1,832,861	$ 1,835,946	$ 1,839,046	$ 1,842,159	$ 1,845,287	$ 1,848,429	$ 1,851,585	$ 1,854,756	$ 1,857,942	$ 22,088,103

Monthly Fund Balances, Income, and Expenses Projections

	Year	6	6	6	6	6	6	6	6	6	6	6	6	Year 6
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 1,939,214	$ 1,958,770	$ 1,978,422	$ 1,998,164	$ 2,017,996	$ 2,037,919	$ 2,057,933	$ 2,078,039	$ 2,098,237	$ 2,118,527	$ 2,138,910	$ 2,159,387	$ 1,939,214
	Income/Exp Category													
	Income - enrollment	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 105,469
	Income - Impact	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 2,655,522
	Investment income for Ops	$ 5,885	$ 5,951	$ 6,011	$ 6,071	$ 6,131	$ 6,192	$ 6,253	$ 6,314	$ 6,376	$ 6,437	$ 6,499	$ 6,562	$ 74,680
	Sub-Total Income for Operational Expenses	$ 235,967	$ 236,033	$ 236,093	$ 236,153	$ 236,214	$ 236,274	$ 236,335	$ 236,397	$ 236,458	$ 236,520	$ 236,582	$ 236,644	$ 2,835,671
	Operational Expenses	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 2,632,639
	Cash from Operations	16,581	16,647	16,707	16,767	16,827	16,888	16,949	17,010	17,072	17,133	17,195	17,258	203,033
	Estimated Investment Earnings	$ 8,926	$ 9,016	$ 9,106	$ 9,197	$ 9,288	$ 9,379	$ 9,471	$ 9,563	$ 9,656	$ 9,749	$ 9,843	$ 9,937	$ 113,131
	Est. Rate of Earnings	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
	Est. CPI to Ret to Bal	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	
	Investment Earnings to Trust Fund Balance	$ 2,975	$ 3,005	$ 3,035	$ 3,066	$ 3,096	$ 3,126	$ 3,157	$ 3,188	$ 3,219	$ 3,250	$ 3,281	$ 3,312	$ 37,710
	Ending Trust Fund Balance	**$ 1,958,770**	**$ 1,978,422**	**$ 1,998,164**	**$ 2,017,996**	**$ 2,037,919**	**$ 2,057,933**	**$ 2,078,039**	**$ 2,098,237**	**$ 2,118,527**	**$ 2,138,910**	**$ 2,159,387**	**$ 2,179,957**	**$ 2,179,957**
	Investment Earnings For Operational Expenses	$ 5,951	$ 6,011	$ 6,071	$ 6,131	$ 6,192	$ 6,253	$ 6,314	$ 6,376	$ 6,437	$ 6,499	$ 6,562	$ 6,625	$ 75,420
	EXPENSES AND TRANSFER DETAIL													
	Field/Bio Staff Costs	$ 79,681	$ 79,681	$ 79,681	$ 79,681	$ 79,681	$ 79,681	$ 79,681	$ 79,681	$ 79,681	$ 79,681	$ 79,681	$ 79,681	$ 956,173
	Administrative Staff Costs	$ 36,642	$ 36,642	$ 36,642	$ 36,642	$ 36,642	$ 36,642	$ 36,642	$ 36,642	$ 36,642	$ 36,642	$ 36,642	$ 36,642	$ 439,706
	Professional Services - Audit & Legal	$ 3,653	$ 3,653	$ 3,653	$ 3,653	$ 3,653	$ 3,653	$ 3,653	$ 3,653	$ 3,653	$ 3,653	$ 3,653	$ 3,653	$ 43,839
	Subtotal Contract/Personnel Services	$ 119,976	$ 119,976	$ 119,976	$ 119,976	$ 119,976	$ 119,976	$ 119,976	$ 119,976	$ 119,976	$ 119,976	$ 119,976	$ 119,976	$ 1,439,718
	Postage, Mailing Service	$ 174	$ 174	$ 174	$ 174	$ 174	$ 174	$ 174	$ 174	$ 174	$ 174	$ 174	$ 174	$ 2,082
	Printing and Copying	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 3,836
	Supplies	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 5,480
	Office Rent (Administrative)	$ 1,598	$ 1,598	$ 1,598	$ 1,598	$ 1,598	$ 1,598	$ 1,598	$ 1,598	$ 1,598	$ 1,598	$ 1,598	$ 1,598	$ 19,180
	Home Office	$ 1,187	$ 1,187	$ 1,187	$ 1,187	$ 1,187	$ 1,187	$ 1,187	$ 1,187	$ 1,187	$ 1,187	$ 1,187	$ 1,187	$ 14,248
	Equipment	$ 1,301	$ 1,301	$ 1,301	$ 1,301	$ 1,301	$ 1,301	$ 1,301	$ 1,301	$ 1,301	$ 1,301	$ 1,301	$ 1,301	$ 15,618
	IT Cloud, Licenses and Software fees	$ 15,773	$ 15,773	$ 15,773	$ 15,773	$ 15,773	$ 15,773	$ 15,773	$ 15,773	$ 15,773	$ 15,773	$ 15,773	$ 15,773	$ 189,275
	Aerial Surveys - Flights	$ 38,816	$ 38,816	$ 38,816	$ 38,816	$ 38,816	$ 38,816	$ 38,816	$ 38,816	$ 38,816	$ 38,816	$ 38,816	$ 38,816	$ 465,790
	Phone - Cell	$ 1,233	$ 1,233	$ 1,233	$ 1,233	$ 1,233	$ 1,233	$ 1,233	$ 1,233	$ 1,233	$ 1,233	$ 1,233	$ 1,233	$ 14,796
	Internet Access home and Admin Office	$ 2,066	$ 2,066	$ 2,066	$ 2,066	$ 2,066	$ 2,066	$ 2,066	$ 2,066	$ 2,066	$ 2,066	$ 2,066	$ 2,066	$ 24,791
	Insurance	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 457	$ 5,480
	Miscellaneous	$ 2,740	$ 2,740	$ 2,740	$ 2,740	$ 2,740	$ 2,740	$ 2,740	$ 2,740	$ 2,740	$ 2,740	$ 2,740	$ 2,740	$ 32,879
	Subtotal Operating/IT Expenses	$ 66,121	$ 66,121	$ 66,121	$ 66,121	$ 66,121	$ 66,121	$ 66,121	$ 66,121	$ 66,121	$ 66,121	$ 66,121	$ 66,121	$ 793,454
	Vehicle rental	$ 9,042	$ 9,042	$ 9,042	$ 9,042	$ 9,042	$ 9,042	$ 9,042	$ 9,042	$ 9,042	$ 9,042	$ 9,042	$ 9,042	$ 108,502
	Conference, Convention, Meeting Travel	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 320	$ 3,836
	Project Travel	$ 13,481	$ 13,481	$ 13,481	$ 13,481	$ 13,481	$ 13,481	$ 13,481	$ 13,481	$ 13,481	$ 13,481	$ 13,481	$ 13,481	$ 161,766
	Subtotal Travel Expenses	$ 22,842	$ 22,842	$ 22,842	$ 22,842	$ 22,842	$ 22,842	$ 22,842	$ 22,842	$ 22,842	$ 22,842	$ 22,842	$ 22,842	$ 274,104
		$ 208,940	$ 208,940	$ 208,940	$ 208,940	$ 208,940	$ 208,940	$ 208,940	$ 208,940	$ 208,940	$ 208,940	$ 208,940	$ 208,940	$ 2,507,275
	General operations	$ 10,447	$ 10,447	$ 10,447	$ 10,447	$ 10,447	$ 10,447	$ 10,447	$ 10,447	$ 10,447	$ 10,447	$ 10,447	$ 10,447	$ 125,364
	Sub-Total Operational Expenses	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 219,387	$ 2,632,639
	Income From Operations Transfer to Trust Fund	$ 16,581	$ 16,647	$ 16,707	$ 16,767	$ 16,827	$ 16,888	$ 16,949	$ 17,010	$ 17,072	$ 17,133	$ 17,195	$ 17,258	$ 203,033
	TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 235,967	$ 236,033	$ 236,093	$ 236,153	$ 236,214	$ 236,274	$ 236,335	$ 236,397	$ 236,458	$ 236,520	$ 236,582	$ 236,644	$ 2,835,671
	TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 2,059,535	$ 2,062,766	$ 2,065,883	$ 2,069,014	$ 2,072,160	$ 2,075,320	$ 2,078,494	$ 2,081,684	$ 2,084,887	$ 2,088,105	$ 2,091,338	$ 2,094,586	$ 24,923,774

FWFW

Monthly Fund Balances, Income, and Expenses Projections

Conservation Offset Trust Fund

	Year	7	7	7	7	7	7	7	7	7	7	7	7	Year 7
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 82,590,508	$ 83,611,482	$ 84,637,180	$ 85,667,573	$ 86,702,680	$ 87,742,525	$ 88,787,129	$ 89,836,513	$ 90,890,699	$ 91,949,710	$ 93,013,567	$ 94,082,293	$ 82,590,508
	Income/Exp Category													
	Income - enrollment	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 738,281
	Income - Impact	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 18,588,656
	Investment Income Transfer for Cons Offset	$ 250,564	$ 253,726	$ 256,850	$ 259,989	$ 263,142	$ 266,310	$ 269,492	$ 272,689	$ 275,900	$ 279,126	$ 282,367	$ 285,623	$ 3,215,779
	Conservation Offset Income	$ 1,861,142	$ 1,864,304	$ 1,867,428	$ 1,870,567	$ 1,873,721	$ 1,876,888	$ 1,880,070	$ 1,883,267	$ 1,886,478	$ 1,889,704	$ 1,892,945	$ 1,896,201	$ 22,542,716
	Conservation Offset Expenses	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 11,604,370
	Cash from Operations	$ 894,111	$ 897,273	$ 900,398	$ 903,537	$ 906,690	$ 909,857	$ 913,040	$ 916,236	$ 919,448	$ 922,674	$ 925,914	$ 929,170	$ 10,938,347
	Estimated Investment Earnings	$ 380,589	$ 385,276	$ 389,984	$ 394,714	$ 399,465	$ 404,238	$ 409,033	$ 413,850	$ 418,689	$ 423,551	$ 428,434	$ 433,340	$ 4,881,163
	Est. Rate of Earnings	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	$ 1
	Est. CPI to Ret to Bal	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	$ 0
Transfer	Investment Earnings to Trust Fund Balance	$ 126,863	$ 128,425	$ 129,995	$ 131,571	$ 133,155	$ 134,746	$ 136,345	$ 137,950	$ 139,563	$ 141,184	$ 142,811	$ 144,447	$ 1,627,054
	Ending Trust Fund Balance	**$ 83,611,482**	**$ 84,637,180**	**$ 85,667,573**	**$ 86,702,680**	**$ 87,742,525**	**$ 88,787,129**	**$ 89,836,513**	**$ 90,890,699**	**$ 91,949,710**	**$ 93,013,567**	**$ 94,082,293**	**$ 95,155,909**	**$ 95,155,909**
	Investment Earnings for Conservation Offset Exp	$ 253,726	$ 256,850	$ 259,989	$ 263,142	$ 266,310	$ 269,492	$ 272,689	$ 275,900	$ 279,126	$ 282,367	$ 285,623	$ 288,893	$ 3,254,109
	EXPENSES AND TRANSFER DETAIL													
	Short term Incentive Payments	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 69,750
	Long Term Easement Acquisition	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 3,875,000
	Short Term Restoration/ST & LT Maint Payments	$ 488,843	$ 488,843	$ 488,843	$ 488,843	$ 488,843	$ 488,843	$ 488,843	$ 488,843	$ 488,843	$ 488,843	$ 488,843	$ 488,843	$ 5,866,115
	Long Term Restoration Cost	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 1,793,505
	Sub-Total Conservation Offset Expenses	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 967,031	$ 11,604,370
	Income From Operations Transfer to Trust Fund	$ 894,111	$ 897,273	$ 900,398	$ 903,537	$ 906,690	$ 909,857	$ 913,040	$ 916,236	$ 919,448	$ 922,674	$ 925,914	$ 929,170	$ 10,938,347
	Total Expenses and Transfers From Income	$ 1,861,142	$ 1,864,304	$ 1,867,428	$ 1,870,567	$ 1,873,721	$ 1,876,888	$ 1,880,070	$ 1,883,267	$ 1,886,478	$ 1,889,704	$ 1,892,945	$ 1,896,201	$ 22,542,716

Monthly Fund Balances, Income, and Expenses Projections

	Year	7	7	7	7	7	7	7	7	7	7	7	7	Year 7
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 2,179,957	$ 2,196,230	$ 2,212,584	$ 2,229,013	$ 2,245,517	$ 2,262,097	$ 2,278,753	$ 2,295,485	$ 2,312,293	$ 2,329,178	$ 2,346,141	$ 2,363,181	$ 2,179,957
	Income/Exp Category													
	Income - enrollment	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 105,469
	Income - Impact	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 2,655,522
	Investment income for Ops	$ 6,625	$ 6,681	$ 6,731	$ 6,781	$ 6,831	$ 6,881	$ 6,932	$ 6,983	$ 7,034	$ 7,086	$ 7,137	$ 7,189	$ 82,890
	Sub-Total Income for Operational Expenses	$ 236,707	$ 236,763	$ 236,813	$ 236,863	$ 236,913	$ 236,964	$ 237,015	$ 237,066	$ 237,117	$ 237,168	$ 237,220	$ 237,272	$ 2,843,882
	Operational Expenses	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 2,685,292
	Cash from Operations	12,933	12,989	13,039	13,089	13,139	13,190	13,240	13,291	13,343	13,394	13,446	13,497	158,589
	Estimated Investment Earnings	$ 10,021	$ 10,096	$ 10,171	$ 10,246	$ 10,322	$ 10,398	$ 10,475	$ 10,551	$ 10,629	$ 10,706	$ 10,784	$ 10,862	$ 125,261
	Est. Rate of Earnings	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
	Est. CPI to Ret to Bal	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	
	Investment Earnings to Trust Fund Balance	$ 3,340	$ 3,365	$ 3,390	$ 3,415	$ 3,441	$ 3,466	$ 3,492	$ 3,517	$ 3,543	$ 3,569	$ 3,595	$ 3,621	$ 41,754
	Ending Trust Fund Balance	**$ 2,196,230**	**$ 2,212,584**	**$ 2,229,013**	**$ 2,245,517**	**$ 2,262,097**	**$ 2,278,753**	**$ 2,295,485**	**$ 2,312,293**	**$ 2,329,178**	**$ 2,346,141**	**$ 2,363,181**	**$ 2,380,300**	**$ 2,380,300**
	Investment Earnings For Operational Expenses	$ 6,681	$ 6,731	$ 6,781	$ 6,831	$ 6,881	$ 6,932	$ 6,983	$ 7,034	$ 7,086	$ 7,137	$ 7,189	$ 7,241	$ 83,507
	EXPENSES AND TRANSFER DETAIL													
	Field/Bio Staff Costs	$ 81,275	$ 81,275	$ 81,275	$ 81,275	$ 81,275	$ 81,275	$ 81,275	$ 81,275	$ 81,275	$ 81,275	$ 81,275	$ 81,275	$ 975,297
	Administrative Staff Costs	$ 37,375	$ 37,375	$ 37,375	$ 37,375	$ 37,375	$ 37,375	$ 37,375	$ 37,375	$ 37,375	$ 37,375	$ 37,375	$ 37,375	$ 448,500
	Professional Services - Audit & Legal	$ 3,726	$ 3,726	$ 3,726	$ 3,726	$ 3,726	$ 3,726	$ 3,726	$ 3,726	$ 3,726	$ 3,726	$ 3,726	$ 3,726	$ 44,716
	Subtotal Contract/Personnel Services	$ 122,376	$ 122,376	$ 122,376	$ 122,376	$ 122,376	$ 122,376	$ 122,376	$ 122,376	$ 122,376	$ 122,376	$ 122,376	$ 122,376	$ 1,468,512
	Postage, Mailing Service	$ 177	$ 177	$ 177	$ 177	$ 177	$ 177	$ 177	$ 177	$ 177	$ 177	$ 177	$ 177	$ 2,124
	Printing and Copying	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 3,913
	Supplies	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 5,589
	Office Rent (Administrative)	$ 1,630	$ 1,630	$ 1,630	$ 1,630	$ 1,630	$ 1,630	$ 1,630	$ 1,630	$ 1,630	$ 1,630	$ 1,630	$ 1,630	$ 19,563
	Home Office	$ 1,211	$ 1,211	$ 1,211	$ 1,211	$ 1,211	$ 1,211	$ 1,211	$ 1,211	$ 1,211	$ 1,211	$ 1,211	$ 1,211	$ 14,533
	Equipment	$ 1,328	$ 1,328	$ 1,328	$ 1,328	$ 1,328	$ 1,328	$ 1,328	$ 1,328	$ 1,328	$ 1,328	$ 1,328	$ 1,328	$ 15,930
	IT Cloud, Licenses and Software fees	$ 16,088	$ 16,088	$ 16,088	$ 16,088	$ 16,088	$ 16,088	$ 16,088	$ 16,088	$ 16,088	$ 16,088	$ 16,088	$ 16,088	$ 193,061
	Aerial Surveys - Flights	$ 39,592	$ 39,592	$ 39,592	$ 39,592	$ 39,592	$ 39,592	$ 39,592	$ 39,592	$ 39,592	$ 39,592	$ 39,592	$ 39,592	$ 475,106
	Phone - Cell	$ 1,258	$ 1,258	$ 1,258	$ 1,258	$ 1,258	$ 1,258	$ 1,258	$ 1,258	$ 1,258	$ 1,258	$ 1,258	$ 1,258	$ 15,092
	Internet Access home and Admin Office	$ 2,107	$ 2,107	$ 2,107	$ 2,107	$ 2,107	$ 2,107	$ 2,107	$ 2,107	$ 2,107	$ 2,107	$ 2,107	$ 2,107	$ 25,287
	Insurance	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 466	$ 5,589
	Miscellaneous	$ 2,795	$ 2,795	$ 2,795	$ 2,795	$ 2,795	$ 2,795	$ 2,795	$ 2,795	$ 2,795	$ 2,795	$ 2,795	$ 2,795	$ 33,537
	Subtotal Operating/IT Expenses	$ 67,444	$ 67,444	$ 67,444	$ 67,444	$ 67,444	$ 67,444	$ 67,444	$ 67,444	$ 67,444	$ 67,444	$ 67,444	$ 67,444	$ 809,323
	Vehicle rental	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 9,223	$ 110,672
	Conference, Convention, Meeting Travel	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 326	$ 3,913
	Project Travel	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 13,750	$ 165,001
	Subtotal Travel Expenses	$ 23,299	$ 23,299	$ 23,299	$ 23,299	$ 23,299	$ 23,299	$ 23,299	$ 23,299	$ 23,299	$ 23,299	$ 23,299	$ 23,299	$ 279,586
		$ 213,118	$ 213,118	$ 213,118	$ 213,118	$ 213,118	$ 213,118	$ 213,118	$ 213,118	$ 213,118	$ 213,118	$ 213,118	$ 213,118	$ 2,557,420
	General operations	$ 10,656	$ 10,656	$ 10,656	$ 10,656	$ 10,656	$ 10,656	$ 10,656	$ 10,656	$ 10,656	$ 10,656	$ 10,656	$ 10,656	$ 127,872
	Sub-Total Operational Expenses	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 223,774	$ 2,685,292
	Income From Operations Transfer to Trust Fund	$ 12,933	$ 12,989	$ 13,039	$ 13,089	$ 13,139	$ 13,190	$ 13,240	$ 13,291	$ 13,343	$ 13,394	$ 13,446	$ 13,497	$ 158,589
	TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 236,707	$ 236,763	$ 236,813	$ 236,863	$ 236,913	$ 236,964	$ 237,015	$ 237,066	$ 237,117	$ 237,168	$ 237,220	$ 237,272	$ 2,843,882
	TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 2,097,849	$ 2,101,067	$ 2,104,242	$ 2,107,430	$ 2,110,634	$ 2,113,852	$ 2,117,085	$ 2,120,333	$ 2,123,595	$ 2,126,873	$ 2,130,165	$ 2,133,473	$ 25,386,598

FWFW

Monthly Fund Balances, Income, and Expenses Projections

Conservation Offset Trust Fund

	Year	8	8	8	8	8	8	8	8	8	8	8	8	Year 8
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 95,155,909	$ 96,200,148	$ 97,249,218	$ 98,303,089	$ 99,361,783	$ 100,425,322	$ 101,493,728	$ 102,567,023	$ 103,645,230	$ 104,728,372	$ 105,816,470	$ 106,909,548	$ 95,155,909
	Income/Exp Category													
	Income - enrollment	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 738,281
	Income - Impact	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 18,588,656
	Investment Income Transfer for Cons Offset	$ 288,893	$ 292,126	$ 295,322	$ 298,532	$ 301,758	$ 304,997	$ 308,252	$ 311,521	$ 314,806	$ 318,106	$ 321,420	$ 324,750	$ 3,680,484
	Conservation Offset Income	$ 1,899,471	$ 1,902,704	$ 1,905,900	$ 1,909,111	$ 1,912,336	$ 1,915,575	$ 1,918,830	$ 1,922,100	$ 1,925,384	$ 1,928,684	$ 1,931,998	$ 1,935,328	$ 23,007,421
	Conservation Offset Expenses	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 12,015,546
	Cash from Operations	$ 898,176	$ 901,409	$ 904,605	$ 907,815	$ 911,040	$ 914,280	$ 917,535	$ 920,804	$ 924,089	$ 927,388	$ 930,703	$ 934,033	$ 10,991,876
	Estimated Investment Earnings	$ 438,190	$ 442,983	$ 447,799	$ 452,636	$ 457,496	$ 462,378	$ 467,282	$ 472,209	$ 477,158	$ 482,130	$ 487,125	$ 492,143	$ 5,579,529
	Est. Rate of Earnings	6.00%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	$ 1
	Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	$ 0
Transfer	Investment Earnings to Trust Fund Balance	$ 146,063	$ 147,661	$ 149,266	$ 150,879	$ 152,499	$ 154,126	$ 155,761	$ 157,403	$ 159,053	$ 160,710	$ 162,375	$ 164,048	$ 1,859,843
	Ending Trust Fund Balance	**$ 96,200,148**	**$ 97,249,218**	**$ 98,303,089**	**$ 99,361,783**	**$ 100,425,322**	**$ 101,493,728**	**$ 102,567,023**	**$ 103,645,230**	**$ 104,728,372**	**$ 105,816,470**	**$ 106,909,548**	**$ 108,007,628**	**$ 108,007,628**
	Investment Earnings for Conservation Offset Exp	$ 292,126	$ 295,322	$ 298,532	$ 301,758	$ 304,997	$ 308,252	$ 311,521	$ 314,806	$ 318,106	$ 321,420	$ 324,750	$ 328,095	$ 3,719,686
	EXPENSES AND TRANSFER DETAIL													
	Short term Incentive Payments	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 69,750
	Long Term Easement Acquisition	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 3,875,000
	Short Term Restoration/ST & LT Maint Payments	$ 523,108	$ 523,108	$ 523,108	$ 523,108	$ 523,108	$ 523,108	$ 523,108	$ 523,108	$ 523,108	$ 523,108	$ 523,108	$ 523,108	$ 6,277,291
	Long Term Restoration Cost	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 1,793,505
	Sub-Total Conservation Offset Expenses	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 1,001,295	$ 12,015,546
	Income From Operations Transfer to Trust Fund	$ 898,176	$ 901,409	$ 904,605	$ 907,815	$ 911,040	$ 914,280	$ 917,535	$ 920,804	$ 924,089	$ 927,388	$ 930,703	$ 934,033	$ 10,991,876
	Total Expenses and Transfers From Income	$ 1,899,471	$ 1,902,704	$ 1,905,900	$ 1,909,111	$ 1,912,336	$ 1,915,575	$ 1,918,830	$ 1,922,100	$ 1,925,384	$ 1,928,684	$ 1,931,998	$ 1,935,328	$ 23,007,421

Monthly Fund Balances, Income, and Expenses Projections

	Year	8	8	8	8	8	8	8	8	8	8	8	8	Year 8
	Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
	Beginning Balance	$ 2,380,300	$ 2,393,017	$ 2,405,800	$ 2,418,641	$ 2,431,541	$ 2,444,500	$ 2,457,519	$ 2,470,597	$ 2,483,734	$ 2,496,932	$ 2,510,190	$ 2,523,509	$ 2,380,300
	Income/Exp Category													
	Income - enrollment	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 105,469
	Income - Impact	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 2,655,522
	Investment income for Ops	$ 7,241	$ 7,287	$ 7,326	$ 7,365	$ 7,404	$ 7,444	$ 7,484	$ 7,523	$ 7,563	$ 7,604	$ 7,644	$ 7,684	$ 89,570
	Sub-Total Income for Operational Expenses	$ 237,324	$ 237,370	$ 237,408	$ 237,448	$ 237,487	$ 237,526	$ 237,566	$ 237,606	$ 237,646	$ 237,686	$ 237,726	$ 237,767	$ 2,850,561
	Operational Expenses	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 2,738,998
	Cash from Operations	9,074	9,120	9,159	9,198	9,237	9,277	9,316	9,356	9,396	9,436	9,477	9,517	111,563
	Estimated Investment Earnings	$ 10,931	$ 10,989	$ 11,048	$ 11,107	$ 11,166	$ 11,225	$ 11,285	$ 11,345	$ 11,405	$ 11,466	$ 11,527	$ 11,588	$ 135,080
	Est. Rate of Earnings	6.00%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
	Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	
	Investment Earnings to Trust Fund Balance	$ 3,644	$ 3,663	$ 3,683	$ 3,702	$ 3,722	$ 3,742	$ 3,762	$ 3,782	$ 3,802	$ 3,822	$ 3,842	$ 3,863	$ 45,027
	Ending Trust Fund Balance	**$ 2,393,017**	**$ 2,405,800**	**$ 2,418,641**	**$ 2,431,541**	**$ 2,444,500**	**$ 2,457,519**	**$ 2,470,597**	**$ 2,483,734**	**$ 2,496,932**	**$ 2,510,190**	**$ 2,523,509**	**$ 2,536,889**	**$ 2,536,889**
	Investment Earnings For Operational Expenses	$ 7,287	$ 7,326	$ 7,365	$ 7,404	$ 7,444	$ 7,484	$ 7,523	$ 7,563	$ 7,604	$ 7,644	$ 7,684	$ 7,725	$ 90,053
	EXPENSES AND TRANSFER DETAIL													
	Field/Bio Staff Costs	$ 82,900	$ 82,900	$ 82,900	$ 82,900	$ 82,900	$ 82,900	$ 82,900	$ 82,900	$ 82,900	$ 82,900	$ 82,900	$ 82,900	$ 994,803
	Administrative Staff Costs	$ 38,122	$ 38,122	$ 38,122	$ 38,122	$ 38,122	$ 38,122	$ 38,122	$ 38,122	$ 38,122	$ 38,122	$ 38,122	$ 38,122	$ 457,470
	Professional Services - Audit & Legal	$ 3,801	$ 3,801	$ 3,801	$ 3,801	$ 3,801	$ 3,801	$ 3,801	$ 3,801	$ 3,801	$ 3,801	$ 3,801	$ 3,801	$ 45,610
	Subtotal Contract/Personnel Services	$ 124,824	$ 124,824	$ 124,824	$ 124,824	$ 124,824	$ 124,824	$ 124,824	$ 124,824	$ 124,824	$ 124,824	$ 124,824	$ 124,824	$ 1,497,882
	Postage, Mailing Service	$ 181	$ 181	$ 181	$ 181	$ 181	$ 181	$ 181	$ 181	$ 181	$ 181	$ 181	$ 181	$ 2,166
	Printing and Copying	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 3,991
	Supplies	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 5,701
	Office Rent (Administrative)	$ 1,663	$ 1,663	$ 1,663	$ 1,663	$ 1,663	$ 1,663	$ 1,663	$ 1,663	$ 1,663	$ 1,663	$ 1,663	$ 1,663	$ 19,955
	Home Office	$ 1,235	$ 1,235	$ 1,235	$ 1,235	$ 1,235	$ 1,235	$ 1,235	$ 1,235	$ 1,235	$ 1,235	$ 1,235	$ 1,235	$ 14,823
	Equipment	$ 1,354	$ 1,354	$ 1,354	$ 1,354	$ 1,354	$ 1,354	$ 1,354	$ 1,354	$ 1,354	$ 1,354	$ 1,354	$ 1,354	$ 16,249
	IT Cloud, Licenses and Software fees	$ 16,410	$ 16,410	$ 16,410	$ 16,410	$ 16,410	$ 16,410	$ 16,410	$ 16,410	$ 16,410	$ 16,410	$ 16,410	$ 16,410	$ 196,922
	Aerial Surveys - Flights	$ 40,384	$ 40,384	$ 40,384	$ 40,384	$ 40,384	$ 40,384	$ 40,384	$ 40,384	$ 40,384	$ 40,384	$ 40,384	$ 40,384	$ 484,608
	Phone - Cell	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 1,283	$ 15,393
	Internet Access home and Admin Office	$ 2,149	$ 2,149	$ 2,149	$ 2,149	$ 2,149	$ 2,149	$ 2,149	$ 2,149	$ 2,149	$ 2,149	$ 2,149	$ 2,149	$ 25,793
	Insurance	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 475	$ 5,701
	Miscellaneous	$ 2,851	$ 2,851	$ 2,851	$ 2,851	$ 2,851	$ 2,851	$ 2,851	$ 2,851	$ 2,851	$ 2,851	$ 2,851	$ 2,851	$ 34,208
	Subtotal Operating/IT Expenses	$ 68,792	$ 68,792	$ 68,792	$ 68,792	$ 68,792	$ 68,792	$ 68,792	$ 68,792	$ 68,792	$ 68,792	$ 68,792	$ 68,792	$ 825,509
	Vehicle rental	$ 9,407	$ 9,407	$ 9,407	$ 9,407	$ 9,407	$ 9,407	$ 9,407	$ 9,407	$ 9,407	$ 9,407	$ 9,407	$ 9,407	$ 112,885
	Conference, Convention, Meeting Travel	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 333	$ 3,991
	Project Travel	$ 14,025	$ 14,025	$ 14,025	$ 14,025	$ 14,025	$ 14,025	$ 14,025	$ 14,025	$ 14,025	$ 14,025	$ 14,025	$ 14,025	$ 168,301
	Subtotal Travel Expenses	$ 23,765	$ 23,765	$ 23,765	$ 23,765	$ 23,765	$ 23,765	$ 23,765	$ 23,765	$ 23,765	$ 23,765	$ 23,765	$ 23,765	$ 285,177
		$ 217,381	$ 217,381	$ 217,381	$ 217,381	$ 217,381	$ 217,381	$ 217,381	$ 217,381	$ 217,381	$ 217,381	$ 217,381	$ 217,381	$ 2,608,569
	General operations	$ 10,869	$ 10,869	$ 10,869	$ 10,869	$ 10,869	$ 10,869	$ 10,869	$ 10,869	$ 10,869	$ 10,869	$ 10,869	$ 10,869	$ 130,429
	Sub-Total Operational Expenses	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 228,250	$ 2,738,998
	Income From Operations Transfer to Trust Fund	$ 9,074	$ 9,120	$ 9,159	$ 9,198	$ 9,237	$ 9,277	$ 9,316	$ 9,356	$ 9,396	$ 9,436	$ 9,477	$ 9,517	$ 111,563
	TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 237,324	$ 237,370	$ 237,408	$ 237,448	$ 237,487	$ 237,526	$ 237,566	$ 237,606	$ 237,646	$ 237,686	$ 237,726	$ 237,767	$ 2,850,561
	TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 2,136,795	$ 2,140,074	$ 2,143,309	$ 2,146,558	$ 2,149,823	$ 2,153,102	$ 2,156,396	$ 2,159,705	$ 2,163,030	$ 2,166,370	$ 2,169,725	$ 2,173,095	$ 25,857,982

FWFW

Monthly Fund Balances, Income, and Expenses Projections

Conservation Offset Trust Fund

Year	9	9	9	9	9	9	9	9	9	9	9	9	Year 9
Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
Beginning Balance	$ 108,007,628	$ 109,076,442	$ 110,150,200	$ 111,228,872	$ 112,312,480	$ 113,401,048	$ 114,494,596	$ 115,593,150	$ 116,696,731	$ 117,805,362	$ 118,919,066	$ 120,037,868	$ 108,007,628
Income/Exp Category													
Income - enrollment	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 738,281
Income - Impact	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 18,588,656
Investment Income Transfer for Cons Offset	$ 328,095	$ 331,403	$ 334,674	$ 337,960	$ 341,261	$ 344,577	$ 347,908	$ 351,255	$ 354,616	$ 357,994	$ 361,386	$ 364,794	$ 4,155,923
Conservation Offset Income	$ 1,938,673	$ 1,941,981	$ 1,945,252	$ 1,948,538	$ 1,951,839	$ 1,955,155	$ 1,958,486	$ 1,961,833	$ 1,965,195	$ 1,968,572	$ 1,971,964	$ 1,975,373	$ 23,482,860
Conservation Offset Expenses	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 12,426,722
Cash from Operations	$ 903,113	$ 906,421	$ 909,692	$ 912,978	$ 916,279	$ 919,595	$ 922,926	$ 926,273	$ 929,634	$ 933,012	$ 936,404	$ 939,812	$ 11,056,138
Estimated Investment Earnings	$ 497,105	$ 502,011	$ 506,940	$ 511,891	$ 516,865	$ 521,862	$ 526,882	$ 531,925	$ 536,990	$ 542,079	$ 547,192	$ 552,327	$ 6,294,069
Est. Rate of Earnings	6.00%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	$ 1
Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	$ 0
Transfer Investment Earnings to Trust Fund Balance	$ 165,702	$ 167,337	$ 168,980	$ 170,630	$ 172,288	$ 173,954	$ 175,627	$ 177,308	$ 178,997	$ 180,693	$ 182,397	$ 184,109	$ 2,098,023
Ending Trust Fund Balance	**$ 109,076,442**	**$ 110,150,200**	**$ 111,228,872**	**$ 112,312,480**	**$ 113,401,048**	**$ 114,494,596**	**$ 115,593,150**	**$ 116,696,731**	**$ 117,805,362**	**$ 118,919,066**	**$ 120,037,868**	**$ 121,161,789**	**$ 121,161,789**
Investment Earnings for Conservation Offset Exp	$ 331,403	$ 334,674	$ 337,960	$ 341,261	$ 344,577	$ 347,908	$ 351,255	$ 354,616	$ 357,994	$ 361,386	$ 364,794	$ 368,218	$ 4,196,046
EXPENSES AND TRANSFER DETAIL													
Short term Incentive Payments	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 69,750
Long Term Easement Acquisition	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 3,875,000
Short Term Restoration/ST & LT Maint Payments	$ 557,372	$ 557,372	$ 557,372	$ 557,372	$ 557,372	$ 557,372	$ 557,372	$ 557,372	$ 557,372	$ 557,372	$ 557,372	$ 557,372	$ 6,688,467
Long Term Restoration Cost	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 1,793,505
Sub-Total Conservation Offset Expenses	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 1,035,560	$ 12,426,722
Income From Operations Transfer to Trust Fund	$ 903,113	$ 906,421	$ 909,692	$ 912,978	$ 916,279	$ 919,595	$ 922,926	$ 926,273	$ 929,634	$ 933,012	$ 936,404	$ 939,812	$ 11,056,138
Total Expenses and Transfers From Income	$ 1,938,673	$ 1,941,981	$ 1,945,252	$ 1,948,538	$ 1,951,839	$ 1,955,155	$ 1,958,486	$ 1,961,833	$ 1,965,195	$ 1,968,572	$ 1,971,964	$ 1,975,373	$ 23,482,860

Monthly Fund Balances, Income, and Expenses Projections

Year	9	9	9	9	9	9	9	9	9	9	9	9	Year 9
Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*
Beginning Balance	$ 2,536,889	$ 2,545,762	$ 2,554,682	$ 2,563,643	$ 2,572,645	$ 2,581,688	$ 2,590,773	$ 2,599,899	$ 2,609,067	$ 2,618,277	$ 2,627,529	$ 2,636,823	$ 2,536,889
Income/Exp Category													
Income - enrollment	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 105,469
Income - Impact	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 2,655,522
Investment income for Ops	$ 7,725	$ 7,759	$ 7,786	$ 7,814	$ 7,841	$ 7,869	$ 7,896	$ 7,924	$ 7,952	$ 7,980	$ 8,008	$ 8,037	$ 94,592
Sub-Total Income for Operational Expenses	$ 237,808	$ 237,842	$ 237,869	$ 237,896	$ 237,924	$ 237,951	$ 237,979	$ 238,007	$ 238,035	$ 238,063	$ 238,091	$ 238,119	$ 2,855,583
Operational Expenses	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 2,793,778
Cash from Operations	4,993	5,027	5,054	5,081	5,109	5,136	5,164	5,192	5,220	5,248	5,276	5,304	61,805
Estimated Investment Earnings	$ 11,639	$ 11,680	$ 11,721	$ 11,762	$ 11,803	$ 11,845	$ 11,886	$ 11,928	$ 11,970	$ 12,012	$ 12,055	$ 12,098	$ 142,398
Est. Rate of Earnings	6.00%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	
Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	
Investment Earnings to Trust Fund Balance	$ 3,880	$ 3,893	$ 3,907	$ 3,921	$ 3,934	$ 3,948	$ 3,962	$ 3,976	$ 3,990	$ 4,004	$ 4,018	$ 4,033	$ 47,466
Ending Trust Fund Balance	**$ 2,545,762**	**$ 2,554,682**	**$ 2,563,643**	**$ 2,572,645**	**$ 2,581,688**	**$ 2,590,773**	**$ 2,599,899**	**$ 2,609,067**	**$ 2,618,277**	**$ 2,627,529**	**$ 2,636,823**	**$ 2,646,160**	**$ 2,646,160**
Investment Earnings For Operational Expenses	$ 7,759	$ 7,786	$ 7,814	$ 7,841	$ 7,869	$ 7,896	$ 7,924	$ 7,952	$ 7,980	$ 8,008	$ 8,037	$ 8,065	$ 94,932
EXPENSES AND TRANSFER DETAIL													
Field/Bio Staff Costs	$ 84,558	$ 84,558	$ 84,558	$ 84,558	$ 84,558	$ 84,558	$ 84,558	$ 84,558	$ 84,558	$ 84,558	$ 84,558	$ 84,558	$ 1,014,699
Administrative Staff Costs	$ 38,885	$ 38,885	$ 38,885	$ 38,885	$ 38,885	$ 38,885	$ 38,885	$ 38,885	$ 38,885	$ 38,885	$ 38,885	$ 38,885	$ 466,619
Professional Services - Audit & Legal	$ 3,877	$ 3,877	$ 3,877	$ 3,877	$ 3,877	$ 3,877	$ 3,877	$ 3,877	$ 3,877	$ 3,877	$ 3,877	$ 3,877	$ 46,522
Subtotal Contract/Personnel Services	$ 127,320	$ 127,320	$ 127,320	$ 127,320	$ 127,320	$ 127,320	$ 127,320	$ 127,320	$ 127,320	$ 127,320	$ 127,320	$ 127,320	$ 1,527,840
Postage, Mailing Service	$ 184	$ 184	$ 184	$ 184	$ 184	$ 184	$ 184	$ 184	$ 184	$ 184	$ 184	$ 184	$ 2,210
Printing and Copying	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 4,071
Supplies	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 5,815
Office Rent (Administrative)	$ 1,696	$ 1,696	$ 1,696	$ 1,696	$ 1,696	$ 1,696	$ 1,696	$ 1,696	$ 1,696	$ 1,696	$ 1,696	$ 1,696	$ 20,354
Home Office	$ 1,260	$ 1,260	$ 1,260	$ 1,260	$ 1,260	$ 1,260	$ 1,260	$ 1,260	$ 1,260	$ 1,260	$ 1,260	$ 1,260	$ 15,120
Equipment	$ 1,381	$ 1,381	$ 1,381	$ 1,381	$ 1,381	$ 1,381	$ 1,381	$ 1,381	$ 1,381	$ 1,381	$ 1,381	$ 1,381	$ 16,574
IT Cloud, Licenses and Software fees	$ 16,738	$ 16,738	$ 16,738	$ 16,738	$ 16,738	$ 16,738	$ 16,738	$ 16,738	$ 16,738	$ 16,738	$ 16,738	$ 16,738	$ 200,860
Aerial Surveys - Flights	$ 41,192	$ 41,192	$ 41,192	$ 41,192	$ 41,192	$ 41,192	$ 41,192	$ 41,192	$ 41,192	$ 41,192	$ 41,192	$ 41,192	$ 494,300
Phone - Cell	$ 1,308	$ 1,308	$ 1,308	$ 1,308	$ 1,308	$ 1,308	$ 1,308	$ 1,308	$ 1,308	$ 1,308	$ 1,308	$ 1,308	$ 15,701
Internet Access home and Admin Office	$ 2,192	$ 2,192	$ 2,192	$ 2,192	$ 2,192	$ 2,192	$ 2,192	$ 2,192	$ 2,192	$ 2,192	$ 2,192	$ 2,192	$ 26,308
Insurance	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 485	$ 5,815
Miscellaneous	$ 2,908	$ 2,908	$ 2,908	$ 2,908	$ 2,908	$ 2,908	$ 2,908	$ 2,908	$ 2,908	$ 2,908	$ 2,908	$ 2,908	$ 34,892
Subtotal Operating/IT Expenses	$ 70,168	$ 70,168	$ 70,168	$ 70,168	$ 70,168	$ 70,168	$ 70,168	$ 70,168	$ 70,168	$ 70,168	$ 70,168	$ 70,168	$ 842,019
Vehicle rental	$ 9,595	$ 9,595	$ 9,595	$ 9,595	$ 9,595	$ 9,595	$ 9,595	$ 9,595	$ 9,595	$ 9,595	$ 9,595	$ 9,595	$ 115,143
Conference, Convention, Meeting Travel	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 339	$ 4,071
Project Travel	$ 14,306	$ 14,306	$ 14,306	$ 14,306	$ 14,306	$ 14,306	$ 14,306	$ 14,306	$ 14,306	$ 14,306	$ 14,306	$ 14,306	$ 171,667
Subtotal Travel Expenses	$ 24,240	$ 24,240	$ 24,240	$ 24,240	$ 24,240	$ 24,240	$ 24,240	$ 24,240	$ 24,240	$ 24,240	$ 24,240	$ 24,240	$ 290,881
	$ 221,728	$ 221,728	$ 221,728	$ 221,728	$ 221,728	$ 221,728	$ 221,728	$ 221,728	$ 221,728	$ 221,728	$ 221,728	$ 221,728	$ 2,660,740
General operations	$ 11,087	$ 11,087	$ 11,087	$ 11,087	$ 11,087	$ 11,087	$ 11,087	$ 11,087	$ 11,087	$ 11,087	$ 11,087	$ 11,087	$ 133,038
Sub-Total Operational Expenses	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 232,815	$ 2,793,778
Income From Operations Transfer to Trust Fund	$ 4,993	$ 5,027	$ 5,054	$ 5,081	$ 5,109	$ 5,136	$ 5,164	$ 5,192	$ 5,220	$ 5,248	$ 5,276	$ 5,304	$ 61,805
TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 237,808	$ 237,842	$ 237,869	$ 237,896	$ 237,924	$ 237,951	$ 237,979	$ 238,007	$ 238,035	$ 238,063	$ 238,091	$ 238,119	$ 2,855,583
TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 2,176,481	$ 2,179,823	$ 2,183,121	$ 2,186,434	$ 2,189,763	$ 2,193,106	$ 2,196,465	$ 2,199,839	$ 2,203,229	$ 2,206,634	$ 2,210,055	$ 2,213,492	$ 26,338,443

FWFW

Monthly Fund Balances, Income, and Expenses Projections

Conservation Offset Trust Fund

Year	10	10	10	10	10	10	10	10	10	10	10	10	Year 10	GRAND TOTALS
Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*	*10 YEAR SUMMARY*
Beginning Balance	$ 121,161,789	$ 122,256,563	$ 123,356,400	$ 124,461,269	$ 125,571,195	$ 126,686,200	$ 127,806,308	$ 128,931,542	$ 130,061,926	$ 131,197,482	$ 132,338,235	$ 133,484,209	$ 121,161,789	0
Income/Exp Category														
Income - enrollment	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 61,523	$ 738,281	$ 35,437,500
Income - Impact	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 1,549,055	$ 18,588,656	$ 157,830,818
Investment Income Transfer for Cons Offset	$ 368,218	$ 371,605	$ 374,956	$ 378,321	$ 381,702	$ 385,099	$ 388,511	$ 391,939	$ 395,382	$ 398,842	$ 402,317	$ 405,808	$ 4,642,701	$ 25,768,910
Conservation Offset Income	$ 1,978,796	$ 1,982,183	$ 1,985,534	$ 1,988,899	$ 1,992,281	$ 1,995,677	$ 1,999,089	$ 2,002,517	$ 2,005,961	$ 2,009,420	$ 2,012,895	$ 2,016,386	$ 23,969,638	$ 219,037,228
Conservation Offset Expenses	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 12,837,898	$ 97,179,939
Cash from Operations	$ 908,971	$ 912,359	$ 915,709	$ 919,075	$ 922,456	$ 925,852	$ 929,264	$ 932,692	$ 936,136	$ 939,595	$ 943,070	$ 946,561	$ 11,131,740	$ 121,857,288
Estimated Investment Earnings	$ 557,408	$ 562,433	$ 567,482	$ 572,554	$ 577,649	$ 582,767	$ 587,908	$ 593,074	$ 598,262	$ 603,475	$ 608,711	$ 613,972	$ 7,025,695	$ 38,956,363
Est. Rate of Earnings	6.00%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	$ 1	$ 7
Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	$ 0	$ 2
Transfer Investment Earnings to Trust Fund Balance	$ 185,803	$ 187,478	$ 189,161	$ 190,851	$ 192,550	$ 194,256	$ 195,970	$ 197,691	$ 199,421	$ 201,158	$ 202,904	$ 204,657	$ 2,341,898	$ 12,778,139
Ending Trust Fund Balance	**$ 122,256,563**	**$ 123,356,400**	**$ 124,461,269**	**$ 125,571,195**	**$ 126,686,200**	**$ 127,806,308**	**$ 128,931,542**	**$ 130,061,926**	**$ 131,197,482**	**$ 132,338,235**	**$ 133,484,209**	**$ 134,635,427**	**$ 134,635,427**	**$ 134,635,427**
														$ -
Investment Earnings for Conservation Offset Exp	$ 371,605	$ 374,956	$ 378,321	$ 381,702	$ 385,099	$ 388,511	$ 391,939	$ 395,382	$ 398,842	$ 402,317	$ 405,808	$ 409,315	$ 4,683,797	$ 26,178,224
EXPENSES AND TRANSFER DETAIL														
Short term Incentive Payments	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 5,813	$ 69,750	$ 697,500
Long Term Easement Acquisition	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 322,917	$ 3,875,000	$ 36,812,500
Short Term Restoration/ST & LT Maint Payments	$ 591,637	$ 591,637	$ 591,637	$ 591,637	$ 591,637	$ 591,637	$ 591,637	$ 591,637	$ 591,637	$ 591,637	$ 591,637	$ 591,637	$ 7,099,643	$ 43,528,394
Long Term Restoration Cost	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 149,459	$ 1,793,505	$ 16,141,545
Sub-Total Conservation Offset Expenses	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 1,069,825	$ 12,837,898	$ 97,179,939
Income From Operations Transfer to Trust Fund	$ 908,971	$ 912,359	$ 915,709	$ 919,075	$ 922,456	$ 925,852	$ 929,264	$ 932,692	$ 936,136	$ 939,595	$ 943,070	$ 946,561	$ 11,131,740	$ 121,857,288
Total Expenses and Transfers From Income	$ 1,978,796	$ 1,982,183	$ 1,985,534	$ 1,988,899	$ 1,992,281	$ 1,995,677	$ 1,999,089	$ 2,002,517	$ 2,005,961	$ 2,009,420	$ 2,012,895	$ 2,016,386	$ 23,969,638	$ 219,037,228

Monthly Fund Balances, Income, and Expenses Projections

Year	10	10	10	10	10	10	10	10	10	10	10	10	Year 10	GRAND TOTALS
Month	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*Totals*	*10 YEAR SUMMARY*
Beginning Balance	$ 2,646,160	$ 2,650,880	$ 2,655,628	$ 2,660,398	$ 2,665,190	$ 2,670,004	$ 2,674,840	$ 2,679,698	$ 2,684,579	$ 2,689,482	$ 2,694,407	$ 2,699,354	$ 2,646,160	0
Income/Exp Category														
Income - enrollment	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 8,789	$ 105,469	$ 5,062,500
Income - Impact	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 221,294	$ 2,655,522	$ 22,547,260
Investment income for Ops	$ 8,065	$ 8,086	$ 8,101	$ 8,115	$ 8,130	$ 8,145	$ 8,159	$ 8,174	$ 8,189	$ 8,204	$ 8,219	$ 8,234	$ 97,823	$ 720,844
Sub-Total Income for Operational Expenses	$ 238,148	$ 238,169	$ 238,184	$ 238,198	$ 238,213	$ 238,227	$ 238,242	$ 238,257	$ 238,272	$ 238,287	$ 238,302	$ 238,317	$ 2,858,814	$ 28,330,604
Operational Expenses	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 2,849,653	$ 25,974,406
Cash from Operations	677	698	712	727	742	756	771	786	801	816	831	846	9,161	2,356,198
Estimated Investment Earnings	$ 12,130	$ 12,151	$ 12,173	$ 12,195	$ 12,217	$ 12,239	$ 12,261	$ 12,284	$ 12,306	$ 12,329	$ 12,351	$ 12,374	$ 147,011	$ 1,077,220
Est. Rate of Earnings	6.00%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%		$ -
Est. CPI to Ret to Bal	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%		$ -
Investment Earnings to Trust Fund Balance	$ 4,043	$ 4,051	$ 4,058	$ 4,065	$ 4,072	$ 4,080	$ 4,087	$ 4,095	$ 4,102	$ 4,110	$ 4,117	$ 4,125	$ 49,004	$ 348,127
Ending Trust Fund Balance	**$ 2,650,880**	**$ 2,655,628**	**$ 2,660,398**	**$ 2,665,190**	**$ 2,670,004**	**$ 2,674,840**	**$ 2,679,698**	**$ 2,684,579**	**$ 2,689,482**	**$ 2,694,407**	**$ 2,699,354**	**$ 2,704,325**	**$ 2,704,325**	**$ 2,704,325**
Investment Earnings For Operational Expenses	$ 8,086	$ 8,101	$ 8,115	$ 8,130	$ 8,145	$ 8,159	$ 8,174	$ 8,189	$ 8,204	$ 8,219	$ 8,234	$ 8,249	$ 98,007	$ 729,093
EXPENSES AND TRANSFER DETAIL														
Field/Bio Staff Costs	$ 86,249	$ 86,249	$ 86,249	$ 86,249	$ 86,249	$ 86,249	$ 86,249	$ 86,249	$ 86,249	$ 86,249	$ 86,249	$ 86,249	$ 1,034,993	$ 9,421,627
Administrative Staff Costs	$ 39,663	$ 39,663	$ 39,663	$ 39,663	$ 39,663	$ 39,663	$ 39,663	$ 39,663	$ 39,663	$ 39,663	$ 39,663	$ 39,663	$ 475,951	$ 4,332,626
Professional Services - Audit & Legal	$ 3,954	$ 3,954	$ 3,954	$ 3,954	$ 3,954	$ 3,954	$ 3,954	$ 3,954	$ 3,954	$ 3,954	$ 3,954	$ 3,954	$ 47,453	$ 415,167
Subtotal Contract/Personnel Services	$ 129,866	$ 129,866	$ 129,866	$ 129,866	$ 129,866	$ 129,866	$ 129,866	$ 129,866	$ 129,866	$ 129,866	$ 129,866	$ 129,866	$ 1,558,397	$ 14,169,420
Postage, Mailing Service	$ 188	$ 188	$ 188	$ 188	$ 188	$ 188	$ 188	$ 188	$ 188	$ 188	$ 188	$ 188	$ 2,254	$ 20,517
Printing and Copying	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 4,152	$ 37,797
Supplies	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 5,932	$ 53,995
Office Rent (Administrative)	$ 1,730	$ 1,730	$ 1,730	$ 1,730	$ 1,730	$ 1,730	$ 1,730	$ 1,730	$ 1,730	$ 1,730	$ 1,730	$ 1,730	$ 20,761	$ 188,986
Home Office	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 1,285	$ 15,422	$ 140,390
Equipment	$ 1,409	$ 1,409	$ 1,409	$ 1,409	$ 1,409	$ 1,409	$ 1,409	$ 1,409	$ 1,409	$ 1,409	$ 1,409	$ 1,409	$ 16,905	$ 155,028
IT Cloud, Licenses and Software fees	$ 17,073	$ 17,073	$ 17,073	$ 17,073	$ 17,073	$ 17,073	$ 17,073	$ 17,073	$ 17,073	$ 17,073	$ 17,073	$ 17,073	$ 204,877	$ 1,878,833
Aerial Surveys - Flights	$ 42,015	$ 42,015	$ 42,015	$ 42,015	$ 42,015	$ 42,015	$ 42,015	$ 42,015	$ 42,015	$ 42,015	$ 42,015	$ 42,015	$ 504,186	$ 4,623,647
Phone - Cell	$ 1,335	$ 1,335	$ 1,335	$ 1,335	$ 1,335	$ 1,335	$ 1,335	$ 1,335	$ 1,335	$ 1,335	$ 1,335	$ 1,335	$ 16,015	$ 145,788
Internet Access home and Admin Office	$ 2,236	$ 2,236	$ 2,236	$ 2,236	$ 2,236	$ 2,236	$ 2,236	$ 2,236	$ 2,236	$ 2,236	$ 2,236	$ 2,236	$ 26,835	$ 244,277
Insurance	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 494	$ 5,932	$ 53,995
Miscellaneous	$ 2,966	$ 2,966	$ 2,966	$ 2,966	$ 2,966	$ 2,966	$ 2,966	$ 2,966	$ 2,966	$ 2,966	$ 2,966	$ 2,966	$ 35,590	$ 323,976
Subtotal Operating/IT Expenses	$ 71,572	$ 71,572	$ 71,572	$ 71,572	$ 71,572	$ 71,572	$ 71,572	$ 71,572	$ 71,572	$ 71,572	$ 71,572	$ 71,572	$ 858,860	$ 7,867,230
Vehicle rental	$ 9,787	$ 9,787	$ 9,787	$ 9,787	$ 9,787	$ 9,787	$ 9,787	$ 9,787	$ 9,787	$ 9,787	$ 9,787	$ 9,787	$ 117,446	$ 1,069,118
Conference, Convention, Meeting Travel	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 346	$ 4,152	$ 37,797
Project Travel	$ 14,592	$ 14,592	$ 14,592	$ 14,592	$ 14,592	$ 14,592	$ 14,592	$ 14,592	$ 14,592	$ 14,592	$ 14,592	$ 14,592	$ 175,101	$ 1,593,957
Subtotal Travel Expenses	$ 24,725	$ 24,725	$ 24,725	$ 24,725	$ 24,725	$ 24,725	$ 24,725	$ 24,725	$ 24,725	$ 24,725	$ 24,725	$ 24,725	$ 296,698	$ 2,700,872
	$ 226,163	$ 226,163	$ 226,163	$ 226,163	$ 226,163	$ 226,163	$ 226,163	$ 226,163	$ 226,163	$ 226,163	$ 226,163	$ 226,163	$ 2,713,955	$ 24,737,522
General operations	$ 11,308	$ 11,308	$ 11,308	$ 11,308	$ 11,308	$ 11,308	$ 11,308	$ 11,308	$ 11,308	$ 11,308	$ 11,308	$ 11,308	$ 135,698	$ 1,236,884
Sub-Total Operational Expenses	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 237,471	$ 2,849,653	$ 25,974,406
Income From Operations Transfer to Trust Fund	$ 677	$ 698	$ 712	$ 727	$ 742	$ 756	$ 771	$ 786	$ 801	$ 816	$ 831	$ 846	$ 9,161	$ 2,356,198
TOTAL OPERATIONAL EXPENSES & TRANSFERS TO FUND	$ 238,148	$ 238,169	$ 238,184	$ 238,198	$ 238,213	$ 238,227	$ 238,242	$ 238,257	$ 238,272	$ 238,287	$ 238,302	$ 238,317	$ 2,858,814	$ 28,330,604
TOTAL EXPENSES & TRANSFERS ALL SOURCES	$ 2,216,944	$ 2,220,352	$ 2,223,717	$ 2,227,097	$ 2,230,493	$ 2,233,905	$ 2,237,331	$ 2,240,774	$ 2,244,232	$ 2,247,706	$ 2,251,196	$ 2,254,702	$ 26,828,452	$ 247,367,832