Draft Guidelines for the
Establishment, Management, and Operation
of Permanent Lesser Prairie-Chicken Mitigation Lands

U.S. Fish and Wildlife Service
December 2014

The lesser prairie-chicken (LPC) is a species of prairie grouse that occupies portions of Texas, New Mexico, Oklahoma, Kansas, and Colorado. The species is state listed as threatened in Colorado. The U.S. Fish and Wildlife Service (Service or USFWS) identified the species as a candidate for Federal listing in 1998 due to habitat loss, modification, degradation, and fragmentation within its range. A candidate is defined as a species that has been determined by the Service to warrant listing pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*). On December 11, 2012, the Service published a proposed rule to list the LPC as threatened. On April 10, 2014, the Service published a final rule determining the LPC as threatened which became effective on May 12, 2014. The vast majority of LPC habitat occurs on privately owned and operated lands across the range. Therefore, the voluntary actions of landowners are the key to maintaining, enhancing, restoring and reconnecting habitat for the species. Permanent protection of habitat in large blocks, including but not limited to conservation banks, is one of several important tools used to support LPC conservation, and provide mechanisms for mitigation of impacts. The goal of these guidelines is to identify elements important in evaluating prospective sites for suitability as permanent conservation of LPC and their habitats.

This document provides guidance for those involved in the establishment, management, and operation of permanent LPC mitigation lands in accordance with section 7 and section 10 of the ESA and Service conservation banking guidelines. Mitigation lands may include conservation banks or permanent conservation easements, etc. (herein referred to as mitigation lands) and are established specifically to permanently off-set impacts resulting from habitat loss from development or other surface-disturbing activities. When developed in concert with the species' needs, they are an effective conservation tool. Many listed and candidate species' populations occur on private lands, making public-private sector partnerships an important component of the recovery process. The Service will use this document as guidance, <u>not as a requirement</u>, in our review and approval of permanent mitigation lands across the range of the LPC. Permanent mitigation lands developed under this guidance will be eligible to provide mitigation to the Western Association of Fish and Wildlife Agencies Lesser Prairie-Chicken Range-wide Conservation Plan (WAFWA RWP) which can be found at http://wafwa.org/html/rangewide_lpc_conservation_plan.shtml and any Service approved Habitat Conservation Plan or section 7 Biological Opinion, subject to their location. It is the responsibility of the mitigation provider and the developer or impacter to ensure equivalency between traded credits when using the WAFWA RWP or other approved mitigation programs. This document is subject to revision by the Service as new information related to LPCs and the ecosystems they depend on becomes available. Revised versions of the Guidance will be available online and will replace the prior posting. Templates to assist interested parties and prospective bank owners/sponsors are available online. Links and/or appendices can be found throughout this guidance to direct interested parties to these templates. General guidance for the establishment, use, and operation of mitigation lands can be found at: http://www.fws.gov/southwest/es/Documents/R2ES/2003_fws_cons_bnk_guide.pdf.

I. <u>Lesser Prairie-chicken Mitigation Lands Proposal Criteria</u>

The basic information needed for Service review of a mitigation land proposal is listed in the attached "Checklist for Conservation Banks and Mitigation Packages" (see Appendix A). Appendix D contains questions that are useful for evaluation of prospective mitigation land proposals and is intended to be used as a tool for quickly assessing prospective permanent mitigation lands, and understanding whether the site has the potential to provide what is important for the conservation of the LPC, as discussed throughout this guidance.

II. Service Area

The Service Area of a permanent mitigation land defines the area in which the credits may be used to offset project impacts. If projects fall within a mitigation land's Service Area, the project proponent may offset their impacts by purchasing the appropriate amount of conservation credits from that property. The designation of Service Areas for LPC mitigation lands is based primarily on the conservation needs of the species. The LPC Service Areas are generally consistent with the four designated ecoregions, as defined in Van Pelt *et al*. (2013) for the LPC: short-grass prairie, shinnery oak, sand-shinnery or mixed prairie ecoregions (Appendix F). Delineating these four areas is intended to match impacts to mitigation within an ecoregion. However, near Service Area boundary lines the delineation between ecoregions may, in some areas, be less precise as habitat indicative of both ecoregions can be found. When evaluating impacts near internal Service Area boundary lines the location and type of habitat within both the impact site and the mitigation site should be evaluated to insure that the mitigation best meets the needs of the species. If habitat in the adjacent Service Area best matches with habitat at the impact site, this may be considered an appropriate offset by the Service on a case by case basis. This may mean that a bank in one Service Area may be used to offset impacts in a different Service Area when the bank holds habitat similar to the impact site.

III. Location of Mitigation Land Proposals

1. The Service developed a geospatial analysis, *"Proximity Analysis of Natural Grass and Shrub Landcover Types within the Lesser Prairie-Chicken Estimated Occupied Range (plus 10 mile buffer) of the Southern Great Plains; A Spatial Reference Model for Lesser Prairie-Chicken Mitigation Banking Guidance"* (Proximity Analysis), to help inform the evaluation of prospective permanent mitigation lands. It is a landscape level analysis that looks at the spatial relationship of native grassland and shrubland within the estimated occupied range (EOR) of the LPC, plus a 10 mile buffer. The model shows groups of habitat patches with high levels of connectivity and the least amount (distance) of fragmentation. Using this analysis, in conjunction with other identified elements in this Guidance, will assist mitigation providers in locating permanent mitigation lands with the highest amount of connectivity to help conserve the LPC. For these reasons, we recommend that proposed permanent mitigation lands be located within or partially intersect with the larger mapped proximity groups, within the Service's Proximity Analysis. Specifically, potential sites may be located using:
    a. This analysis to provide managers and biologists with quantified spatial information on the scope and scale of fragmentation and/or intactness of natural grass and shrubland landcover types within the EOR, plus 10 mile buffer of the LPC.
    b. Proposed permanent mitigation located in larger proximity group landscapes (i.e. habitat patches with higher connectivity), when considered with the other elements of the guidelines, will be given higher priority by the Service in our evaluation of prospective permanent mitigation lands.
    c. The geospatial data for this analysis can be located at: http://www.fws.gov/southwest/es/lpc.html.
    d. Documentation of the process used to develop this analysis can be located at: http://www.regulations.gov/#!documentDetail;D=FWS-R2-ES-2012-0071-0640.

IV. LPC Habitat and Occupancy Baseline

1. The LPC baseline on the property will be determined using a Service-approved survey protocol and must be obtained prior to submission of the land management agreement or banking agreement for review. For the purpose of this guidance, the Service identifies a property to be "occupied" if the property contains at least one lek on the property or one lek is located within a 3 mile radius of the property boundary.

2. A mitigation proposal should include a biological survey of the property to establish the baseline conditions and LPC established baseline occupancy in the management plan. Occupied sites are preferred; however the Service will consider potential permanent mitigation lands that do not meet the definition of occupancy on a case by case basis. If approved, unoccupied areas could only be eligible to mitigate impacts on sites that are not occupied.

V. Size

The Service preference is for large, at least 9,000 acres in size, contiguous properties within a landscape that meets the criteria in III above. Smaller sized permanent mitigation lands will be considered on a case by case basis in the context of the recommendations of this guidance document and what the Service determines is best for LPC conservation. We will evaluate all prospective permanent mitigation lands based on a number of factors including but not limited to proximity to other permanent conservation lands, overall habitat quality and fragmentation both on-site and in the surrounding area, and documentation of LPC use.

1. Parcels of at least 9,000 acres in size would qualify for LPC credits, when the adjoining landscape in an area 3 miles around the parcel supports the parcel though occurrence of other elements essential to the conservation of LPC. Elements essential to LPC conservation are further identified in this guidance.
2. Parcels of any size may qualify for LPC credits if the parcel is adjacent to a permanent conservation area that is managed for LPC and the addition of the mitigation land contributes to a total protected acreage of 9,000 acres or more for LPC.

VI. Suitable Habitat Guidelines

Below are general vegetative parameters that describe high quality LPC habitat in 3 different habitat types based on a literature review (Tables 1-3) (Elmore *et al.* 2009, Hagen *et al.* 2013, and Van Pelt *et al.* 2013). Due to the cyclic nature of the habitat conditions in the range of the LPC, a predominance of native cover types is of primary importance. The overall habitat quality of a site will change through time due to variation of climatic conditions regardless of management. These vegetation parameters may be refined when new scientific information becomes available. Permanent mitigation land proposals should indicate the percentage of nesting habitat and brood rearing habitat within the mitigation lands using the vegetation parameters for the applicable plant community in Tables 1-3 below.

Individual site habitat potential will vary based on soil characteristics. A useful source of information is Natural Resource Conservation Service's (NRCS) Ecological Site Descriptions (ESDs); distinctive ESDs are described at http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/technical/ecoscience/desc/). This information may be refined when new scientific information becomes available. Generally, the preferred overall habitat conditions should be able to reach the management objective at minimum of 2/3 nesting habitat and the other 1/3 brood rearing at a given location. A minimum of 50% of the mitigation lands should contain nesting habitat as defined by the specific parameters detailed below in Tables 1-3. Note that leking habitat is not a limiting factor for the LPC.

Table 1. High quality LPC habitat in plant communities with a substantial sand shinnery oak component

Nesting Habitat	
Canopy cover of sand shinnery oak	20-50%
Canopy cover of preferred native grasses	>20%
Canopy cover of native forbs	>10%
Average grass heights	>15"
Brood Rearing Habitat	
Canopy cover of sand shinnery oak	10-25%

Canopy cover of preferred native grasses	>15%
Canopy cover of native forbs	>20%
Average grass heights	>15”
Understory open enough to allow movement of chicks	

Table 2. High quality LPC habitat in plant communities with a substantial sand sagebrush component

Nesting Habitat	
Canopy cover of sand sagebrush	15-30%
Canopy cover of preferred native grasses	>30%
Canopy cover of native forbs	>10%
Average grass heights	>15”
Brood Rearing Habitat	
Canopy cover of sand sagebrush	10-25%
Canopy cover of preferred native grasses	>20%
Canopy cover of native forbs	>20%
Average grass heights	>15”
Understory open enough to allow movement of chicks	

Table 3. High quality 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 native forbs	>10%
Average grass heights	15-22”
Brood Rearing Habitat	
Canopy cover of preferred native grasses	>30-50%
Canopy cover of native forbs	>20%
Average grass heights	15-22”
Understory open enough to allow movement of chicks	

Proposed permanent mitigation lands should include high quality LPC habitat with little or no fragmentation (< 10%) from fences, roads, woody encroachment, and energy infrastructure. To further support the application to the Service, an analysis of fragmenting features for both the mitigation property and the larger surrounding landscape of at least a 3 mile radius of the project boundary should be included. Table 4 below includes, but is not limited to, a list of features to be considered in this analysis. For example, the analysis should include a list of fragmenting features and the impact distances (i.e., 1800 meters for wind turbines, 1000 meters for industrial buildings, and 200 meters for small compressor stations) provided in Table 4. The impact distances in Table 4 will be used in our evaluation of the permanent mitigation lands and will be updated by the Service as new scientific information becomes available. If the fragmenting feature is not specifically identified in Table 4 below, the Service will use the impact distance of the next closely related fragmenting feature.

VII. Credits

Credits are defined as a unit of trade related to habitat or species of interest within permanent mitigation lands. Credits purchased must provide biologically comparable habitat values to the area affected by the activity to be covered. In this case, one LPC credit will be generated for each acre of suitable LPC habitat present in the proposed permanent mitigation lands. It is the responsibility of the mitigation provider and the developer or impacter to ensure equivalency between traded credits when using the WAFWA RWP or other approved mitigation programs. In order to secure existing populations of LPCs, stabilize the

population decline, and incentivize restoration of LPC habitat there are two credit valuations (preservation and restoration credits). Additionally, buffer credits may be given for areas that increase the overall ecological function of the proposed mitigation lands but are not considered LPC habitat (e.g. riparian areas, playa lakes, etc.). Impact distances from a fragmenting feature (Table 4) within the permanent mitigation lands and any fragmenting features that have impact distances that extend into the property, will be subtracted from the credit total but may be considered for restoration credits, as discussed below.

1. *Preservation Credit*

   Preservation credits can be generated from mitigation lands where LPC occupancy has been verified using a Service approved protocol on or within 3 miles of the property. Surveys should be appropriately designed to determine species density across all areas delineated as nesting habitat. Preservation credits will be valued at 1.0 credit/acre where the following three conditions have been met: a) the habitat acre contains suitable breeding/nesting habitat, b) is occupied by the species as defined above and c) any applicable performance standards are met. Occupied credits can be used to mitigate for both occupied and non-occupied habitat impacts, as appropriate.[1]

2. *Restoration Credit*

   The Service will evaluate areas that may be eligible for restoration credits. Restoration credits may be given for areas that are not currently occupied by the species but through enhancement/restoration of habitat may become occupied in the future. Restoration credits will be valued at 1.0 credit/acre across the restored portion of the property and will be released for credit sale when the restored habitat meets criteria in the paragraph above and has been confirmed through a site visit.

3. *Buffer credit*

   Based on the Service's 2003 banking guidance, buffer areas are not considered habitat for the species but are defined as areas necessary to maintain the ecological habitat function specific to the species covered by the mitigation lands, or to buffer the habitat within the mitigation lands against edge effects from adjacent land use. Limited credits may be given for the inclusion of these buffer areas. Portions of the property may be credited as buffer areas if these areas increase the overall ecological functioning of the mitigation lands. These areas can be credited at 0.5 credits per acre of buffer. Examples of habitat types that may be awarded buffer credit on LPC mitigation lands may include riparian areas, playa lakes, and emergent wetlands.

<u>Credit Calculation Process</u>

The Service will generate an estimate of credits for a given parcel using a multi-step approach. Again, it is the responsibility of the mitigation provider and the developer or impacter to ensure equivalency between traded credits when using the WAFWA RWP or other approved mitigation programs. First through a desktop exercise, using spatially explicit soils and ESD data available through USDA's Web Soil Survey, http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm, and ESDs identified as supporting suitable LPC habitat in the WAFWA RWP, the Service will develop an initial estimate of credits that may be generated. Using this information, sites will be classified in the credit types identified above. Then, using data depicting fragmenting features, such as oil wells, and the estimated impact distance around the features (Table 4), initial credit estimates will be adjusted to reflect impacts to LPC habitat.

[1] Examples of performance standards include vegetation criteria, occupancy criteria, and monitoring criteria specific to each mitigation parcel.

The second step of the process will be a site visit by appropriate staff to check and validate the desktop analysis. Following the site visit, and any subsequent data collection, initial credit estimates will be refined, generating a final credit calculation for use in discussions with the mitigation provider.

Table 4. Impact Distances for Assessments of Effects

Impact Distances		
Feature	Impact Radius (Meters)	Reference
Gas Line Compressor Station	805	Pitman *et al.* 2005
Coal Fired Power Plant	1609	Pitman *et al.* 2005
Oil or gas well*	300	Hagen *et al.* 2011
Small Compressor Station	200	RWP (Van Pelt *et al.* 2013)
Transmission Line	700	Hagen *et al.* 2011
Distribution Line	10	RWP (Van Pelt *et al.* 2013)
Wind Turbine	1800	Hagen 2010
Large Vertical Structure (>150')	667	RWP (Van Pelt *et al.* 2013)
Vertical Structure (30' – 149')	200	Similar to Residential Building
Improved Paved Roads	850	Hagen 2010
Improved Gravel Road	67	RWP (Van Pelt *et al.* 2013)
Unimproved Roads	30	Robel et al. 2004
Railroad Track	67	Similar to Improved Gravel Road
Commercial Building	1000	RWP Notes
Residential Building	200	RWP Notes
Pipelines**	850	Similar to Improved Road

*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. (based on Blickley et al. 2012b, p. 4–5)
**Temporal considerations-may only be applicable during the construction phase. This same concept may be applicable to other projects that have short term impacts.

VIII. Land Management Plan

A management plan for the proposed permanent mitigation land is required, per the Service's 2003 guidance. The management plan will identify interim and long-term management objectives for the permanent mitigation lands, identify the habitat or other management activities, further discussed below, needed to maintain or enhance LPC habitat, describe the endowment necessary to carry out management, identify activities allowed to occur on the permanent mitigation lands, and describe compliance and effectiveness monitoring and reporting requirements. The land management plans should be developed in coordination with local Service biologists.

Land management plans should include a grazing management plan, a drought contingency plan, and an adaptive management plan (reference Section IX Monitoring below for additional information). Land management plans should also include an estimate of the costs associated with each planned activity. Management activities include actions that restore and maintain habitat at a level optimal for LPC survival and the overall strategy should target brooding, nesting, and lek habitats. Reference the Service's Biological Opinion issued to the NRCS (2014) Lesser Prairie-Chicken Initiative (LPCI) for a list of management practices that should be considered in the development of a land management plan for LPC permanent mitigation lands. More information can be found at the following link: http://www.fws.gov/southwest/es/Documents/R2ES/LPC_LPCI_BO_Aug2014.pdf

Invasive and Non-native Plant Species

To successfully maintain and restore suitable habitat for LPCs, invasive plant infestations of woody plants will need to be monitored and controlled with a target for reduction of less than 1 percent across the permanent mitigation lands with an overall goal of complete removal. Examples of these species include, but are not limited to:

• *Prosopis spp.* (mesquite) and
•*Juniperus virginiana* (eastern red cedar),
•*Juniperus pinchotii* (redberry or Pinchot juniper),
•*Robinia pseudoacacia* (black locust),
•*Elaeagnus angustifolia* (Russian olive), and
•*Ulmus pumila* (Siberian elm)

Some brush species, such as *Quercus havardii* (shinnery oak) and *Artemisia filifolia* (sand sagebrush) are important components of LPC habitat in certain portions of the species range. However, excessive densities of these species can result in reduced habitat quality for LPC. For sites with occurrence of these woody plant species, management plans will need to monitor and manage these habitat elements with the goal of maintaining high quality habitat, striving for canopy covers no greater than as identified in Tables 1 and 2 above.

IX. Monitoring

Monitoring should address all elements of land management plans, as identified in section VIII above. Monitoring of applied management practices is required for both compliance and effectiveness of the practice. Monitoring activities verify the long-term integrity of the restored habitat, document changes from the baseline conditions at the time of establishment of permanent mitigation lands, and verify the status of the on-site LPC population, occurrence or use. Monitoring plans should be evaluated for effectiveness annually against the adaptive management plan and modified as needed based upon monitoring outcomes, site experience, and best available scientific and adaptive management practices.

The following types of monitoring activities should be incorporated into the management plan and funded by the endowment:

1. LPC Population and Management Response Monitoring

   The mitigation provider will provide a scientific report to the Service indicating that the property is still occupied by LPC and conduct spring lek surveys with established and approved methodology annually to verify continued occupancy. If surveys detect vacancy in previously occupied areas, the mitigation provider must discuss future management options with the Service and determine next steps.

2. Vegetation Monitoring

   The mitigation provider should develop and implement a vegetation monitoring plan for Service approval. Monitoring will be designed to evaluate the goals and objectives for the property. The structure should be consistent with NRCSs LPCI monitoring requirements. Additional monitoring requirements will be evaluated on a site specific basis. At a minimum, the plan will establish a scientifically valid sampling design to detect appropriate levels of response and change over time (for example: stratified random sampling plots across the permanent mitigation lands) and for sampling to occur, at a minimum, at the end of each growing season in order to assist in projecting nesting and foraging conditions for the next spring. Specific features that need to be monitored

should be detailed in the management plan. Shrub and herbaceous cover may require annual reporting for the first 1-3 years, but that interval will increase as the habitat is restored and becomes managed and/or maintained. For example, if a reduction in shinnery oak is required to occur with a target of 30% canopy cover, then the target area would be monitored annually until the reduction to 30% is achieved and then may be monitored at longer intervals (3-5) years from that point forward. Reporting accounts of vegetation cover in GIS format (UTMs, lat/long, shapefiles, etc.) is preferred where applicable. The mitigation provider will be required to document annual changes in the ecological structure of the permanent mitigation lands by establishing permanent photographic monitoring locations at each section or stand. The management plan will contain the permanent mitigation lands suitable LPC habitat baseline and strategy for monitoring the habitat over time.

The Service recommends a photo point system to be a part of any landscape/plant community monitoring methods used for conservation banks. The citations provided below will help to assist in developing photo point systems.

Hall, Frederick C. 2001. Photo point monitoring handbook:
part A—field procedures. Gen. Tech. Rep. PNW-GTR-526.
Portland, OR: U.S. Department of Agriculture, Forest Service,
Pacific Northwest Research Station. 48 p. 2 parts.
http://www.fs.fed.us/pnw/pubs/gtr526/

Monitoring Manual for Grassland, Shrubland and Savanna Ecosystems Vol. I & II.
http://www.ntc.blm.gov/krc/viewresource.php?courseID=281&programAreaId=148

3. Adaptive Management

   Adaptive management principles will be established in the land management plan in order to actively manage the property to provide maximum benefits to LPCs and should be consistent with the United States Geological Survey's technical guide and application guide for Adaptive Management. This guidance can be found at: http://www.usgs.gov/sdc/adaptive_mgmt.html.

X. Reporting

To evaluate compliance with the terms of the agreement, and compliance and effectiveness of the associated management plan, the administrator will prepare and deliver an annual report to the Service by December 31st of each year containing, at a minimum, the following information:

1. A description of progress toward objectives identified within the established land management plan, including but not limited to: restoration and management activities and approximate acreage subject to such activities, including prescribed fire (date of burn) and Service approved herbicide applications; and listing of important habitat parameters, including all items listed in the management plan prescribed for the permanent mitigation lands;
2. LPC population occupancy;
3. Other listed species encountered;
4. Credits purchased and available at the end of each year, and as requested by the Service between annual reports;
5. Status of the endowment for the permanent mitigation land, and;
6. Photo documentation of habitat management activities (photos should be date stamped).

In addition, the Service, along with appropriate state and/or partner biologists and/or others, should visit the permanent mitigation lands at least once annually to inspect the progress of the conservation activities, preferably after the annual report is received.

XI. Incidental Take

Incidental take of LPCs, and other listed species that may occur on Service approved permanent mitigation lands associated with activities that are approved as part of a management plan for the mitigation property will be covered through a Biological Opinion issued by the Service. Other activities, not covered by the management plan that may result in take of LPCs must be covered under separate authorization by the Service under section 7 or 10 of the ESA.

XII. Force Majeure/Emergency Situations

The mitigation landowner will not be held responsible for offsetting acts of nature that are unforeseen, or foreseeable but unpredictable, such as wildfires and tornadoes. The mitigation agreement will stipulate the general procedures for identifying, implementing, and funding remedial measures on permanent mitigation lands in the event of emergency or predictable but unexpected situations. However, if an emergency situation renders the remaining portions of the permanent mitigation lands (remaining credits unsold) unsuitable for LPCs, credits may not be sold until habitat regains the quality that existed prior to the emergency.

XIII. Remedial Actions

A permanent mitigation land agreement must include provisions for a dispute resolution process applicable in the event that the owners of the mitigation lands fail to meet their obligations under the agreement. The Service, in consultation with the administrator, will decide on the need for remediation.

XIV. Real Estate Assurances

A perpetual conservation easement which transfers usage rights creating a legally enforceable land preservation agreement between a landowner (grantor) and a qualified land protection organization (grantee), such as a land trust or a governmental agency, is required. The easement holder (grantee) must be qualified pursuant to state laws. The Service shall approve the form of the conservation easement as well as the entity that will hold the easement. The owner shall provide the Service with a copy of any prior easements recorded on the property along with a draft conservation easement. The easement shall contain, among other things, a provision granting to the Service a third party right of enforcement in perpetuity. In the case of land trusts, the organization's Board of Directors should have in its corporate resolutions the adoption of the National Land Trust Alliance's Statement of Land Trust Standards and Practices as guiding the practices of the organization. (The Statement is available from Land Trust Alliance or (www.lta.org or 202-638-4725). Grantee's board of directors, officers, and staff may not have a conflict of interest concerning the mitigation lands or permits issued by the Service or state in which the permanent mitigation land resides. The Service may require written certification that the land trust board of directors, officers and staff, as holders of conservation easements, will not receive benefit, financially or otherwise, from the issuance by the Service of the underlying permit or incidental take authorization or agreement.

XV. Financial Assurances

The agreement must identify an adequate funding source to provide for interim and perpetual operation, management, monitoring, and documentation costs. Funding for the start-up and interim management program (e.g., purchase of land, property taxes, initial restoration, or legal fees) should be separate from the requisite endowment for ongoing actions. Letters of credit may be required. The Service shall have final approval over endowment documents. A target date and target amount must be determined. The endowment must be fully funded before all credits are sold, preferably within the first 4 years of operation. The endowment amount will be adjusted for inflation until fully funded. A master escrow

account should be established concurrent with execution of the agreement. All credit sales/trades are deposited into escrow and a portion of each credit sale deposited is used to fund the long-term and interim management account (if needed). In the event the long-term fund is not fully funded by the end of the target date, the owner shall immediately convey the remaining amount.

Some permanent mitigation lands may have short-term costs, usually associated with restoration or enhancement of the site, fencing, equipment purchases or other such start-up costs. An interim management account (i.e., a dedicated, interest bearing account in an amount adequate to cover short-term costs and contingencies) should be established and associated with an interim land management plan. Other potential assurances may include performance bonds or letters of credit; however, an interim management account is usually preferable. For example, establishment of an interim management account can serve as a contingency fund to manage the property that may not be expended except as agreed to by the Parties and that must be replenished if expended. Once the endowment has been fully funded, this account may be terminated.

One strategy for long term funding is to establish a non-wasting management endowment (i.e., a fund that generates enough interest each year to cover the costs of the yearly management). This endowment could be established by including the cost of management into the price per credit. As credits are sold, an agreed upon portion of the proceeds can be deposited into a non-wasting endowment fund or escrow. The size of the required endowment will depend on certain factors, including land management activities, rate of inflation and interest rate. The cost of each credit will ultimately be determined by the mitigation provider.

XVI. Mitigation

The use of permanent mitigation lands to offset impacts must be approved by the Service through ESA section 7 or 10 authorities. Additionally, permanent mitigation lands developed under this guidance will be eligible to provide mitigation to the WAFWA RWP. The Service recommends consulting with the state authority and the appropriate Service Field Office (see table below) to determine any necessary permitting requirements.

XVII. Tracking

Information for approved conservation banks will be uploaded into the Regulatory In-lieu Fee and Bank Information Tracking System (RIBITS) including the approved conservation bank agreement and all credit transactions. More information can be found at the following link: http://geo.usace.army.mil/ribits/index.html.

XVII. Other

LPC permanent mitigation lands can be compatible with mitigation for other species or resources as long as the standards are met for each mitigation type, separately (no double dipping, credit unstacking). The Service will review this possibility on a case-by-case basis. Any change of mitigation providers must be approved by the Service.
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If you are interested in establishing LPC permanent mitigation lands, please submit the following information to USFWS, ATTN: LPC Mitigation lands, Use Field Office address in the state where the permanent mitigation land is located:

USFWS, Colorado Ecological Services Field Office P.O. Box 25486	USFWS, Kansas Ecological Services Field Office 2609 Anderson Avenue	USFWS Oklahoma Ecological Services Field Office 9014 E. 21st Street

Denver Federal Center (MS 65412) Denver, Colorado 80225 Field Supervisor, Susan Linner	Manhattan, Kansas 66502 Field Supervisor, Heather Whitlaw	Tulsa, Oklahoma 74129 Field Supervisor, Vacant
USFWS, Arlington Texas Ecological Services Field Office 2005 Northeast Green Oaks Boulevard, Suite 140 Arlington, Texas 76006 Field Supervisor, Debra Bills	USFWS, New Mexico Ecological Services Field Office 2105 Osuna NE Albuquerque, New Mexico 87113 Field Supervisor, Wally Murphy	

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Elmore, D., T. Bidwell, R. Ranft, and D. Wolfe. 2009. . Habitat Evaluation Guide for the Lesser Prairie-chicken. E1014. Oklahoma Cooperative Extension Service. Stillwater, Oklahoma.

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Appendix A

CHECKLIST FOR CONSERVATION BANKS AND MITIGATION PACKAGES

1. Conservation Bank Agreement, Easements or Fee-title Mitigation Proposals:

- Name of the proposed Conservation Bank or mitigation property.
- Name of Bank Sponsor (conservation banks only).
- Name of the person(s)/entity to hold fee title to the property.
- Name of the person or entity that will hold a conservation easement.
- Name of the person(s)/entity(s) with management responsibility for the conservation easement. This entity must have demonstrated experience in management of conservation lands.
- Number and type of credits (conservation banks) or conservation value; i.e. habitat acres, stream miles, or other Service approved metrics within the conservation easement. Compliance with applicable Federal and state laws such as state endangered species acts.
- A review of mineral, wind, and water rights associated with the property.
- Discussion of any prescriptive rights on the property (e.g., road access).
- For conservation banks, Service access granted for compliance monitoring and conservation bank approval.
- Documents to accurately delineate in the field all boundaries of the conservation easement (legal description), and management actions required before the fee title is transferred, or conservation easement is granted.

2. Conservation Easement: If appropriate, a conservation easement conveyed to a qualified non-profit or government easement holder.

- Allowable actions on the property.
- Provisions need to be included for third party right of enforcement for the Service to enter the property for inspections, quality control/assurances and other official duties as needed.
- A list of prohibited actions that would be incompatible with the conservation bank or mitigation property's primary function as habitat for species.
- Compliance with all applicable Federal and state laws such as state endangered species acts.

3. Management and Monitoring Plan:

- Performance standards that must be achieved and maintained regarding management of the property.
- Monitoring of species, habitat, and threats.
- Schedule for management and monitoring activities.
- An agreement to accomplish those things necessary to ensure the long-term biological value of the site before the first conservation credit is sold or project impact occurs, unless otherwise agreed to.
- An enumeration of the types of potential activities on the mitigation property that may include public access and that are compatible with the conservation bank or mitigation property's primary function as habitat for species.
- Maps and relevant GIS shapefiles of the conservation property boundary or conservation bank phase boundaries.
- Contingency management, funding, and ownership plans in the event that the property owner and/or manager fails to fulfill the obligations as listed under the bank agreement or mitigation

agreement and management plans, including an applicable dispute resolution process to address these contingencies.

4. Funding Spreadsheet/Endowment Calculations:

- Short term (e.g. letter of credit) and long term (non-wasting endowment) funding sources for operation and management of the mitigation lands.
- Calculation of all costs associated with the management, monitoring, reporting, and other activities that the non-wasting endowment would fund, with annual adjustments for inflation (Average Inflation rate published by the Department of Labor).
- Funding mechanism for the conservation bank or mitigation property to include calculation of endowment using ongoing actions from the management plan.
- Timeline for funding the endowment.
- Adjustment to endowment amount until fully funded (Consumer Price Index).
- Identify the amount of the non-wasting endowment and the proposed rate of return on endowment.

5. Biological Resource Inventory/Baseline Report:

- A description of the biological value of the conservation bank or mitigation property, including habitats and species. This may include a vegetation map and biological resources inventory.
- Number and kind of conservation credits within the conservation bank or mitigation property. Final credit numbers and any constraints on types of credits to be sold or used as mitigation for a project will be determined by the Service in accordance with a methodology clearly set forth in the conservation bank agreement or mitigation document.
- A general location map and legal description of the property, including GPS coordinates if possible.
    - Include spatial or digital data.
- Accurate map(s) of the property on a minimum scale of 7.5 minute. U.S. Geological Survey quad map or finer scale, if available.
- Aerial photos of the property and surrounding properties.
- Characteristics of adjacent and nearby habitat must be considered in the approval process (within 3 miles of the property boundary). For example, if proposed mitigation lands are located within or near a large residential or developed matrix they may have limited habitat management options (i.e. prescribed fire restrictions due to smoke management concerns). Additionally, mitigation lands developed within these areas may have reduced potential for providing connectivity between LPC populations. The Service will conduct its review of whether a proposed property can successfully function and be managed and operate as LPC mitigation lands using the recommendations contained in this guidance.
- Results of a Phase I hazardous materials survey for the property (ASTM Standard E1527-05).
- Mineral Remoteness Test - A review of mineral, wind, and water or other separated rights associated with the property.

6. Title Exceptions/Existing Easements and Encumbrances:

- Preliminary title report indicating any easements or encumbrances on the conservation bank or mitigation property, including Native American hunting, fishing, and gathering rights. This information should be supplied early in the mitigation evaluation and development process to ensure that the species mitigation goals for the property are compatible with other current or planned activities on the conservation bank or mitigation property.
- Discussion of any prescriptive rights on the property (e.g., road access, mineral rights).

- Complete title report required just prior to execution of agreement(s) and conservation easement.

7. Restoration Plan (if applicable)

This plan should include the baseline conditions of the Mitigation Property including biological resources, geographic location and features, topography, hydrology, vegetation, past present and adjacent land uses, species and habitats occurring on the Bank Property; a description of the activities and methodologies for creating, restoring or enhancing species habitat; a map of the approved modifications, overall habitat establishment goals, objectives and Performance Standards; monitoring methodologies required to evaluate and meet the Performance Standards; an approved schedule for reporting monitoring results; a discussion of possible Remedial Actions; and any other information deemed necessary by the Service.

- Restoration Security Analysis and Schedule
  Provide a copy of the third-party estimate or contract that is being relied upon to determine the amount of the Restoration Security.
- Performance Security Analysis and Schedule
  Specify the amount of the Performance Security based upon the amount of Construction Security.

Appendix B

Features that may fragment lesser prairie-chicken (LPC) habitat may be identified through available datasets (see examples below) and mapped out a minimum of 3 miles from the parcel boundary. All spatial data used to support the proposed permanent mitigation application, including data used in any maps provided as exhibits, should be provided to the Service concurrent with the application.

DEPICTING POTENTIAL LPC THREATS AND STRESSORS

- Federal Aviation Administration's Daily Digital Obstruction File
  - https://nfdc.faa.gov/tod/public/TOD_DDOF.html
- Federal Aviation Administration's Obstruction Evaluation/Airport Airspace Analysis (OE/AAA)
  - https://oeaaa.faa.gov/oeaaa/external/portal.jsp
- USDA National Agricultural Statistics Service – CropScape – Cropland Data Layer
  - http://nassgeodata.gmu.edu/CropScape/
- Homeland Security Infrastructure Program (HISP) Freedom dataset
  - https://www.hifldwg.org/hsip-guest
- And any other infrastructure spatial dataset. Commercial options include:
  - Platts (http://www.platts.com/products/gis-data)
  - Pennwell (http://www.mapsearch.com)
  - RexTag (http://www.rextagstrategies.com/)
  - and others.

Appendix C

Conservation targeted landscapes – When prioritizing the location of permanent mitigation lands for the lesser prairie-chicken (LPC), areas that fall within a conservation targeted landscape (CTL) are preferred. Conservation targeted landscapes is a general term, developed to emphasize the point that landscapes with multiple conservation efforts in progress on many acres are preferred by the Service for leveraging their collective conservation benefit over landscapes where there are no other conservation efforts under progress. In regards to conservation of LPCs, CTLs should be considered within a 3 mile radius of a potential permanent mitigation land site and include but are not limited to:

1) Lands with owners/operators working with a conservation entity to implement actions that benefit the species and/or its habitat under some form of term agreement.

Examples include but are not limited to:

- Western Association of Fish and Wildlife Agencies (WAFWA), Range-Wide Conservation Plan for LPC term agreements
- U.S. Department of Agriculture, Cropland Reserve Program
- U.S. Fish and Wildlife Service, Partners for Fish and Wildlife Cooperative Agreement

2) Lands which have been publicly defined as important or a priority for conservation of the LPC.

Examples include but are not limited to:

- WAFWA, Range-wide Conservation Plan Focal Areas and Connectivity Zones
- USDA Lesser Prairie Chicken Conservation Initiative targeting or ranking lists

3) Lands in permanent conservation ownership that have suitable habitat and are managed to benefit the species or its habitat

Examples include but are not limited to:

- State wildlife management areas
- U.S. Forest Service National Grasslands
- U.S. Fish and Wildlife Service National Wildlife Refuges
- Bureau of Land Management's lands, including Area of Critical Environmental Concern (ACEC)

The Service acknowledges that this information may not, in all instances, be made publicly available. However, as we evaluate projects (developments and conservation actions) we will be using this type of information to understand the landscape-scale context of a proposed action.

Appendix D

Questions Useful for Evaluating Prospective Sites

These questions are provided as a tool for quickly assessing prospective conservation bank sites and understanding the context of the site in relationship to things important for conservation of lesser prairie-chickens (LPC). These questions are not designed to provide a final determination of what is, or is not, acceptable as a conservation bank for LPCs. For a more detailed description of screening criteria, please see the most recent version of this document, the *Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands.*

Q. Is the proposed permanent mitigation land located within a designated Service-approved LPC Service Area (Figure 1)?

Q. In a 3 mile area around the prospective site, what are the types of land use (e.g., farming, ranching) and vegetation (e.g., rangeland, introduced pasture, Conservation Reserve Program lands)?

Q. Do LPC occur on the prospective site? Are there leks on the site?

Q. Do LPC occur on the lands within 3 miles of the site? Are there leks within 3 miles of the site?

Q. Are there other types of permanent conservation land ownership (e.g., National Wildlife Refuge, state wildlife management area, conservation bank) located adjacent to the prospective site?

Q. Is the prospective permanent mitigation land located in or near a targeted conservation landscape (Appendix C)?

Q. Does the prospective site have all or some of the characteristics of "strongholds", (see Service white paper, Appendix E)?

Q. How many acres of land are available for use in a conservation bank? Are amounts of 9,000, 25,000, or 50,000 acres available?

Q. Are smaller sites, less than 9,000 acres, located near lands managed in perpetuity for the conservation of LPC?

Q. What is the LPC habitat and potential habitat quality and quantity like on the prospective site? Is there a significant amount of area providing nesting cover?

Q. What is the LPC habitat and potential habitat quality and quantity like within 3 miles of the prospective site?

Q. When evaluating potential conservation benefit to LPC from perpetual conservation of the prospective site, what information is available about the prospective site, and the adjacent landscape (within at least 3 miles)? Example: Is the prospective site located within or partially intersect with the larger mapped proximity groups identified in the *"Proximity Analysis of Natural Grass and Shrub Landcover Types within the Lesser Prairie-Chicken Estimated Occupied Range (plus 10 mile buffer) of the Southern Great Plains; A Spatial Reference Model for Lesser Prairie-Chicken Mitigation Banking Guidance"* located at: http://www.fws.gov/southwest/es/lpc.html?

Q. Are there other information sources to indicate the importance of the prospective sites' potential to help conserve the LPC?

Q. Are there any encumbrances (e.g., utility easement, separate surface and mineral ownership) on the prospective site that could affect LPC occupancy, habitat and management options?

Q. What features occur on the prospective site that are not habitat and may impact conservation efforts for the species (e.g, high density of fences, roads, woody encroachment, or energy infrastructure)?

Appendix E

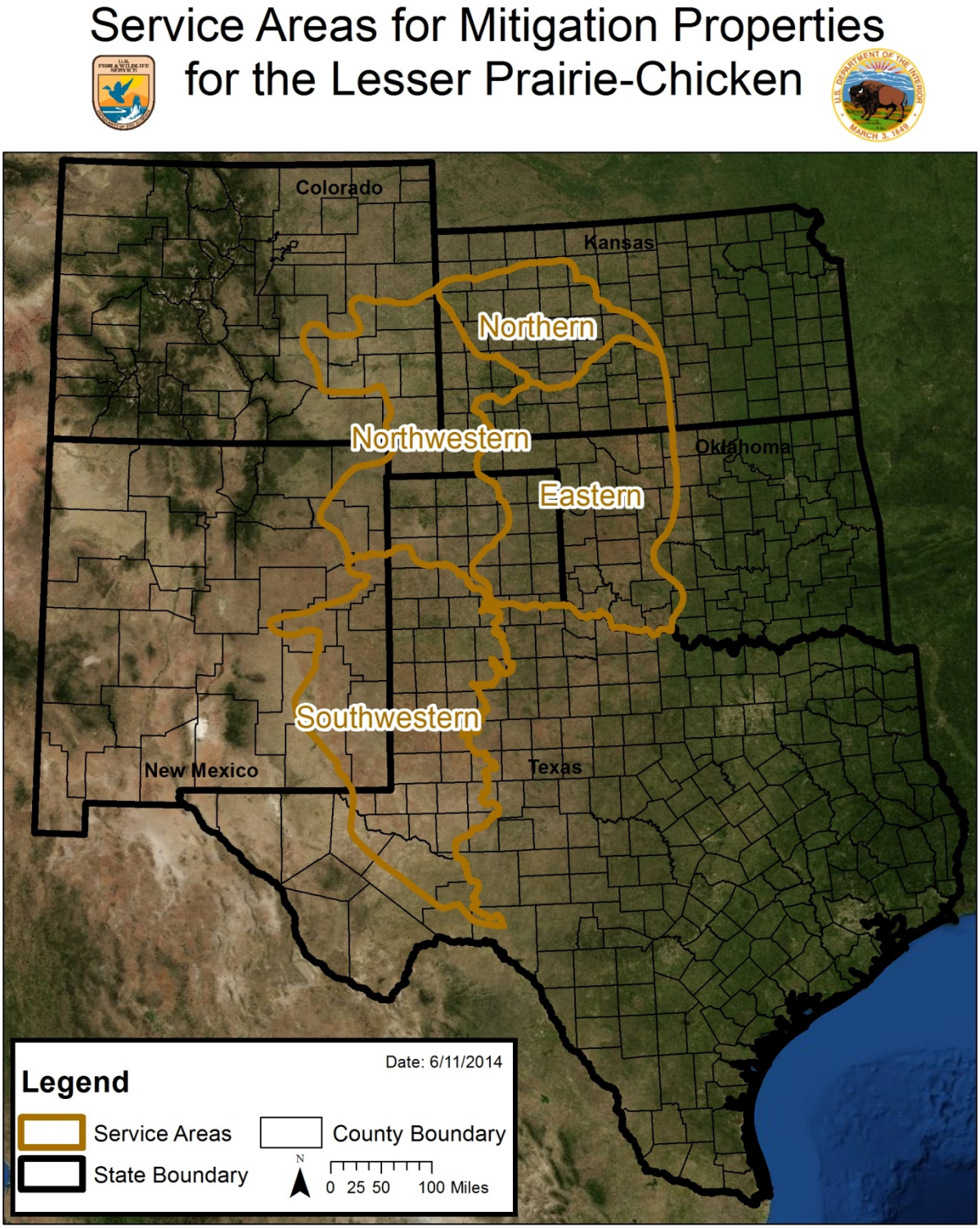
Stronghold Criteria Checklist

Conservation Needs of the Lesser Prairie-Chicken, U.S. Fish and Wildlife Service Technical White Paper, July 2012 (https://www.fws.gov/southwest/es/Documents/R2ES/LPC_White_Paper_final.pdf).

	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
	Best Management Practices 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

Appendix F

Figure 1. Service Areas



This map may be adjusted if new information becomes available.

Service Areas for the lesser prairie-chicken only apply when permanent conservation credits are being purchased to offset projects that affect lesser prairie-chickens and their habitats. Affects to lesser prairie-chickens are expected to occur in or near occupied habitat. Permanent conservation credits would need to be generated in landscapes likely occupied and having a benefit to lesser prairie-chickens. The Service Areas are intended to ensure that impacts are typically mitigated for within the same general habitat type or the connected populations in which they occurred. The framework for the Service Areas is the Estimated Historic Range of the lesser prairie-chicken and the likely occurrence of the species; however evaluation of potential for impacts and the need for offsets is required. The purpose of this approach is to conserve the species throughout its range.