U.S. Fish and Wildlife Service

Framework for the Review of Lesser Prairie-Chicken Voluntary Conservation Programs

U.S. Fish and Wildlife Service
Regions 2 & 6

July 27, 2021

Preface: The lesser prairie-chicken (LPC) is a species of prairie grouse that occurs in the grasslands of the Southern Great Plains in parts of Colorado, Kansas, New Mexico, Oklahoma, and Texas. The LPC has experienced substantial and protracted declines in distribution and abundance due to habitat loss and fragmentation across its range. Over the past 150 years LPC populations and their habitats have been drastically reduced, and current conservation efforts have not been adequate to prevent further declines in the total amount of remaining habitat, much less restore what has been lost, to increase viability for this species. Concentrating conservation efforts on localized management to affect habitat quality, while not addressing the overarching limiting factor of habitat loss and fragmentation, is not addressing the long-term population needs for the LEPC.

For LPC populations to be resilient, they require large, ecologically functioning grasslands and shrublands with a diversity of grass and low-growing shrub species with limited anthropogenic structures and trees. LPC avoid using areas with trees, vertical structures, and other human disturbances in areas with otherwise adequate habitat conditions. The home range of the individuals from a single lek can encompass between 12,000 ac (4,900 ha) to more than 50,000 ac (20,000 ha), depending on the quality and intactness of the habitat. A complex of multiple leks that interact with each other is required for an LPC population to be resilient over time. Maintaining multiple, highly resilient populations (groups of leks) throughout its range is important to overall species' viability.

For more than two decades, the Service has prioritized efforts with our partners to employ all available tools to facilitate the conservation of the LPC. Together we have made great strides, including raising awareness and conserving key habitat, but we still have a long way to go for a sustainable, long-term impact. This guidance will help bridge gaps to streamline and create consistency when the Service reviews applications containing mitigation proposals under Section 10 of the Endangered Species Act for the LPC; ensure accuracy, consistency, and transparency across programs while accounting for impacts and offsets in a biologically meaningful way; and ensure mitigation programs are designed to provide targeted offsets which address habitat loss and fragmentation realized due to impacts occurring by program participants.

For questions or additional information regarding this document contact Clay Nichols at clay_nichols@fws.gov

Section A. Introduction: The U.S. Fish and Wildlife Service (Service) and several interested parties have worked on the development of various conservation strategies containing mitigation programs for the lesser prairie-chicken (LPC). These strategies have come in a variety of forms, including Candidate Conservation Agreements with Assurances (CCAAs), Habitat Conservation Plans (HCPs), voluntary mitigation programs, and Section 7 consultations, which have included an array of proposals to minimize and offset unavoidable impacts to the LPC. These efforts have resulted in numerous existing and proposed metrics to quantify impacts to the LPC and identify needed offsets. This document is based upon the best available science, to be used by the Service to evaluate all proposals across the five-state range of the LPC when working with project proponents to develop conservation programs containing mitigation frameworks for the LPC under Section 10 of the Endangered Species Act (Act). While this guidance was developed to outline the standards to meet issuance criteria for a Section 10(a)(1)(B) permit, any potential proposal under Section 10(a)(1)(A) which includes a mitigation framework, should incorporate the same metrics to quantify impacts and offsets, tiered strategy, and conservation concepts to meet LPC conservation needs despite the different regulatory standard. This guidance can assist Service staff communicate the biological considerations used in determining if an application satisfies permit issuance criteria across industries (including oil and gas development, wind energy development, electrical transmission and distribution line installation, as well any other anthropogenic activity impacting the LPC and its habitat), who are interested in developing mitigation programs for the LPC. The document contains guidance on how to develop a mitigation framework that will fully offset impacts to the LPC based upon the current best available science. We have evaluated potential impacts and benefits of following this guidance to the LPC, and its implementation by project proponents will streamline the review and approval process. There will likely be other conservation strategies developed by applicants not contemplated in this document. Those strategies will be considered, yet applicants would not benefit from using this streamlined approach and those strategies may not meet the standards necessary for approval.

This guidance will ensure the Service consistently applies the appropriate biological and regulatory standards during each review. Below are the issuance criteria for a Section 10(a)(1)(B) permit by which the Service must evaluate the proposal prior to issuance of a permit.

> (i) the taking will be incidental;
> (ii) the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking;
> (iii) the applicant will ensure that adequate funding for the plan will be provided;
> (iv) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and
> (v) the measures, if any, required under subparagraph (A)(iv) will be met.

In past years, while evaluating proposals for these permits, most of the delays in issuing permits have arisen from applications not providing complete information either required by Section 10(a)(2)(B) of the Act or necessary to document how the plan would meet issuance criteria listed above. The information needed for a complete conservation plan/agreement to be considered under Section 10 is primarily focused on accounting for and offsetting, or mitigating impacts to the species which cannot be avoided. Under these requirements the Service must first ensure that impacts (that rise to level of take

as defined under the Act) to the species are accounted for using the best available science. The HCP standard (16 USC§ 1539 (a)(2)(B)(ii)) for an Incidental Take Permit is that the effects of the taking will be minimized and mitigated, to the maximum extent practicable. In other words, the incidental take that cannot be avoided should be fully mitigated by the applicant unless it is determined that this would not be financially practicable for the given proposal upon which case they can provide this evidence to the Service. This guidance outlines the standards necessary to fully offset impacts; if project proponents under section 10(a)(1)(B) determine that these standards are not financially practicable, they can provide the Service with the appropriate information for documentation.

Each section of this guidance is designed to be complimentary and each section of this guidance should be incorporated into each proposal, as applicable. Applications which do not incorporate all elements of this guidance may result in the inability to satisfy the desired biological outcomes and thus not be able to meet the issuance criteria as discussed above. When fully implemented this guidance is designed to:

1. Provide a streamlined and consistent process for developing and evaluating conservation plans/agreements for the LPC across the Service and ensuring the Service is communicating clearly with applicants who are looking to satisfy issuance criteria for a section 10(a)(1)(B) permit with regards to the necessary biological standards. While an application for a section 10(a)(1)(A) permit is required to meet a different regulatory standard, the metrics, tiered strategy, and conservation concepts outlined in this guidance can be incorporated into any proposal containing a mitigation framework.
2. Ensure all conservation plans/agreements are strategically applying conservation measures aimed at addressing the primary conservation objectives for the LPC, which are largescale, strategic restoration[1] and establishment of multiple strongholds[2], coupled with land management supporting high quality grasslands.
3. Create consistency across mitigation programs by providing equivalency, accountability, transparency, and the ability to track progress towards conservation goals all while ensuring that Service approved mitigation programs are adhering to the principals of compensatory mitigation[3].

Section B. Impact Site Assessments: The primary purpose of an impact site assessment is to account for resources present and evaluate the impacts of a project on the LPC using the best available science. Failure to implement a system that accurately accounts for impacts that rise to the level of take will result in a permit that does not fully satisfy the issuance criteria. When evaluating proposals, the

[1] For the purpose of this guidance, restoration will be defined as the reestablishment of ecologically important habitat and/or other ecosystem resource characteristics and function(s) at a site where they have ceased to exist, or exist in a substantially degraded state. The three primary examples of restoration of LPC habitat include removal of woody vegetation encroachment, converting cropland or introduced pasture to native grassland, and removal of infrastructure which is impacting space use by the LPC. Additionally, the Service will consider, on a case by case basis, actions to convert areas that the vegetative composition will not support the LPC to vegetative composition that will support the LPC as restoration when appropriate.

[2] Strongholds are defined by the USFWS July 2012 technical white paper regarding conservation needs for the LPC. https://www.fws.gov/southwest/es/Documents/R2ES/LPC_White_Paper_final.pdf

[3] As outlined in the Universal Principles of Compensatory Mitigation. https://www.agorarsc.org/wp-content/uploads/2015/08/Universal-Principles-of-Compensatory-Mitigation-by-NMBA.pdf

Service will ensure that project proponents have incorporated a methodology that accounts for both direct and indirect impacts, the scale of impacts specific to the species, the inability of current survey methods to adequately determine occupancy, and accurately characterizes impacts both spatially and temporally. The foundation for this assessment is a complete deconstruction of the proposed action into each step required to complete the project, and determination of effects of each step. From this information the appropriate conservation measures, specific to the identified effect, can be developed to support a transparent and robust mitigation program that includes avoidance, or minimization and mitigation, as appropriate to adequately offset impacts for the LPC. Due to the inadequacy of current survey methodologies to make determinations of occupancy, species survey data is not reliable as the primary information to determine if impacts exist or to quantify impacts.

Below is a framework that includes ten steps to quantify impacts to LPC habitat. To support development of mitigation tools, project proponents should incorporate all elements of the framework into their programs. The determination of whether an area has the ability to support the species is not made based on one data set or piece of evidence but rather should include an evaluation of all available information as a whole to inform the decision. The Service will work with each project proponent or program administrator to ensure each step of the evaluation framework below is documented and supported in a transparent manner. An experienced practitioner working in collaboration with the Service should be able to complete these steps for most projects in about one week (larger scale projects may take longer). See appendix 1 for a more detailed overview of the steps listed below.

The framework requires a total of 10 steps:

A. Deconstruct Project Actions
    1. Deconstruct proposed action into all actions necessary to complete
B. Initial Desktop Analysis
    2. Account for Direct impacts of the project actions
    3. Account for Indirect impacts of the project actions
    4. Account for Known species occurrence
    5. Direct and indirect context of physical and biological features of the existing landscape
    6. Assess Habitat suitability
C. Field Assessment and Verification
    7. Assess and document on-the-ground conditions
D. Desktop Re-analysis (if necessary)
    8. Adjust desktop analysis based on field work
    9. Quantify Impacts of the Project
E. Project Analysis Submission to the U.S. Fish and Wildlife Service
    10. Prepare and submit package to USFWS.

Section C. Conservation Site Targeting: Mitigation providers should use the information within Service Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands document[4] as well as other available information to develop a system which accounts for scale, the ability of the larger landscape to support the LPC, and site specific characteristics when selecting mitigation sites. Failure to site conservation appropriately could result in conservation sites

[4] https://www.fws.gov/southwest/es/Documents/R2ES/LPC_Guidelines_for_LPC_Mitigation_Lands_Dec2014.pdf

failing to provide for the conservation needs of the LPC in a way that offsets the impacts and thus may not fully satisfy the permit issuance criteria. The Service should approve each conservation site enrolled to ensure properties are sited appropriately.

Section D. Term vs. Permanent Conservation: Potential mitigation providers may propose a mix of temporary conservation contracts and traditional permanent conservation sites for mitigation. However, permanent mitigation is preferred in order to provide for conservation goals for the LPC. Providers proposing mitigation should include a minimum of 50% of their mitigation as traditional permanent conservation that meets the standards set forth in the Service Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands as well as all Service mitigation policies. Securing permanent mitigation that meets these standards should be prioritized over temporary mitigation in each Service Area. To ensure availability of permanent credits, mitigation program managers can coordinate credit forecasts in order to avoid permanent credit shortages in the marketplace. Failure to provide a minimum of 50% traditional permanent mitigation will create uncertainty of the value of the conservation being provided to the LPC and may prevent the proposal from fully satisfying permit issuance criteria. It is important that mitigation provided through implementation of temporary contracts be a minimum of 10 years in duration, and have the associated financial assurances to provide perpetual mitigation through consecutive contracts for impacts the Service considers permanent (i.e. compensation is perpetual, but individual contracts are temporary and have no time lag between the expiration of one contract and establishment of another). Longer term contracts should be required for temporary mitigation contracts containing restoration acres if those acres cannot meet habitat performance standards by year 3. All term mitigation should meet the standards set forth in the Service Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands as well as any existing Service mitigation policies, if applicable.

Section E. Conservation Site Assessments: Once a site is determined to be appropriate (as discussed in Section C) to provide mitigation (and approved by the Service) the following guidance can be used to quantify how much conservation a mitigation site is providing. This process is also detailed in the standards set forth in the Service Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands. Below are important concepts used to quantify the conservation benefits of a conservation site. Assessing conservation benefits using other methodologies will create inconsistencies and could result in over-valuing conservation benefits, which could prevent the proposal from fully satisfying the permit issuance criteria.

- A property-specific management plan for each conservation site should be developed to address all threats to the LPC and ensure the property is managed for maximum benefit for the LPC.
- There is no one specific data set or metric that exists to use for determining the conservation value of a given site. Mitigation providers should use multiple sources of information to evaluate this, including (but not limited to) the following:
    - Use a combination of soils data, aerial imagery, and site specific data collected on the ground to map areas which have the ability to support the vegetative characteristics required by the LPC. The Service recommends that all areas of grassland and shrubland

(with the exception of mesquite shrublands), with the appropriate vegetative composition to support the LPC, be considered habitat unless other limiting factors exist.
    - Account for other areas which are not likely to support the LPC including, but not limited to, anthropogenic features (account for both direct and indirect impacts[5]), woody vegetation and trees (such as cedar and mesquite)[6], and croplands.
    - Areas deemed to not be habitat should either be classified as permanently not habitat or potential restoration areas (as defined in footnote one of this document).
- Every acre of conservation will be valued at 1 acre = 1 offset unit.
- The Service will review and approve the credit evaluation and the management plan prior to credit release for each property.

Section F. Mitigation Framework Development: Once project proponents have accurately quantified the impacts of their project, a mitigation framework can be utilized to determine the needed conservation to offset those impacts. Below are key concepts for all interested parties to incorporate while developing their framework. Failure to incorporate all of these key concepts could result in a failure to fully satisfy permit issuance criteria.

- All offset units should be in place before impacts occur.
- Each impact unit should be offset with conservation from the same Service Area (see Appendix 2 for map of Service Areas).
- Pursuant to Section D, a minimum of 50% of the offsets should be permanent conservation that has been certified by the Service.
- To account for the uncertainties associated with mitigation, project proponents should incorporate a mitigation ratio into their mitigation framework. To create incentives for avoidance or minimization of impacts, the mitigation framework should incorporate the use of a tiered mitigation strategy. Such a strategy should include adjustments to the mitigation ratio resulting in higher mitigation ratios for activities occurring in areas more important for the LPC and lower mitigation ratios for activities occurring in areas less important to the species. The Service encourages the use of the Southern Great Plains Crucial Habitat Assessment Tool (CHAT) for the LPC (https://www.sgpchat.org/) to identify these areas. In the future if the CHAT is not available the Service will provide applicants the spatial data which identifies the CHAT categories. The following set of mitigation ratios should be applied which results in an overall mitigation ration of 2:1 (I.E. 2 offset units for every 1 impact unit):

[5] Use Table 1 in Appendix 1 to assign appropriate impact radii for given features.

[6] Recent research has indicated that LPC generally avoid landscapes with trees or other invasive woody vegetation such as mesquite. To account for this avoidance an impact radius of 329 meters should be applied to trees and 244 meters should be applied to mesquite.

Chat Category	Impact Units	Offset Units
1	1	2.5
2	1	2.25
3	1	2
4	1	1.25
Average	1	2

- Each impact should be offset using credits produced in a Chat Category of equal to or higher value than the area where the impact occurred.
- Restoration is vitally important to the LPC as habitat loss and fragmentation has been identified as the key threat for the species. As such, mitigation providers should incorporate a minimum of one acre of restoration for every acre of habitat impacted. Restoration offset units are not available to offset impacts until appropriate vegetative composition and structure exists (and is approved by the Service). Once restoration actions are applied, it takes time for those acres to reach appropriate conditions and for those credits to be released. This means new programs may not have adequate credits from restored acres available for the first few years while the initial restoration work is being completed. If this is the case, the program administrator should work with the Service to ensure they are on pace to accomplish the appropriate restoration in a timely manner. Additionally, needed restoration actions and costs will vary by Service Area and mitigation providers need to ensure these differences are incorporated into their program.
- Projects that impact conservation lands providing mitigation offsets for other projects should not only account for the effects of the new development but also should account for the lost mitigation value due to the impacts. This will result in an additional 1 acre added for every acre of impacts from the given project. Project proponents should work with the Service to ensure this is accurately accounted for.

Section G. Summary: The information set forth in this guidance will be used by the Service when evaluating permit proposals for the LPC under Section 10 of the Act. This guidance defines common metrics to accurately account for impacts, provides information regarding targeting of mitigation lands for the LPC, establishes minimum allocation of permanent conservation, defines common metrics to value conservation, and provides guidance on other key aspects to consider while developing a mitigation program for the LPC. Using the metrics and system identified above, on average, for every one acre of impact mitigation, providers will provide a minimum of one acre of restoration and one acre of habitat enhancement; a minimum of one of those previously mentioned acres will be put under traditional permanent conservation that meets the standards of the Service's conservation banking policy and the Service Guidelines for the Establishment, Management, and Operation of Permanent Lesser Prairie-Chicken Mitigation Lands. Implementation of this guidance across the range of the LPC will ensure all programs approved by the Service accurately track impacts and offsets across mitigation providers and provides consistency and accountability across mitigation programs while providing for the biological standards necessary to satisfy permit issuance criteria.

Appendix 1

INTRODUCTION

This appendix was developed to provide further detail on how to conduct **Impact Site Assessments** as outlined in Section B of the body of this document. This Appendix provides a general description of the recommended process and procedures, including process steps and considerations, some (not all) available datasets, and technical considerations for those choosing to implement the Framework. The Framework and Methods focus attention on the need to build a robust assessment by gathering multiple sources of information and using all available information to support an informed determination.

The determination of whether an area has the ability to support the species is not made based on one data set or piece of evidence, but instead should include an evaluation of all available information as a whole to support making an informed decision. The Framework and Methods are created to standardize and support these efforts.

METHODS (Framework - Section B. Impact Site Assessments)

The framework methods require 10 steps:

A. Deconstruct Project Actions
    1. Deconstruct proposed action into all actions necessary to complete

B. Initial Desktop Analysis
    2. Account for Direct impacts of the project actions
    3. Account for Indirect impacts of the project actions
    4. Account for Known species occurrence
    5. Direct and indirect context of physical and biological features of the existing landscape
    6. Assess Habitat suitability

C. Field Assessment and Verification
    7. Assess and document on-the-ground conditions

D. Desktop Re-analysis (if necessary)
    8. Adjust desktop analysis based on field work
    9. Quantify Impact of the Project

E. Project Analysis Submission to the U.S. Fish and Wildlife Service
    10. Prepare and submit package to the Service

A. Deconstruction of Proposed Project

<u>Step 1. Detailed deconstruction of proposed project</u>

The primary purpose of **an impact site assessment is to account for all resources present and evaluate the potential impacts of a project** and its actions on LPC. This requires a detailed deconstruction of all aspects of the proposed project into all of the individual actions and associated methods and tools required to complete the proposed project.

Also, please note that the determination of whether an area has the ability to support the species is not made based on one data set or piece of evidence but instead should include an evaluation of all available information as a whole to support an informed decision.

B. Initial Desktop Analysis

Considerations for the Spatial Extent of Analysis

An analysis of a proposed project's impacts should include a large spatial extent because of the LPC's life history strategy. Here we use 'life history strategy' to mean the general pattern of individual's use of resources, time and space to facilitate survival and reproduction of the species. The Service recommends analyzing projects in or near the range of the LPC to include areas within 6 miles of the impact boundary of the proposed project, hereafter referred to as the Analysis Area.

Step 2: Account for Proposed Project Direct Impacts

Project proponents should first characterize the direct impacts of a given project by deconstructing and accounting for all activities and their associated methods and tools. For each action of the project, project proponents must spatially map the footprint of the action(s).

Step 3: Account for Proposed Project Indirect Impacts

Project proponents should also characterize the indirect impacts of given projects by applying an indirect impact radius to all features of the project. For each action of the project, project proponents should spatially map the impact radii of the action(s). Listed below (Table 1) are the impact distances for features of projects commonly occurring in the range of the LPC to account for indirect impacts of the project actions.

The figures in Table 1 represent recommended impact distances associated with various features. These values are the Service's estimates as derived from scientific literature or other existing LPC conservation approaches. If a specific feature is not represented in the table the impact distance associated with the most similar feature should be used. As further research is completed regarding the implications of these features on the LPC, the Service will reevaluate the appropriateness of the assigned distance based upon the best available science.

Table 1. Impact Radii 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
Improved Paved Roads	850	Hagen 2010
Improved Gravel Roads	67	RWP (Van Pelt *et al.* 2013)
Unimproved Roads	30	Robel *et al*. 2004
Railroad Track	30	Similar to Unimproved Road
Commercial Building	1000	RWP Notes
Residential Building	200	RWP Notes
Pipelines**	850	Similar to Improved Road
Large Vertical Structure (>150')	667	RWP (Van Pelt *et al.* 2013)
Vertical Structure (30' – 149')	200	Similar to Residential Building

*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.

**Temporal considerations-may only be applicable during the construction phase. This same concept may be applicable to other projects that have short term impacts.

Step 4. Account for Known LPC Occurrence

Project proponents should document known LPC occurrence (current and historical) within, and in proximity to, the proposed project. Documented occurrences, including survey history, should be described for the Analysis Area. Everything from the previous 5 years is considered current, while everything else is considered historical occurrences. Sources for occurrence of LPC include, but are not limited to WAFWA SGP CHAT, eBird, Breeding Bird Survey routes, Natural Heritage Programs and State Wildlife Agencies.

It should be noted, if leks have not been detected within the Analysis Area within the past 5 years, this is not sufficient evidence to conclude that the area does not have the ability to support the species. This is due to issues with survey effort and detectability. Because of the life history and physical appearance of the LPC, nearly all current survey techniques revolve around surveying during the breeding period due to seasonal aggregation of birds on leks, increased vocalizations, and readily observable displays that result in increased audible and visual detections when compared to other times of the year. Other reliable survey methodologies do not currently exist. Additionally, relying upon lek survey information is not a scientifically valid way to determine impacts to the LPC as current survey techniques have relatively poor detection probabilities.

Step 5. LPC Landscape Context

Project proponents should document the proposed project in relation to the features of the landscape within and around the project that may contribute to, or detract from, the potential occurrence of LPC. There is not one specific data set or metric to make this determination. Project proponents should use multiple sources of information in evaluations including (but not limited to) the physical and biological characteristics of the landscape in the Analysis Area, such as:

- Location of project relative to the Estimated Occupied Range + 10 mile buffer
- Location of project relative to Service LEPC Service Areas
- Location of project within the average annual precipitation data
- Presence/absence of grassland or shrubland as shown in land use/land cover data
- Canyon lands
- Riparian areas
- Croplands
- Urban areas
- Woodlands
- Salt flats

Examples of areas that would not support the LPC include landscapes with no grassland/shrubland present, canyon lands, riparian areas, croplands, urban areas, woodlands, salt flats, and other areas with soil characteristics that will not support the vegetation community necessary to support the LPC.

Step 6. Assess LPC Habitat Suitability

For the purposes of the initial desktop analysis, potentially suitable habitat for the LPC is defined here to include all grasslands or shrublands which have the ability to support breeding, feeding, sheltering or movement of the species. Additional site specific evaluation of the habitat suitability will be documented during the field assessment and verification step. Project proponents should

document habitat suitability within and in proximity to the proposed project. Project proponents should use multiple sources of information to evaluate this including (but not limited to) the following:

- Soils and ecological sites
- Remote sensed imagery or video
- Land use / land cover
- Tree and woody plant cover / occurrence

Recent research has indicated that LPC generally avoid landscapes with trees or other invasive woody vegetation such as mesquite. To account for this avoidance an indirect impact radius of 329 meters should be applied to trees and 244 meters should be applied to mesquite.

C. Field Assessment and Verification

Step 7. Ground Truth Desktop Analysis

The field assessment portion of this process is the opportunity to supplement and correct information compiled during the desktop process. This will require clear documentation of conditions as reported by desktop data as compared to what was found during field assessment. Project proponents should work with the Service prior to the field assessment to outline the methodology for completing this assessment. Supporting information should include pictures or video with associated geospatial coordinate information detailing the presence or absence of a feature. This material will be used by the Service during their own desktop and field evaluations of the project.

In many cases, project proponents may not have permission for access to all the lands within the Analysis Area. Data collection and verification should occur within all areas that permission is granted, or from other public access points such as public roads.

D. Desktop Re-analysis (if necessary)

Step 8. Corrections Based on Field Data

Following the completion of the field assessment and verification of the initial desktop analysis, any findings that conflict with the desktop analysis would require making corrections to the original analysis prior to submission to the Service for review and consideration.

Step 9. Quantify the Impacts of the Project

Once the assessment is complete the total impacts of the project can be quantified. Project proponents should quantify the number of acres which have been found to be suitable LPC habitat which falls into impacted areas from the project. Next, the appropriate mitigation ratio is applied to determine the number of offset units required for the given impact.

E. Project Analysis Submission to the U.S. Fish and Wildlife Service

Step 10. Project Submission

Project proponents should include digital copies of geospatial data, pictures, videos and any other supporting materials when submitting a project to the Service. Geospatial data should include the original data for the Analysis Area, buffered versions of the original data, data corrected following field assessments, and a complete processed set of data supporting conclusions of effects, or lack thereof. The Service and project proponents should work together on appropriate options to accomplish this in an efficient manner.

DATA AND SOURCES

The following is a list of data and sources that are considered useful in assessing potential impacts to LPC. This list is not exhaustive. Project proponents should seek out all available information and should document all data used in their analyses. A copy of this information should be made available as part of the submission to the Service.

General Information
County boundaries
State boundaries
Topographic maps
Aerial or satellite photography
Ecoregion boundaries
Major Land Resource Area boundaries
U.S. Fish and Wildlife Service LPC Service Area boundaries
LPC Historical Occupied Range
LPC Estimated Occupied Range

Land use/ Land cover
National Land Cover Dataset
Land Fire
U.S. Department of Agriculture CropScape
SSURGO soils and ecological site descriptions
National Hydrology Dataset
National Wetland Inventory
Federal Emergency Management Agency National Flood Hazard Layer

Fragmenting Features
Homeland Infrastructure Foundation-Level Data (HIFLD)
Federal Aviation Administration Digital Obstruction File
Power lines
Oil and gas
Roads

Conservation Targeted Landscapes
U.S. Geological Survey Protected Area Database

Service Analyses
Grassland Intactness Analysis

LEPC Occurrence
WAFWA Southern Great Plains Crucial Habitat Assessment Tool
eBird
Breeding Bird Survey routes
Natural Heritage Programs
State Wildlife Agencies

TECHNICAL CONSIDERATIONS

Coordinate System for Methods Data – All geospatial data should be processed and analyzed using the same datum and projection. We recommend the use of the USA Contiguous Albers Equal Area Conic USGS version coordinate system for all GIS analyses. This coordinate system is as follows:

USA_Contiguous_Albers_Equal_Area_Conic_USGS_version
WKID: 102039 Authority: Esri

Projection: Albers
False_Easting: 0.0
False_Northing: 0.0
Central_Meridian: -96.0
Standard_Parallel_1: 29.5
Standard_Parallel_2: 45.5
Latitude_Of_Origin: 23.0
Linear Unit: Meter (1.0)

Geographic Coordinate System: GCS_North_American_1983
Angular Unit: Degree (0.0174532925199433)
Prime Meridian: Greenwich (0.0)
Datum: D_North_American_1983
Spheroid: GRS_1980
Semimajor Axis: 6378137.0
Semiminor Axis: 6356752.314140356
Inverse Flattening: 298.257222101

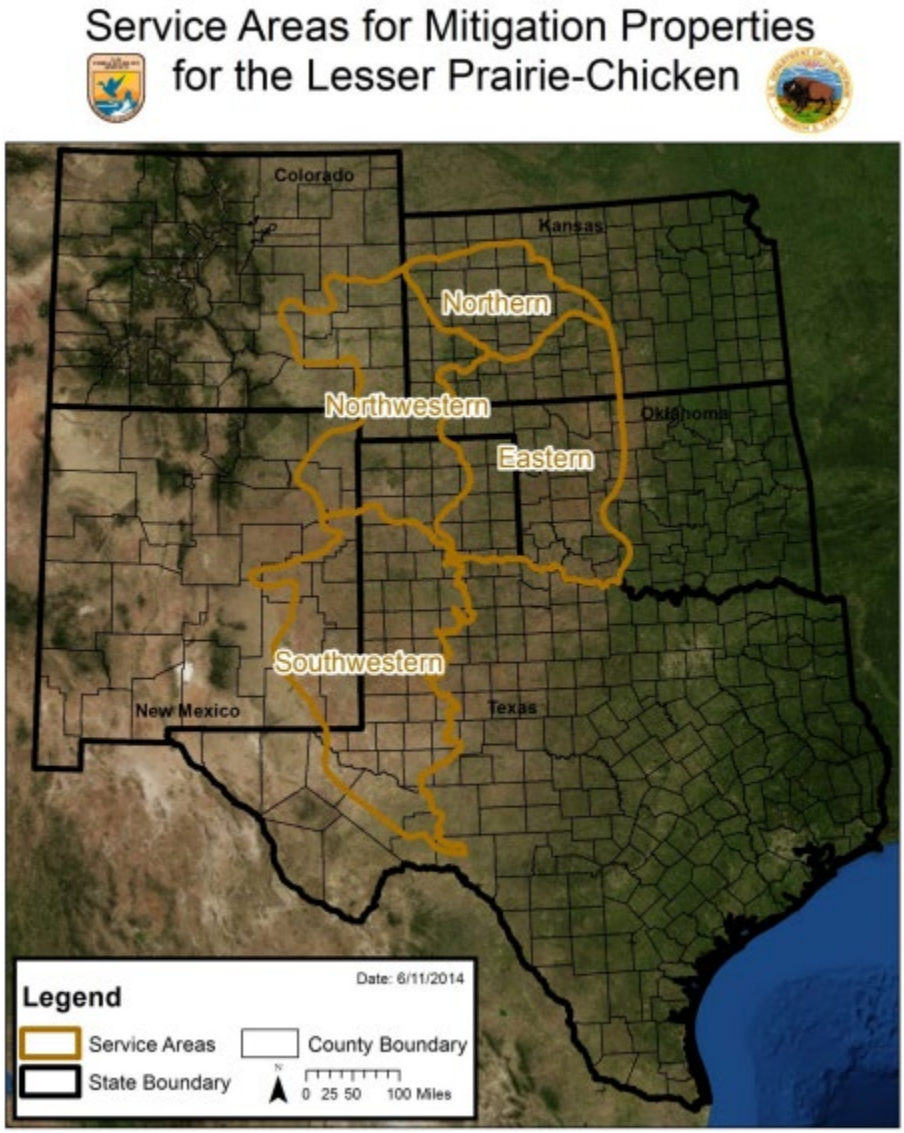
Global Positioning Systems (GPS) – Data collected with GPS should be reported in decimal degrees, with a precision to at least 5 decimal places (i.e., DDD.DDDDD °).

Digitization Scale – All data that is digitized using imagery as a reference base layer should be completed at the same scale and methods documented as part of the project submission.

Methods Checklist (Non-Exhaustive)

- Is the proposed action located within the Estimated Occupied Range+10 mile buffer?
- Is the proposed action located within a USFWS Service Area?
- Is the proposed action located within a WAFWA SGP CHAT category?
- Is the proposed action located within any Conservation Targeted Landscape?
- Is the proposed action located within a Service Grassland Intactness Analysis Patch or Proximity area?
- Are there features that fragment the landscape of the Analysis Area?
- What are the land use / land cover classes as described by LandFire and USDA's CropScape?
- What are the soils as described by USDA's SSURGO?
- Are there documented occurrences of LPC in the Analysis Area?

Appendix 2


Service Areas for Mitigation Properties
for the Lesser Prairie-Chicken
Colorado
Kansas
Northern
Northwestern
Oklahoma
Eastern
Southwestern
New Mexico
Texas
Legend
Date: 6/11/2014
Service Areas
County Boundary
State Boundary
0 25 50 100 Miles