

United States Fish and Wildlife Service
Survey Protocol for the Lesser Prairie-Chicken
Updated – March 2023

This document identifies survey methods that will produce sound scientific information upon which to inform (along with other relevant information) decisions and actions for the conservation of the lesser prairie-chicken (*Typanuchus pallidicinctus*, LEPC). Using consistent survey methodology will also allow for greater comparison and analysis of results, and thereby increase our understanding of this species and its habitat requirements.

The survey protocols for the LPC are not designed to determine absence, but rather provide information regarding species presence when there is a positive detection and potentially information related to a relative index of abundance. This information can be used with other data (e.g., habitat quality and quantity) to assess actions for the species. Please note that this document supersedes any previous guidance from the U.S. Fish and Wildlife Service (Service) on conducting surveys for the LPC. Additional information that relates to the effectiveness of these survey guidelines in conserving the LPC is welcome. We will consider modifications of, or alternatives to, these methods and qualifications on a case-by-case basis. This document will be managed adaptively, and the most current version can be found at the following website: <https://www.fws.gov/lpc>. Please refer to this website after September 1st of each year and before initiating any LPC surveys, as this document may be updated annually and as needed.

When a Section 10(a)(1)(A) Scientific Permit is Needed for Surveys

Upon effective listing, March 27, 2023, “take” of the LEPC will become prohibited across both the Southern and the Northern Distinct Population Segments. Individuals engaged in activities that have the potential to “take” listed species are responsible for determining whether the likelihood of “take” is great enough to need a section 10(a)(1)(A) permit.

For information on how to apply for a section 10(a)(1)(A) permit please visit <https://fwsepermits.servicenowservices.com/fws>.

Requirements for Conducting Surveys for the LPC

Protocols

Ground Based Surveys

- Surveys should be designed to provide complete coverage of the area of interest and the surrounding areas of potentially suitable habitat within 3 miles of the

project boundary (a saturation survey). Additionally, surveys should be designed to incorporate areas of non-habitat where LEPC may opportunistically gather for lekking activities such as cropland.

- With the assumption that LPC vocalizations can be heard up to 1 mile, search points should be established at up to 1 mile intervals to result in complete coverage of the area of interest. (Note: Assumption is based on limited information on full detection rates, which can be influenced by a variety of factors including, but not limited to, ability of surveyor, wind, ambient noise, etc. It is recommended that the surveyor use 1 mile as the maximum distance between listening points and surveys should be adjusted as appropriate).
- At each search point, the observer(s) should shut off vehicle, move at least 10 meters from the vehicle, listen, and complete visual scans using binoculars for 5 minutes.
- Surveys should begin no earlier than one-half hour before sunrise and should conclude no later than 90 minutes post sunrise.
- Surveys should be completed between March 15 – May 7, with a minimum of one survey occurring during the month of April.
- Each area should be surveyed at a minimum of two times with surveys being at least 1 week apart. (Note: Specifics about detection probabilities over time are not known but detection probabilities are expected to increase as the number of surveys increase).
- Surveys will not be conducted if, at any point during the survey, relative sustained wind speed exceeds a 3 on the Beaufort Scale (12 mph).
- Surveys will not be conducted if rain or snow is falling during listening stops or lek counts.
- Wind speed and temperature should be recorded at each search point.
- The observer will rate the noise present at each stop (i.e., traffic, pump-jacks, cattle, transmission lines) as none, low, moderate, or high.
- Leks may be detected visually and/or audibly.
- If a lek is located on property where the observer has permission to access or lek is visible from a public road, the total number of birds on the lek should be recorded. When approaching leks to document the number of birds on a lek, approach in a manner to prevent flushing birds. To minimize the potential for flushing birds do not attempt to get any closer than 75 meters of the lek. Record if birds are flushed, how many birds were flushed, and the distance from the lek when the birds flushed. Observers should stay a minimum of 2 minutes but no longer than 5 minutes when counting LPC on detected leks. If a lek is visible from an established road observers will not exit the vehicle when attempting to count individual LPC. (Note: this should be completed during the 120 minute survey window)

- Vehicles should be operated only on established roads at all times.
- GPS location, compass bearing, and distance to the lek should be reported. If a lek is visually located, do not flush the birds to get a GPS location. A GPS location should be taken from a remote point and a laser range finder should be used to get the distance to the lek. When the location of a lek is not visually available, the lek location should be recorded using two compass bearings that are 70-110 degrees apart to minimize triangulation error. GPS locations of the origin of each compass bearing should be provided as well as the location of the search point.
- Record and report any incidental observation of individuals while in the field, in route to or from survey locations, and while in between any search points

Aerial Surveys

- Aerial surveys should be completed using a helicopter.
- A minimum of two observers is required.
- Surveys should be conducted at an approximate air speed of 60 kilometers per hour (37 miles per hour).
- Surveys should be conducted at an altitude of 25 meters (82 feet) above ground level.
- Surveys should not be conducted over housing, livestock, or large water bodies.
- Surveys should be conducted from sunrise until 90 minutes post sunrise.
- Surveys should be completed between March 15 – May 7. With a minimum of one survey occurring during the month of April.
- Transects should be oriented north-south with 400 meter spacing between transects. Transects should cover the entire area of interest as well as potentially suitable habitat within 3 miles of the project boundary.
- Each area should be surveyed two times with surveys being at least 1 week apart. After completion of the first survey, transects for the second survey should be shifted by 200 meters either east or west.
- The observer should have a GPS unit to record a track log of each flight path to provide documentation of actual transects surveyed. Track logs should record points at least every 2 seconds.
- All detections should be communicated between observers to ensure accurate data recording.
- Surveys should not be conducted if rain or snow is falling.
- Surveys should not be conducted if, at any point during the survey, the relative sustained wind speed exceeds a 3 on the Beaufort Scale (12 mph).
- The GPS location of any individual LPC or lek detections should be recorded.

- The number of individuals detected should be recorded.

Qualifications required

All permit applications should specifically state how each applicant meets the appropriate requirements. All permit applicants for ground surveys shall have a biology background with audible grassland bird survey experience. Additionally, surveyors shall also have the ability to detect and identify (both audibly and visually) the LPC. Audible detection would require the ability to detect LPC booming and mating calls associated with lekking activities. Visual detection would require the ability to visually distinguish the LPC in the field.

All permit applicants for aerial surveys should have a biology background with experience in aerial survey techniques and have experience with aerial surveys for prairie grouse.

Reporting

Annual reports are required by all section 10 (a)(1)(A) Permittees. For all activities conducted under the authority of a 10(a)(1)(A) permit in relation to the LPC, reports must be submitted electronically by July 1st to each respective Ecological Services Field Office in the state where the surveys occurred. Reports must include both positive and negative survey results. If no surveys are performed in a given year, a report stating such is required. Survey reports must include the following information for each search point or transect or lek count:

General

- Distinct Population Segment
- LEPC Ecoregion
- State
- County
- Dates of surveys (Completed and attempted. Indicate reason for abandoned survey efforts and rest of required reporting information, as available.)
- Time of day; Start and stop of entire survey, each listening stop and lek counting
- Weather conditions
- Known or Assumed Source(s) of Noise

Personnel

- Name of all persons involved in the surveys and a description of their duties
- Section 10(a)(1)(A) scientific report number under which work was conducted
- Person(s) directly responsible for writing the report

Location

- GIS layers including:
 - Property boundaries
 - Survey design (flight lines or search points)
 - Detections
 - References such as road names and political boundaries
 - Search points
 - Triangulation points
 - GPS track log for aerial surveys
- All GIS data should be provided in:
 - Projected Coordinate System:
USA_Contiguous_Albers_Equal_Area_Conic_USGS_version
- If GIS data is not an option, U.S. Geological Survey quadrangle map can be used.
- A general description of soils, vegetation, woody vegetation or anthropogenic features and land use of each area surveyed.

Methodology Used

- Aerial or ground based surveys
- Any other specific protocol details

Survey Results

- Both positive and negative results for each point or transect surveyed
- Detection locations in GPS coordinates in decimal degrees to at least 5 decimal places
- Geodetic datum of GPS coordinates
- GIS layer of detection locations
- The number of individuals detected (if detected visually)
- Other notable observations (including but not limited to habitat observations and behavior of detected individuals).