Aerial Lek Survey Protocol

Provided are WAFWA-approved protocols for conducting Lesser Prairie-Chicken (LEPC) lek surveys for the purpose of the Range-Wide Oil & Gas Candidate Conservation Agreement with Assurances (CCAA) operations.

SURVEYOR QUALIFICATIONS

Qualification to conduct a lek survey follow the most current, 2023 U.S. Fish & Wildlife Service guidelines:
For aerial surveys, the surveyor shall have: a biology background with experience in aerial survey techniques; and have experience with aerial surveys for prairie grouse.

SURVEY DESIGN

Area of Interest. The survey design will provide complete coverage of the action area (direct impact) and the surrounding areas that may be affected by the action (indirect impact), where there is potentially suitable habitat. The following guidelines assist the survey designer in defining these areas, called the Area of Interest (AOI).

- Direct Impact Areas. Consider all direct impacts associated to the project, such as the project footprint, new ingress/egress roads, utility/pipeline associated to the project, and staging areas.
- Indirect Impact. The noise or other disturbance resultant of the project which has the potential to affect the LEPC. The CCAA defines the exact impact buffer distance for each CCAA covered activity.
    - The AOI buffer shall be at least 1.25 miles from the boundary of the project's direct impact area.
- Potentially Suitable Habitat. Under the CCAA, 'potentially suitable habitat' includes all lands except those determined to be non-habitat. Specific to this purpose, non-habitat is where LECP would not lek (developed/urban areas, forests, open water). *Please note:* cropland or fallowed fields are potentially suitable habitat and will be included in the survey area.

Survey Type: Saturation. Flight transects should be oriented north-south with 400-meter spacing between transects, to result in complete coverage of the AOI. The maximum allowable LEPC detection distance is 200 meters on either side of the transect line. To address any potential gaps the survey coverage (due to small deviations in flight pattern, wind, etc.), the transects for the second survey must be shifted by 200 meters either east or west. This should ensure a full saturation survey of the AOI, with the exception of the intentional avoidance areas mentioned below.

Avoidance Areas. Surveys should not be conducted over housing, livestock, or large water bodies.

Flight Requirements. These protocols are designed for a helicopter survey with a minimum of two surveyors, where one of those surveyors may be the pilot. Surveys should be conducted at an approximate air speed of 60 kilometers per hour (37 miles per hour) at an altitude of 25 meters (82 feet) above ground level.

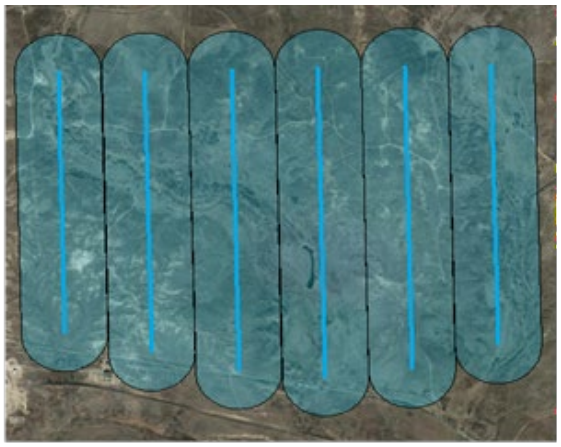

Figure 3. Example of flight lines spaced 400 meters and the 200-meter detection range covering the distance between flight lines.

SURVEY TIMING

Survey Dates. The AOI should be surveyed at least two times, with surveys being greater than 1 week apart. Surveys must be completed between March 15 to May 7, with a minimum of one survey occurring during April. Surveys should begin no earlier than sunrise and should conclude no later than 90 minutes after sunrise. This provides a 90-minute survey window per day.

Weather & Visibility Conditions. Surveys will only be completed under optimal weather conditions conducive to visually detecting birds. Surveys will not be conducted if rain or snow is falling. Surveys willnot be conducted if, at any point during the survey, the relative sustained wind speed exceeds a 3 on the Beaufort Scale (12 mph).

METHODOLOGY

Record Transect Path. The surveyors must 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. Use the Projected Coordinate System: USA Contiguous Albers Equal Area Conic USGS version.

Record Observations/Leks. A minimum of two surveyors is required, where one of those surveyors may be the pilot. All LEPC detections should be communicated between surveyors to ensure accurate data recording. The GPS location of any individual LEPC or lek detection should be recorded, along with the number of individual LEPC detected. Ensure that the GPS point ID is recorded on the form for each detection. Use the Projected Coordinate System: USA Contiguous Albers Equal Area Conic USGS version. Where birds are found off the transect line, record on the survey form the compass bearing and approximate distance to the lek.

FORMS

Survey forms are provided to ensure all required items are documented and the data is presented to WAFWA in an easy to compile format. Fillable forms are provided online or by request.

REPORTING

The following items are required to be submitted to WAFWA by July 1st for documentation of survey results:

1. Provide the qualifications of the surveyors in a short narrative.
2. GPS shapefile of each transect line flown (actual route, not the planned route).
3. Provide all transect Survey Forms.
4. GPS shapefile of each bird observation and/or lek location, with point identification that matches the survey forms and findings report.

   Provide all reporting materials to Chanda Pettie, CCAA LPC Program Director at chanda.pettie@wafwa.org

Exhibit A. Survey Form

Fillable forms are provided online or by request.

Aerial Lek Survey Form

(updated Jan 2026)

Survey Date: _____ Survey Period is Mar 15 - May 7
☐ First or ☐ Second Survey

Ecoregion: _____
State, County: _____

Surveyors: _____
Surveyed For: _____

Sunrise Time: _____
Start Time: _____ No earlier than sunrise.
End Time: _____ No later than 90 minutes post sunrise.
Weather: _____ Stop if rain/snow or wind speeds >12 mph.

Transect ID: _____
GPS track the flight path at ≤2 sec intervals.

Bird Observations

	Bird Count	GPS Point ID	Range (m)	Bearing (°)	Notes
1					
2					
3					
4					
5					
6					
7					
8					
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11					
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Notes:

Provide GPS point data in the Projected Coordinate System:
USA Contiguous Albers Equal Area Conic USGS version

Survey Dates: Two surveys must occur between March 15 – May 7, minimum of one survey occurring in April. Surveys one week apart.
Weather: Rain, Mist, Snow, Sunny Cloudy, Partly Cloudy
Ecoregion: Mixedgrass, Shortgrass, Sandsage, Shinnery Oak Prairie
Wind Speed: <1 mph = smoke rises vertically, 1-3 = direction shown by smoke drift, 4-7 = leaves russle, 8-12 = leaves and light twigs in motion.
Bird Count: Total number of birds seen.
GPS Point ID: Provide as a GPS shapefile with this form.
Range (m): Distance or approx. distance to bird observation.
Bearing (°): Compass bearing in degrees to bird observation.

Gear: range finder, compass, bionoculars, anemometer.