Range-Wide Oil & Gas Candidate Conservation Agreement with Assurances
for the Lesser Prairie-Chicken (*Tympanuchus pallidicinctus*)

Ground Based 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 ground surveys, the surveyor shall have: a biology background with field-based grassland bird survey experience; be able to audibly detect LEPC booming and mating calls associated with lekking activities; and visually be able to distinguish the LEPC in the field.

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. 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. Based on the best science available, LEPC lekking vocalizations can be heard up to one mile. Therefore, survey search points shall be established at or less than 1-mile intervals across the AOI. If circumstances hinder hearing vocalizations, such as ambient noise or ability of the surveyor, then the survey design should decrease the search point intervals accordingly.

Accessibility. The design shall consider site accessibility to ensure that vehicle access is possible to the search points. Vehicles must stay on established roads. If a search point cannot be accessed by vehicle, and no alternative is found, then this gap in survey coverage should be clearly identified in the survey findings report.

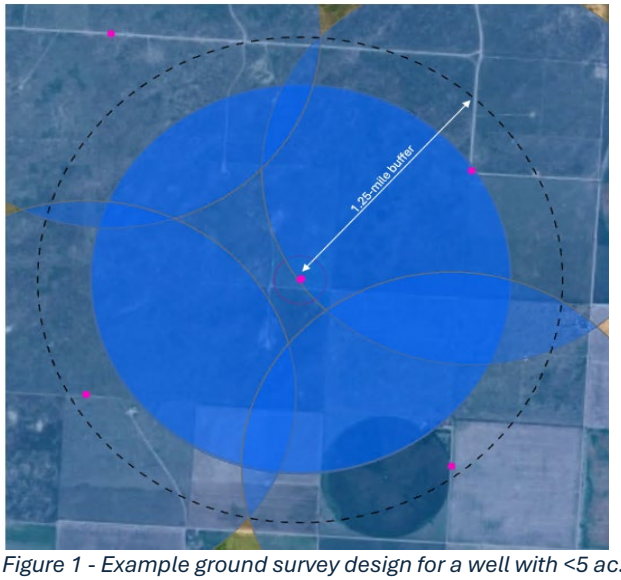


Figure 1 - Example ground survey design for a well with <5 ac. footprint, using a 1.25 mile AOI = 5 search points. Note: points are located on existing roads.

SURVEY TIMING

Survey Dates. The AOI must be surveyed at least two times, with surveys being greater than one week apart. Surveys will be completed between March 15 to May 7, with a minimum of one survey occurring during April. Surveys should begin no earlier than one-half hour before sunrise and should conclude no later than 90 minutes after sunrise. This provides a 120-minute survey window per day.

Weather & Ambient Noise Conditions. Vocalizations may be hard to hear under certain weather conditions or due to ambient noise. Therefore, surveys will only be conducted under optimal weather conditions.

- Surveys will not be conducted if rain or snow falls during listening points, and
- If at any point during the survey relative sustained wind speed exceeds a 3 on the Beaufort Scale (12 mph).

Weather conditions, including wind speed, must be recorded at each search point. An anemometer, such as a Kestral, should be part of the surveyor field gear. Additionally, the observer will rate the ambient noise present at each search point (i.e., traffic, pump-jacks, cattle, transmission lines) as none, low, moderate, or high.

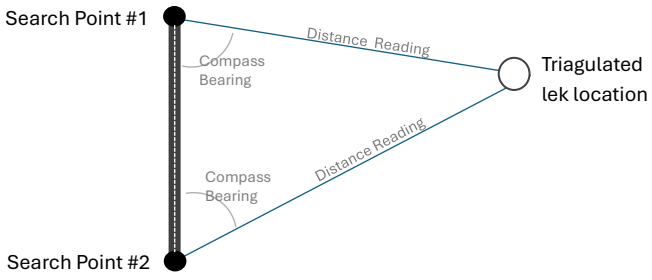
METHODOLOGY

Search Points. At each search point, the surveyor should shut off vehicle, move at least 10-meters (30 feet) from the vehicle, listen, and complete visual scans using binoculars for 5 minutes. Leks may be detected visually and/or audibly. Reminder: vehicles must stay on established roads. Additionally, record any incidental observation of birds while in route to or from survey locations and while in between any search points.

A survey form will be completed for each search point, regardless of the finding. That is, if no birds are detected a completed survey form, and GPS location of the search point, is still required. Ensure that the GPS point ID is recorded on the form. Projected Coordinate System: USA Contiguous Albers Equal Area Conic USGS version.

Record Lek Location. Where birds are audibly found, record on the survey form the compass bearing and approximate distance to the lek. If a lek is visually located, do not flush the birds to get a GPS location; use the same procedure of obtaining a compass bearing and approximate distance. A range finder and compass should be part of the surveyor field gear.

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 provide a triangulation of the location. GPS locations of the origin of each compass bearing should be provided as well as the location of the search point.



Record Bird Count (if possible). If a lek is visible from the search point, the total number of birds on the lek should be recorded. To minimize disturbance potential, observers should not exit the vehicle to make the observation. Do not attempt to get any closer than 75 meters (250 feet) 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 near a 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 surveyor(s) in a short narrative.
2. Summary of Findings. This form provides a summary of the two survey efforts per search point (i.e., listending point) with resulting finding of "No Lek Found" or "Lek Documented".
3. Provide all Survey Forms. Note that both positive and negative results are required for each survey point.
4. GPS shapefile of each survey point, with point identification that matches the survey forms and findings report. Provide all survey points, not just those with a positive finding. If not available, provide latitude/longitude of each point using coordinates in decimal degrees to at least 5 decimal places.
5. GPS shapefile of lek locations. These differ from the survey points and are most often identified by triangulation. If not available, ensure that the findings report has enough detail that the lek location can be made (e.g., lek located 50 meters southeast at 80° from point CZ01).

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

Exhibit A. Summary of Findings

Fillable forms are provided online or by request.

Ground Based Lek Surveys - Summary of Findings & Reporting

Survey Year:
Surveyors:
Surveyed For:
Ecoregion:
State, County:

Provide positive and negative results for each survey point to WAFWA by **July 1st**. Provide a GPS shapefile or Google Earth (.kmz) of each survey point, and for each lek found (triangulated point), in the Projected Coordinate System: USA Contiguous Albers Equal Area Conic USGS version. If not available, please provide latitude/longitude of each point using GPS coordinates in decimal degrees to at least 5 decimal places. The Search Point ID/Lek Point ID must be provided in the GPS data. Provide all Survey Forms.

					Triangulated Lek Location (if applicable)	
Search Point ID	1st Survey Date	2nd Survey Date	Survey Results	Highest Bird Count	Lek Point ID	Notes
CZ099_1	3/17/2023	4/15/2023	No Lek Found	0		
CZ099_2	3/17/2023	4/15/2023	Lek Documented	5	CZ099_lek1	

Notable Observations (i.e., habitat conditions, bird behavior etc.):

Ground Based Lek Survey Form

(updated Jan 2026)

Survey Date: Survey Period is Mar 15 – May 7

☐ First or ☐ Second Survey

Surveyors:

Surveyed For:

Sunrise Time:

Start Time: No earlier than 30 minutes before sunrise.

End Time: No later than 90 minutes post sunrise.

Weather: Stop if rain/snow or wind speeds >12 mph.

Ecoregion:

State, County:

Habitat:

Search Point						Observation				Triangulation: when birds are heard but can not be seen			
Search Point ID	Time	Wind	Temp (°F)	Noise	Noise Type	Type	Bird Count	Range (m)	Bearing (°)	Lek Point ID	Range (m)	Bearing (°)	Notes
CZ099_1	6:50 AM	1 - 3 mph	63	Low	Traffic	Audible	--	120	45	CZ099_1x	230	344	On neighboring property

Notes:

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

Gear: range finder, compass, bionoculars, anemometer.

Bearing Degrees (°)

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
Distinct Population Segment (DPS): Northern, Southern
Ecoregion: Mixedgrass, Shortgrass, Sandsage, Shinnery Oak Prairie
GPS Point ID: Provide as a GPS shapefile with this form.
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.
Noise: None, Low, Moderate, High
Noise Type: Known or assumed source(s) of noise
Type: Audible (birds heard), Visual (birds seen), None (no birds)
Bird Count: Total number of birds seen.
Range (m): Distance or approx. distance to bird observation.
Bearing (°): Compass bearing in degrees to bird observation.
Triangluation: If birds are heard but not seen, move to a second location 70-110 degrees away. Record GPS point, range and bearing.

Exhibit A. Survey Form

Fillable forms are provided online or by request.