

UW - Madison Department of Forestry and Wildlife Ecology
Bird and Bat Mortality Study

Searcher Protocol

Prepared by Steve Grodsky
Graduate Research Assistant
UW - Madison Department of Forestry and Wildlife Ecology

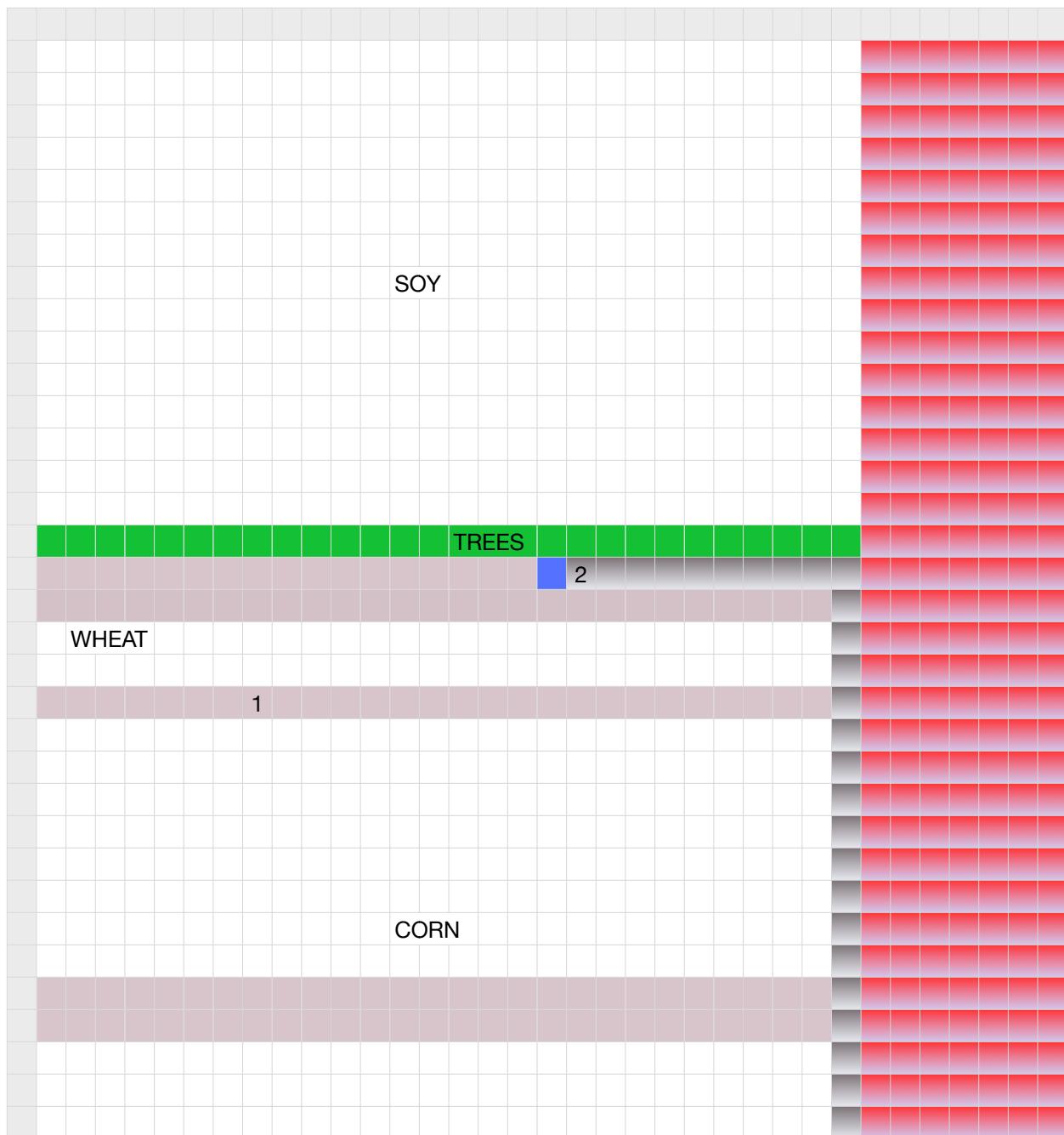
I. Defining the Search Area:

A. The search area around the turbines is defined by a 525 ft by 525 ft square, in which the turbine constitutes the center of the square. All of the plots are located within active agricultural fields throughout northern Dodge and Southern Fond Du Lac counties. The total area of the plot is equivalent to 6.3 acres; the corners of the square are marked by 6 foot bamboo stakes with iridescent marking tape. The transects cut into the square represent the 1.1 acre search area searchers are responsible for. Plots that are not at the proper vegetation height to be cut will contain two bamboo stakes 15 feet apart on both sides of the square. These stakes create a lane in which searches should take place; these lanes will later be mowed when the vegetation height is at the proper level. There are a total of five mowed transects within the plot, and the sixth transect is made up of the access road leading up to the turbine and an extension of this access road mowed in the plot. The transects are approximately 525 feet long. Each segment born perpendicularly from the access road and its extension are half the length of the transect, or 262.5 feet. Maps will be provided on the back of the data sheet with significant land marks, property lines, crop types, and the search transects and the access road with its mowed extension denoted. While most of the transects are cut perpendicular to the

access road and the access road extension, exceptions will be noted on the map for the specific turbine.

B. Example of map for a turbine to be searched

Fig 1.



KEY

-  Trees (internal and external of square plot)
-  Turbine
-  Property Line
-  Access Road
-  Mowed Transects and Road Extension

*Crop type and other information are written on the map

NOTE: Maps are to be interpreted as approaching from the main road to the access road leading up to the turbine; estimated distance of carcasses found in relation to the turbine are to be marked on map by their Carcass ID number.

II. Data Collection: Pre-Search

1. Searcher: Record your name, including first and last name
2. # of Searchers: Record number of searchers, if alone record “1”
3. Turbine #: Record proper turbine number
4. Date: Record date
5. Start Time, End Time & Total Time: Record the time at which you start and finish the search, then subtract to determine total
6. Wind Condition: Record the wind condition on site, choosing from three codes
 - a. Calm (C) : Air is still, no vegetation movement, no feeling of a breeze
 - b. Light (L) : Slight breeze, approximately 1 - 15 mph, vegetation waving
 - c. Strong (S) : Obvious stronger winds, pre-storm weather conditions, 15 mph and up, heavy gusts of wind
4. Cloud Cover: Determine and record cloud cover, choosing from three codes

- a. Clear (CL) : No visible clouds in sky, “blue” skies
- b. Partly Cloudy (PC) : Some clouds, not stormy but simply cloudy, some sunshine
- c. Overcast (O) : Many clouds in sky, often grey, pre-storm or pre-rain weather conditions

*Do not confuse morning fog with clouds, skies may not necessarily be overcast when fog is present

5. Is the top of the turbine visible?

- a. Circle “YES” if the top of the turbine is visible (no low-lying fog)
- b. Circle “NO” if the top of the turbine is not visible (fog is at least 200 feet off the ground, generally foggy at ground level)

6. Precipitation

- a. Circle “YES” if there is precipitation of any degree
- b. Circle “NO” if there is no precipitation

III. Searching

- A. The searcher is to walk the 6 transects, consisting of 5 mowed or staked transects and the access road and its extension. While walking the transects, search the ground covering the entire 15 foot wide transect for dead birds and bats. Keep an eye out for abnormalities in shape and color on the ground substrate.
- B. Walk at a pace conducive to the likelihood of finding carcasses, approximately 15 to 30 minutes per turbine depending on plot design.

IV. Collecting

- A. Upon locating a carcass, record the Carcass Condition Rating
 - 1. Carcass Condition Rating
 - a. Fresh (1) : The bird or bat appears to have recently expired, limited decomposition or scavenger impact, relatively decent condition

- b. One to 2 days old (2) : Partially scavenged, usually by insects and their larvae, slightly decomposed but still in reasonably good condition
 - c. Decomposed (3) : The carcass has obviously been on the ground for a while, often decomposed down to fur/feathers and bones
 - d. Can't Be Determined (4) : The rating of the carcass can not be determined due to factors such as heavy rains, flooding, human interference, etc...
- B. If camera is available, take a picture of carcass where it lies as well as a picture with the wind turbine in the background and the carcass in the foreground for estimating distance
- C. Indicate the approximate position of the carcass in relation to the turbine by placing the number of the carcass in a square on the grey scale transect, each representing 15 feet, at the estimated distance from the turbine (Refer to Fig.1)
- D. Next place the carcass in a zip-loc plastic bag and label the bag with the Carcass ID

1. Carcass ID

- a. The Carcass ID consists of a single number composed of the turbine #, the date, and the # of the carcass in order of carcasses found that day. The count for carcasses are renewed each day. For example, if 2 bats are found on the same day, at turbine 37 on August 2, 2008, the Carcass IDs would appear like so:

37-8/2/2008-1

37-8/2/2008-2

- E. Store the plastic zip-loc containing the carcass in the freezer at the wind company building upon completing searches for the day (**Be sure to label all bags properly before placing in freezer**)

V. Data Collection: Post Search

A. Vegetation/Visibility Scale

- 1. Good (1) : Transects do not need mowing, carcasses visible, easily found
- 2. Needs mowing in a few days (2) : Carcasses becoming harder to find, level of vegetation impairing (usually with hay, grass, and alfalfa)
- 3. Needs mowing ASAP (3) : Carcasses underneath vegetation, vegetation height higher than 6 inches, dense vegetation

PROTOCOL SUBJECT TO CHANGE

AMENDMENTS WILL BE MADE AND SEARCHERS WILL BE PROPERLY NOTIFIED
AND TRAINED, AS THE STUDY EXISTS IN AN ADAPTIVE PROGRESSION

For more information: Refer to Data Sheet Example

Steve Grodsky
The University of Wisconsin - Madison
Department of Forestry and Wildlife Ecology
Graduate Research Assistant
1630 Linden Dr.
Russell Labs Room A226
Madison, WI 53706
C: 973-222-7380
grodsky@eden.rutgers.edu