AVIAN LINE TRANSECT PROTOCOL

Shenandoah National Park

BACKGROUND

Cerulean Warblers are a species of continental concern and their numbers are declining throughout most of their range. Observers will conduct walking transect surveys (2-kilometer) along pre-defined trails and fire roads in the park. Observers will detect warblers by visual (binoculars) and audible means and record data on forms

WHAT IS A LINE TRANSECT?

Line transects are a fairly simple way to survey for bird populations. Unlike traditional point counts, where data are collected from a specific point on the landscape, line transects collect continuous data over the course of a 'walking transect'. This data collection method is particularly useful for species that are not easily detected through point counts either because they are found locally, they are rare or uncommon, or they are clustered. Cerulean Warblers are often found in loose groups and they may or may not be present in what we deem to be 'appropriate habitat'. For this reason, we can increase our chance of detecting them, when present through use of a line transect.

WHEN AND HOW TO CONDUCT TRANSECTS

Survey Period: Between May 21th and June 21th
Time: between sunrise and 10 AM.
Weather: conduct surveys only in fair weather (use codes on datasheet)
Who: no more than two observers should conduct the survey

You should plan to arrive at your first point at or near sunrise in order to maximize the amount of productive singing hours you can capture. Fill in the top of the data sheet with all relevant information and note the start time (when you actually begin walking the transect). Walk slowly along the transect, stopping occasionally to listen for birds. There is no set rule for how fast one should travel, but you should walk at least 1km/hour.

Mentally envision the trail as a line that extends through the center of a 'strip' of habitat on either side of you (See diagram below). Further divide the habitat on each side of the line into distance 'bins' of 0-25 m, 25-50 m, 50-100m and >100 m. Whenever you see or hear a bird, record its location in the appropriate distance bin. It is important to note that this distance is not how far the bird is away from you, but rather the perpendicular distance from the bird to the center line. Note on your data sheet how you identified the bird – by Song (S), Call (C), or Visual (V). If you have a GPS unit, please mark the location in the GPS and record it on the data sheet. You may also record elevation from the GPS. If you do not have a GPS, estimate and mark it on your map.

After recording this information, take a minute to survey the habitat around you. To the best of your ability, estimate the percent cover of each of the ground, shrub, and canopy layers using the codes on your datasheet. Note any other interesting habitat features like exceptionally tall or large trees, canopy gaps, dominance of a particular shrub or tree species, etc. and place those in the final column. Continue with the survey being careful not to double count individuals.

At the completion of your survey route, note the time at the top of the sheet and proceed back.

FOR THOSE WHO WANT TO DO MORE

Although Cerulean Warblers are the main focus of these surveys, there are a variety of other high-priority species for which we would like to have more information. If you feel comfortable identifying the following species: **Worm-eating Warbler**, **Kentucky Warbler, Whip-poor-will, Canada Warbler, Louisiana Waterthrush, and Winter Wren**, you may record them in addition to Cerulean Warblers. If you are only planning to record a subset of these species, please indicate which species you've chosen on your datasheet so that we can accurately compare survey routes. Additionally, if you observe or hear any peregrine falcons, you should record them as well.

Good luck and have fun!!

Line Transect Visual