6/21

Handout #1 The Breeding Bird Survey Field Ornithology UMFBS 1980

Migratory Non-Game Bird Studies
Bureau of Sport Fisheries and Wildlife
Migratory Bird and Habitat Research Laboratory
Laurel, Maryland 20810

Cooperative Breeding Bird Survey of North America

Purpose: To obtain, by random sampling, an index of abundance of breeding birds. This Survey provides information on distribution and relative abundance of North American birds, and specifically measures changes in abundance that result from such factors as changes in land use and widespread applications of pesticides.

Sampling Technique: Each one-degree block of latitude and longitude (about 55 miles wide, east to west, by 70 miles long) is sampled by one or more random transects or "routes." In some States west of the 100th meridian the sample size is two routes for each block, 2 x 2 degrees. The number of routes per degree block varies according to the numbers of qualified observers available, but preferably is uniform within a given State or Province. *Starting points* and compass directions have been determined *at random*. Each route is covered once each summer by the following standardized procedure: *Begin exactly one half hour before sunrise; make* 50 *stops one half mile apart and count all birds heard* at each stop or seen within one-fourth mile *during* a 3-*minute* watching and listening period. *One observer* must do all the observing on a given route, but he may have an assistant to help with recording or driving. Unless driving conditions are very poor, most routes should be completed in 4 to 4½ hours.

Time Period: In most States, routes should be run *in June*. In Canada and bordering States the first week of July is acceptable (except in Ohio, Pa., and southern N.Y.). In California, Nevada, Arizona, New Mexico, Texas, and Florida routes may be run as early as May, at the discretion of the State Coordinator(s). In general, select a date as near as possible to last year's.

Scouting a Route is strongly recommended. More leisurely trial runs may be made in advance to become familiar with songs and calls and with roads and stopping locations. A single route may be run more than once if the observer wishes to keep in practice, but only one coverage of a route should be reported; this must not be the best of several coverages, but the first one made under satisfactory conditions of weather and familiarity with birds along the route.

Strict adherence to rules is essential for statistical analysis of results.

Directions for Running Routes

Equipment: Clip board, pencils, forms supplied by the Migratory Bird and Habitat Research Laboratory, map, binoculars, watch with second hand (or automatic 3-minute timer), gasoline, thermometer.

Weather: To be comparable, routes must be run under satisfactory weather conditions: good visibility, little or no precipitation, light winds. Occasional light drizzle or a very brief shower may not affect bird activity, but fog, steady drizzle, or prolonged rain should be avoided. Except in those prairie States and Provinces where winds normally exceed Beaufort 3, counts preferably should be made on mornings when the wind is less than 6 m.p.h. and not taken if the wind exceeds 12 m.p.h. If you can walk faster than the wind is blowing, winds are very satisfactory.

Wind speed codes
(enter Beaufort Numbers on Summary Sheet)

Beaufort Number	Wind Speed miles per hr.	Indicators of Wind Speed
0	Less than 1	Smoke rises vertically.
1	1 to 3	Wind direction shown by smoke drift.
2	4 to 7	Wind felt on face; leaves rustle.
3	8 to 12	Leaves and small twigs in constant motion; wind extends light flag.
4	13 to 18	Raises dust and loose paper; small branches are moved.
5	19 to 24	Small trees in leaf begin to sway; crested wavelets form on inland waters.

Sky condition codes
(enter these Weather Bureau code numbers on Summary Sheet)

0 Clear or a few clouds.
1 Partly cloudy (scattered) or variable sky.
2 Cloudy (broken) or overcast.
4 Fog or smoke.
5 Drizzle.
8 Shower(s).

Start 30 minutes before official sun*rise*, for Greenwich enclosed map, or newspaper or Weather Bureau, for sunrise time. If starting point is more than 25 miles from the city of reference, start 4 minutes earlier for each degree (look (0.5 mi) east of the city or 4 minutes later for each degree (look to the west. Be at the starting position at least 2 minutes before official start, to record weather and speedometer reading. The starting point is the first counting station (stop #1).

Look and listen for exactly 3 minutes and record the number of birds of each species seen within ½ mile in all directions and all birds of each species heard regardless of distance; limiting distance for birds seen may be judged as half the distance to the next stop.

Drive 0.5 miles to the next stop. If this stop falls in a place where it is dangerous to stop or where local noise is excessive, the stop may be moved as much as 0.3 mile (forward or back). Do not record any bird seen or heard while driving between stops unless it is subsequently heard at the next stop during the prescribed 3-minute period. In case of excessive traffic noise, up to one additional minute (but no more) may be added to a few stops – but not routinely to all stops. It is important to complete the 50 stops on schedule because singing decreases appreciably soon after 9 a.m.

Speedometers vary slightly so please *mark* on your map the number and exact position of *one or more stops every few miles* — whenever there is a convenient landmark. This will enable you or another observer to stop at the same spots in a subsequent year and to make any necessary adjustments in speedometer readings.

Make 50 stops. Each route consists of *exactly 50 stops* (24½ miles). Allowing 3 minutes for each stop and 2 minutes driving time between stops, approximately 12 stops will be covered per hour and the entire route will take a little over 4 hours.

What Birds to Count: Count individuals of all species (including Rock Doves) seen or heard that can be identified. Any bird known to be a non-breeder (late migrant, injured bird, or summer vagrant) should be included but marked on the Summary Sheet as such. Species recorded that are not found on the form should be added at the bottom. Estimates are permissible only in those cases where a flock is too large to count, bird by bird, in the brief time it is seen. Do not use check marks even for abundant species. No one will detect all birds within hearing or seeing distance of his stops. Hundreds of birds will be missed. Observers should not try to estimate birds that are missed or include them on their report forms even if they are known to be present. We wish to have reported only those birds actually seen or heard during the prescribed 3-minute stops. Be careful not to count any bird(s) known or strongly suspected to be a bird counted at the previous stop.

info got to mapped computer
Continental distribution of Birds