
VERMONT FOREST BIRD MONITORING PROGRAM

SURVEY INSTRUCTIONS

The methods outlined below closely parallel those developed in 1987 by Daniel Welsh of the Canadian Wildlife Service in Ontario. We are anxious to standardize our techniques with other similar long-term population monitoring projects, so that results will be comparable. The point-count method we will use is based on the I.P.A. or “Indice Ponctual D’Abundance” technique developed by French researchers (Blondel et al. 1970, *Alauda* 38:55-71). This method has been used extensively in Europe and North America with good success. Our procedure is a modified version and should provide accurate estimates of relative species abundance.

Within each study site there are typically 5 sampling points called point count stations, or simply stations. On each survey date, each station is sampled for 10 minutes. Each survey date is called a series. Usually there will be two series per year.

Each site will be clearly marked so that an observer can find his/her way to the first station and can then move quickly on to the remaining stations. Most stations are 150 – 200 meters apart, although a few are further apart. Each observer will receive a sheet providing detailed instructions on how to reach the study site and locate the 5 stations. The sampling route from start to finish is marked with colored flagging wrapped around trees, usually at 25 meter intervals. Flagging will be coded in black ink with, for example, “VINS PM” or “VINS SH #1”. The former indicates the flagging between points on the Pease Mountain (PM) site, while the latter indicates station #1 at the Sugar Hollow (SH) site. Each station is also marked with a small metal tree tag inscribed with, for example, “VINS SH #1”.

It would be ideal if each observer could conduct a pre-survey visit to become familiar with his/her site, but clearly this will not be possible for everyone. It is essential that observers bring with them a hand compass and know how to use it, as many of the lines between stations change bearings to coincide with the most suitable habitat. Unless noted otherwise, all bearings on the site directions sheets are magnetic, not true (so do not correct the declination on your compass – **but check your site directions to be sure!**).

Procedures

1. **Count conditions** – Counts should be conducted early in the morning. We recommend a 5:00 AM start time. Winds should be calm to light (<10 mph). Clear conditions or slightly damp are ideal. Counts should not be conducted in rain, unless it is very light. The rule is to conduct surveys only in weather that is unlikely to reduce count numbers. Generally, the better the weather, the better the count. It would be advisable to listen to the previous evening’s forecast and plan accordingly.
2. Begin censusing as soon as possible after you arrive at a station. Normally a short (20-30 seconds) “rest” is advisable to catch your breath and tune in your ear.
3. Count (record) all birds and *squirrels (see box below) seen and heard during the 10 minute sampling period, which is divided into three time intervals. Break the 10-minute count into periods of 3, 2, and 5 minutes, noting in which interval the birds are first encountered. This will require close attention to your watch or stopwatch.

Record birds encountered during the first 3 minutes as described below, but for birds first encountered during minutes 4 and 5, please place a small “+” next to the appropriate symbol. For birds first encountered during the final 5 minutes, please place a small “•” next to the symbol. A sample data form is enclosed as an

example. Remember, only count a bird the first time you see or hear it, not separately in each timed interval. Each individual bird you encounter should only be recorded once on the summary data coding sheets.

** In 1996, we began including red squirrels, gray squirrels, and chipmunks in the FBMP counts. Because these rodents are known to be effective nest predators, we want to monitor their populations as well as those of forest birds. Follow the same recording procedures for these mammals as you would for birds using these 4-letter codes:*

RESQ - red squirrel
GRSQ - gray squirrel
CHIP - eastern chipmunk

Counting is done by mapping all observations (both visual and auditory) on the field map cards provided, keeping track of movements as best you can. Mapping (marking the exact location and noting movements) is the best way to reduce duplicate records. See enclosed examples, symbols and abbreviations.

- a. If you have difficulty with an identification, try to confirm it after completing your 10 minute count. If it is only one bird you can take a few minutes between stations to track it down. Please try to ensure that there are no species identification errors.
 - b. It is a good idea to use a stopwatch in order to keep track of both starting time and the 3 separate time intervals.
 - c. Different symbols are used to record the status of each bird observation (i.e. singing male, pair, female, nest, calling bird, territorial encounter, etc.). Please try to familiarize yourself with these symbols beforehand, using the enclosed sheet. You might even want to try a “practice” count in the woods near your home, or on the site itself if you are able to make a pre-survey visit.
 - d. Please record wind direction with an arrow and note the orientation of the map sheet (i.e. indicate the compass direction of the top of the sheet in the small box above the arrow). Please also record weather conditions at the start of your survey in the spaces provided on the map sheet.
4. A 50 meter range circle is provided on the field cards to assist you in keeping track of bird positions and movements. It is important to estimate and record which birds are beyond the 50 m circle. Although it can be difficult to accurately estimate distances in the field, please do your best.
 5. All stations for each site should be completed in one visit to make them as comparable as possible.
 6. Each site should be sampled twice during the breeding season, once before June 15 and once after. Try to space your visits about 7-10 days apart. The first visit is called Series 1 and the second Series 2.
 7. Observers may have as many “helpers” as they require for navigation and data recording purposes, but there must be only one listener per station. The data will only be useful if the surveys are conducted by the same person in the same way for at least 3 consecutive years. Generally, listening and recording should be done by the same person, for the sake of efficiency and accuracy.
 8. A special effort must be made to record all species by guarding against “tune-out.” Tune-out refers to missing an individual or species even though it is singing clearly. It occurs most often when an observer is having problems identifying one bird and concentrates so intensely that he/she doesn’t hear others. Common, constantly singing species like Red-eyed Vireo seem to be the easiest to “tune-out.”
 9. Sometime soon after the survey, ideally the same day, transcribe all your map data onto the data coding sheet. We will try to cross-check your records, but data entry into the computer will be made directly from your data coding sheet. Please double check that all data sheets are complete and accurate!!

10. As soon as possible after your final survey, please return the field map cards and the coding sheets from both visits to me at the address below.

Data Coding

For ease of data entry and to reduce data entry errors, we ask that you transfer your field data onto the Data Coding Sheets provided. Each observation should be recorded on the coding sheets using the codes listed below (see enclosed sample sheet). The type of observation ultimately determines whether a bird will be recorded as a pair or as a single. Basically, only occupied nests and family groups confirm paired status, all other individuals seen or heard are counted as singles. **Please ensure that you use the standard symbols on your field maps – they are the only record we have of what your observation actually was.**

The following observation codes are to be used on data coding sheets:

Singing male	S
Drumming	D
Call heard	C
Individual seen	I
Family group	F

Some general notes

Our goal is to treat all observations of individual birds equally, without making assumptions about paired status based on behavior (ie. assuming a singing male is paired). The only exceptions are for observations that confirm breeding, such as an adult feeding a fledgling (coded as a family group), or an incubating female (coded as an active nest). Breeding observations such as these will be given a raw count of “2” in the database, while all other observation will be given a count of “1.” For all observations, care must be taken to avoid “double-counting” individuals or pairs. For example, if an individual bird is observed and eventually followed to a nest, it should be coded only as an “N,” not as an “I” also. Likewise, if both parents are observed tending a nest or fledglings, be careful to only record the breeding evidence and not both individuals since this would inflate the raw count to 4 (2 individuals observed, and 2 for the breeding evidence).

Thanks for participating!

For further information contact:

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Data Coding Sheet - Forest Bird Monitoring Program

Site Name: EXAMPLE Date: 6 JUNE 1989 Series: 1

Observer: C. RIMMER Initials: CCR

Start Time	Point #	Species	Time Period	Less Than 50m	More Than 50m
0500	1	1. HETH	A	S	
		2. BTNW	A	S	
		3. BTNW	A	S	
		4. MYWA	A	S	
		5. MYWA	A		S
		6. MYWA	C	I	
		7. CHIP	A	I	
		8. GRSQ	A	C	
		9. VEER	C	I	
		10. SOVI	B	S	
		11. PIWO	A		I
		12. PIWO	A		I
		13. RWBL	B		S
		14. BTBW	C		S
		15. COGR	A		C
		16. BRGR	B		C
0542	2	17.			
		18.			
		19.			
		20.			
		21.			
		22.			
		23.			
		24.			
		25.			

Start Time	Point #	Species	Time Period	Less Than 50m	More Than 50m
		26.			
		27.			
		28.			
		29.			
		30.			
		31.			
		32.			
		33.			
		34.			
		35.			
		36.			
		37.			
		38.			
		39.			
		40.			
		41.			
		42.			
		43.			
		44.			
		45.			
		46.			
		47.			
		48.			
		49.			
		50.			

Codes used for bird occurrence - Place the appropriate code from the list below in the appropriate distance column in the table above

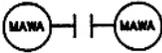
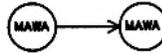
Singing male = S Calling = C Drumming = D Individual seen = I Family group = F Active nest = N

Time Period - Place a "A" in the column if bird was detected during first 3 minutes

Place a "B" in the column if bird was detected during minutes 4 or 5 (a "+" on the field card)

Place a "C" in the column if bird was detected during the last 5 minutes (a "*" on the field card)

STANDARD SYMBOLS USED FOR MAPPING – May be helpful
(Magnolia Warbler in this example)

-  – position of singing male
-  – approximate position of singing male (can be enlarged to indicate area of uncertainty)
-  – simultaneous registration of song within a short time period
indicates 2 interacting males
-  – male observed
-  – female observed
-  – calling, sex unknown
-  – observed, sex unknown
-  – pair together, assumed mated
-  – observed conflict between males
dispute over boundary
-  – vocal defence of territories between males
this specifically implies a territory boundary
-  – known change in position
-  – assumed change in position
-  – nest