

## IDENTIFICATION OF MIGRANTS IN SEDENTARY SPECIE POPULATIONS

By T. A. Beckett, III

Banding may be used as a means of showing the true migration influx of rather sedentary species of birds provided certain requirements are met. This is particularly true if the species happens to be one that is abundant locally at all seasons when the attempt is made to spot a transit population.

Here at Magnolia Gardens, the banding station is large and covers a rather wide range of habitat, roughly 150 acres each of open field, woodlands, and diked marsh ponds. In addition there is a backwater of about 30 acres with its rather specific forms of bird life.

Both traps and mist nets are in almost constant operation when weather permits. In general, mist nets are placed in areas that are checked at practically all seasons when there is enough bird life in the area to justify the time required for checking the nets. This means that some areas have nets up constantly, though at times furled, except for expected hurricane periods. In many cases a net may remain in one location for its useful life, about five months in full sun.

In general, the local populations of most species are kept fully banded. Any encroachment of an outside population is immediately detected.

The writer has always been interested in a more accurate picture of the timing of migrations through the coastal section of South Carolina and has frequently realized that many of our accepted mental pictures of migration are very imperfect and lack documentary proof. In many of our state bird books no mention is made of migration of some species simply because that portion of the population cannot be readily recognized in the field as migrants.

Several species fall into this category of hard to spot migrants, with four species being of special interest. These are the Cardinal (Richmondena cardinalis), Blue Jay (Cyanocitta cristata), Mockingbird (Mimus polyglottos), and Carolina Wren (Thryothorus ludovicianus).

Through the use of species cards with a line for each month, a square for each day in the year and a card for each specie, a clearly visible picture is shown of the number of birds banded each day in the year. Any great increase, or even minor one, is clearly visible as are the first and last dates for sight records or birds handled in banding. I have found these cards indispensable for recording migrations.

Title	Species	Bandsize																																	
		No. Copies																																	
		Expires AOU																																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Jan.																																			
Feb.																																			
Mar.																																			
Apr.																																			
May																																			
June																																			
July																																			
Aug.																																			
Sept.																																			
Oct.				3	1		6		9	5																									
Nov.																																			
Dec.																																			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			

Figure 1. Sample species card.

I have found that by using a symbol for the various netting and trapping sites and recording this on my daily work sheets, I can readily follow individuals, or pairs, as they move about the entire area, and individuals as they return from year to year. It is not unusual to trap a bird in the same net lane within a few days of its first capture the previous season.

It has also been found through experience that certain areas just do not yield enough birds at certain seasons to justify the wear and tear of nets and their loss due to deer, hogs, dogs, alligators and snakes. These areas might be illustrated by my nets used for Wood Thrush (*Hyl-cichla mustelina*) for about 7 months of the year and abandoned from November through March, or nets set for Wood Ducks (*Aix sponsa*) in areas occupied by alligators. The alligators quickly hear the calls and fluttering of the ducks and kill the bird in addition to destroying the net. Sites close to houses usually must be avoided because of pets and children although the sites may be exceedingly favorable from the standpoint of number of birds present.

Experience has also shown that certain species such as the Grackles (*Quiscalus quiscula*) are very sensitive to exposure to mid-day sun, for even short periods of time, if they happen to be caught in the lower shelves of a net. Apparently the reflection from the ground is enough to cause a high mortality. Nets for these species are operated in the shade in summer or furled during the mid-day hours.

BECKETT - Identification of Migrants in Sedentary Specie Populations 201

Shrikes, hawks and owls soon learn of the presence of regularly used net lanes but may be easily caught by use of a parallel set large mesh net or decoy traps. With the exception of owls I have never recaptured shrikes or hawks in the same net lane and they seem to avoid the area if carried only a short distance and released. Horned Owls (*Bubo virginianus*) may become a problem if the Mourning Dove (*Zenaidura carolinensis*) is under study and may be taken from the nets even during the daylight hours. If the owls are nesting close by the net site may have to be abandoned unless the operator is willing to sacrifice the breeding owls. Traps can be used under these circumstances instead of nets.

It is not necessary for nets to be in operation all day and 2 visits up to 10 A.M. and 2 visits to the nets in the evening will give a fairly accurate picture of most species present. In fact, I find that I capture about 70% of my birds of most species within these short netting hours when compared to a full day operation. This also cuts down on the number of repeats handled. When repeats become too high, a percentage of birds handled, the net lane may be close down for short periods until the additional broods are brought off.

I would say that the first 5 of the following requirements must be met if the system is to be a complete success:

1. Banding means must be available at all times for the species of interest, thus affording capture of the first and the last migrants.
2. A means of recording banding data and sight records must be used so that an influx in numbers during the migratory season is visible. The influx populations in fall usually follow the same frontal patterns as the other migrants. The spring migration in most cases seems more leisurely and may cover a longer period.
3. A careful observation of the birds handled in many cases shows a difference in size or coloration. This is particularly true in regard to size of the Blue Jay at my station.
4. The local population must be kept banded as near 100% as possible, for some species such as the Mockingbird or the Cardinal are not recognizable except as strangers in unusual numbers.
5. Predators, such as wild house cats and foxes, must be kept under control for they soon learn to travel the net lanes for a pre-caught meal.
6. Notice for unusual evidence in a rise in population. For two years I have been able to recognize my first fall migrants in the Mockingbirds because they have carried a high rate of pox infection on about 70% of the immatures.

Magnolia Gardens, Johns Island, South Carolina