

## BREEDING EVIDENCE CRITERIA AND CODES

Proper use of the codes for breeding evidence is important to the success of the Breeding Bird Atlas project. The codes simplify record keeping and are essential to the computerization and analysis of the data obtained during the project. You should become familiar with these criteria and their codes as soon as possible—they are used each time you go into the field and the accuracy of your data depends on your knowledge of and use of the codes.

The breeding evidence criteria and codes have been listed on both the checklists and casual field observation forms for your convenience and are discussed below. They are arranged in approximate order of increasing certainty. The only substantial code changes from the first Michigan Breeding Bird Atlas are in the probable category code S and in the confirmed category where AY became FS and FY.

**Observed** Record code in the “OB” column of your data forms.

**O Species observed during the breeding season, but no evidence of breeding in block.**

Individual birds in unlikely breeding habitat, flying over, or out of their normal breeding range without any indication of breeding belong in this category. Examples: Great Blue Heron feeding at a pond with no indication of a heronry (nest colony) nearby; Turkey Vulture flying over; and Ruddy Duck sitting on small lake surrounded by cottages during June.

**Possible** Record codes in the “PO” column of your data forms.

**# Species observed in suitable nesting habitat during its breeding season.**

This code is to be used to indicate birds observed in a likely breeding area. Examples: Virginia Rail observed in a marsh or Scarlet Tanager feeding in an oak-hickory woodlot in June.

**X Singing male present in suitable nesting habitat during its breeding season.**

If you see or hear a particular species singing in a likely nesting area on only one occasion, use this code. Examples: If you camp one evening and hear an Eastern Meadowlark singing the next morning before leaving the campground; or an Indigo Bunting singing at the edge of a woodlot in June.

**Probable** Record codes in the “PR” column of your data forms.

**S Singing male present at same location on at least two dates at least seven days apart or multiple (5 or more) singing males on same date during the breeding season.**

**P Pair observed in suitable nesting habitat during breeding season.**

Use this code if you see a male and a female of the same species together in suitable nesting habitat. Example: Ring-necked Pheasant male and female in a hayfield in May.

**T Territorial behavior (chasing individuals of the same species).**

Male Northern Cardinal chasing another male Northern Cardinal.

**C Courtship behavior or copulation.**

Use this code if you observe courtship displays or mating. Examples: Plunging dives of hawks; dancing of Sandhill Cranes; or courtship feeding by cuckoos or European Starling, etc.

**N Visiting probable nest-site.**

A bird consistently flies into the same site in suitable nesting habitat. Example: Female Common Yellowthroat flies into the same thicket and disappears on several occasions.

**A Agitated behavior or anxiety calls from adult.**

If you flush a ground-nesting bird and it flies to a low bush, repeatedly giving a distressed chip, or parent birds flying at you or circling above you. Example: Red-winged Blackbird flying close above you giving agitated calls in a field or marsh.

**B Nest building by wrens or excavation of holes by woodpeckers.**

Although woodpeckers usually drill only one nest hole, they use other holes for roosting. Wrens will build several “dummy” nests before the female selects a nest. Example: A House Wren carries sticks into two adjacent nest boxes.

**Confirmed** Record codes in the “CO” column of your data forms.

**NB Nest building by all except woodpeckers and wrens.**

Use this code for any bird except wrens and woodpeckers actually building a nest or carrying nesting materials. Example: A House Sparrow carries straw into a hole.

**PE Physiological evidence of breeding or brooding based on bird in hand.**

Banders or biologists actually handling the birds are to use this category. Most female birds, for example, lose feathers in an area of their undersurface (brood patch) when they are incubating eggs.

**DD Distraction display or injury feigning.**

Use this code when parent birds exhibit behavior to lead people or predators away from nests of eggs or young. Several species will flutter, apparently helpless, on the ground while giving notes to draw attention. Example: The “broken wing” act of Killdeer or Mourning Doves.

**UN Used nests or eggshells found. Caution: These must be carefully identified.**

The nests or eggs of many species are distinctive and can be recognized without the presence of the adults. This means that nesting for some species can be documented even during the winter. Example: Barn Swallow, Eastern Phoebe, and Baltimore Oriole nests are so distinctive that confirmed nesting is possible at any time of year.

**FL Recently fledged young (of altricial species) incapable of sustained flight, or downy young (of precocial species) restricted to the natal area by dependence on adults or limited mobility.**

This code is to be used whenever young that cannot fly or can barely fly are observed out of the nest. Young of grouse, shorebirds, or waterfowl are precocial—that is, they are feathered upon hatching and leave the nest soon after hatching. Young songbirds are hatched with little feathering, are helpless for several days after hatching, and are said to be altricial. Example: Young Horned Lark found incapable of sustained flight.

**ON Occupied nest—adults entering or leaving nest site in circumstances indicating occupied nest (includes high nests or nest-holes, the contents of which cannot be seen) or adult incubating or brooding.**

Use this code when nest contents cannot be seen but observations indicate incubation of eggs or brooding of young is likely. Careful observation of the behavior of the adults can provide clues to the status of the nest. Example: A Warbling Vireo is observed sitting on a nest 25 feet up in a maple.

**FY Adult(s) with food for young (carrying food) or feeding young.**

Use this code for birds that have altricial young and are observed feeding their young. This code is also used whenever young that have left the nest are being fed by adults or adults are seen carrying food to a nest. Use caution as some species will continue to feed young for a number of weeks after leaving the nest and may move some distance.

**FS Adult carrying fecal sac.**

Examples: Common Grackles commonly carry fecal sacs to nearby water to dispose of them.

**NE Nest with eggs.**

If this code is to be used, the nest or eggs must be identifiable. It can also be used for a nest where eggshells are found under the nest or if an adult is sitting on a nest known to contain eggs. Example: You flush a Red-winged Blackbird sitting on a nest of eggs.

**NY Nest with young seen or heard.**

Any nest where the young are actually observed in the nest should receive this code. Do not approach the nest more closely than necessary to confirm its contents. Human scent can attract predators to a nest site. Presence of a Brown-headed Cowbird egg or young is confirmation for both the cowbird and the host species.

It is desirable to upgrade the level of breeding criteria within a category or to a higher category until a species has been confirmed. As you become familiar with the codes you will also note that some criteria in a category are more easily attained than others. For example, recording a singing male on different occasions more than a week apart is an easy method of obtaining “probable” evidence of breeding.

Remember, unless you are keeping track of nesting records for a nest study program, you do not need to confirm a species in a block more than once during the five-year period. Each year that you participate you will receive a computer print-out of the data for your block to determine if any species still need to be upgraded in that block or if there may be nesting species that have been missed in earlier visits.