



# Wisconsin Breeding Bird Atlas II

## BREEDING CRITERIA AND CODES

The main difference between atlasing and general bird surveying is that when atlasing, you strive to observe and report specific behaviors that provide varying levels of evidence that a species is breeding in a block. The codes below are listed in increasing levels of confidence that a species is breeding. Your goal is to CONFIRM breeding for as many species as you can (>50% is required for a block to be complete) and to “upgrade” the breeding evidence for each species to the highest level possible. Please familiarize yourself with these codes and their definitions before you go into your block.

Accuracy of species identification and code assignment is of utmost importance. Tentative identifications should NOT be recorded. It is fine to make a note to yourself about a tentative identification to be verified later, but please be positive about any data submitted to WBBA II. Visit the [Bird Identification section of the online forum](#) if you are seeking input on identification. A printable form with breeding codes and brief definitions of each is provided on the [WBBA II website](#) for you to print and take into the field to use as a reference while surveying (see [Quick Reference Guide](#)). We recommend reviewing and printing the Breeding Guideline Bar Chart ([pdf](#), [spreadsheet](#)) which shows the typical range of breeding and migration dates for each species in the state.

Codes are divided into four categories of breeding evidence: Observed, Possible, Probable, and Confirmed. Codes are listed in order of increasing certainty of breeding. As the season progresses or in later field seasons, you will continually upgrade these codes for your block’s species list from Possible to Probable and Probable to Confirmed. Upgrading can also occur within categories. **On any given day of surveying, you should enter only the highest breeding code observed for each species on each checklist.** Once a species is confirmed in your block, it is not necessary to spend time just to upgrade in the Confirmed category, though you should enter upgrades into the eBird Atlas page if you observe them. If you confirm a rare species, it would be useful to document its continued occurrence or breeding in succeeding years.

### Observed

**Observed:** Species present but without evidence of breeding and outside of its breeding season or suitable nesting habitat. In the previous Atlas, O was the code used to designate that a species was Observed. In WBBA II, however, no code is required; any bird you enter into your eBird checklist without another code from the list below will automatically be considered Observed. This category could apply to migrant songbirds, herons or egrets foraging with no indication of a nearby rookery, or singing birds outside of the dates recommended by the Breeding Guideline Bar Chart ([pdf](#), [spreadsheet](#)).

Note that we strongly recommend reporting complete checklists that include all birds found on an outing. Thus many checklists outside of prime summer breeding season are likely to contain a mix of Observed species (no code) and species with higher level breeding codes (below).

**F Flyover:** This is similar to the Observed category above, but pertains strictly to birds that only fly over and never interact with the habitat. This code is useful to distinguish birds you see that

may not be breeders in your block. If you see a Turkey Vulture soaring high overhead or a Great Blue Heron flying above treeline, it is not clear if those birds nest in your block. It is also acceptable, though less informative, to enter these sightings with no code.

## Possible

- H** **In Appropriate Habitat:** Species seen in suitable nesting habitat during its breeding season, such as Virginia Rail in a marsh or Scarlet Tanager feeding in an oak woodlot in June. Use caution when close to migration; refer to the Breeding Guideline Bar Chart ([pdf, spreadsheet](#)) for typical range of breeding and migration dates for each species in the state. Avoid using this code if the bird in question may still be a migrant or wintering.
- S** **Singing male:** Use this code for a male singing in a likely nesting area on only one occasion. If heard on a second trip during the breeding season in the same place, it may qualify as Probable – S7. This code is also used for non-songbirds giving their primary vocalization during the breeding season (e.g., owls, rails). Use caution when close to migration; refer to the Breeding Guideline Bar Chart ([pdf, spreadsheet](#)) for guidance and avoid using this code if the bird in question may still be a migrant or wintering.

## Probable

- S7** **Singing Male Present 7+ Days:** Singing male present at same location on at least two occasions 7 or more days apart. This behavior presumes a permanent territory. **This code should only be used if the initial observation was made after migration ceased!** Refer to the Breeding Guideline Bar Chart ([pdf, spreadsheet](#)) for guidance. Note that “7 or more days apart” is assumed to be within the same breeding season (not April 7 and October 10 or May 5, 2015 and May 5, 2016).
- M** **Multiple (7+) Singing Males:** Multiple (seven or more) singing or territorial birds of a species detected within a block on one day. Use caution when close to migration; refer to the Breeding Guideline Bar Chart ([pdf, spreadsheet](#)) for guidance and avoid using this code if the birds in question may still be migrants or wintering.
- P** **Pair in Suitable Habitat:** Pair observed in suitable nesting habitat during the breeding season. Use this code when you are fairly certain that a mated pair of birds has been observed. Look for behavioral cues to determine if you have a male-female pair.
- T** **Territorial Defense:** Permanent territory presumed through defense of breeding territory by fighting or chasing individuals of same species. Because territoriality involves the defense of a fixed area, it is useful to map locations of individuals to determine if they are singing or defending the same general area when surveying the block a week or more later. Use caution when close to migration; refer to the Breeding Guideline Bar Chart ([pdf, spreadsheet](#)) for guidance and avoid using this code if the birds in question may still be migrants or wintering.
- C** **Courtship, Display, or Copulation:** Courtship behavior or copulation between a male and a female. Courtship behavior includes transfer of food, displays, and grooming between a pair of birds.

- N** **Visiting Probable Nest Site:** This code applies when a bird is observed visiting the same likely nest site repeatedly, but which provides insufficient behavior for upgrading to Confirmed. This is especially useful for cavity nesters or for a shrub-nesting species that flies into the same thicket and disappears on several occasions.
- A** **Agitated Behavior:** Agitated behavior or anxiety calls from adults usually indicate a nest site or young in the vicinity. This does not include agitation induced by “pishing,” predators, or using playback recordings.
- B** **Nest-Building by Wrens or Woodpeckers:** Nest-building by wrens or excavation of cavities by woodpeckers. Wrens may build “dummy” nests before the female selects a nest. Woodpeckers often drill holes for roosting.

### Confirmed

- PE** **Physiological Evidence:** Physiological evidence of breeding based on bird in the hand. This code is used primarily by bird banders and includes evidence such as a highly vascularized swollen incubation (brood) patch or an egg in the oviduct.
- CN** **Carrying Nesting Material:** Bird seen carrying nesting material such as sticks, grass, mud, cobwebs, etc. For raptors, be sure the material is not simply incidental to prey capture/transport.
- NB** **Nest-Building (not wrens or woodpeckers):** Nest-building seen at the actual nest site, excluding wrens and woodpeckers.
- DD** **Distraction Display:** Distraction displays, defense of unseen nest or young, or injury feigning. Killdeers may give a “broken wing” act, a Cooper’s Hawk may dive at you near the nest site, or an Ovenbird may run about with wings fluttering. A good way to differentiate between Probable – A and Confirmed – DD is to remember that when an adult performs a distraction display, it puts its own life in danger.
- UN** **Used Nest:** Used nest or eggshells found, but no adult birds were seen nearby. Use this very cautiously and only for unmistakable eggshells and nests that were used during the Atlas period. Add comments detailing how you identified the nest. If identification is unsure, forget it. Do not collect a nest, but take a photograph if possible. If you did not observe any individuals of the species of bird that made the nest during your visit, then enter a “0” in the number field during data entry.
- ON** **Occupied Nest:** Occupied nest indicated by adult in nest (incubating position) or entering or leaving nest site in circumstances indicating an occupied nest, including those in high trees, cliffs, and chimneys where the contents of the nest and incubating or brooding adult cannot be seen.
- FL** **Recently Fledged Young:** Recently fledged young or downy young. This includes dependent young only. Be cautious of species that range widely soon after fledgling. One of the best features to look for is the length of the tail feathers – if shorter than the adults, the young

probably originated locally. Young cowbirds begging for food confirm both the cowbird and the host species.

- CF** **Carrying Food:** Adult carrying food for young. Use this code with caution. Some adults carry food a long distance or may be engaged in courtship feeding. Others such as the Common Grackle or Blue Jay may carry food away to consume it themselves. One of the best signs to look for is the repeated carrying of food in the same direction. This code should not be used for species that regularly carry food for courtship or other purposes, such as corvids, raptors, and terns.
- FY** **Feeding Young:** Adult bird feeding recently fledged young that are not yet independent. This code should not be used for species that may move many miles from the nest site, such as raptors and terns.
- FS** **Fecal Sac:** Adult bird seen carrying fecal sac. Many passerine adults keep their nests clean by carrying membranous, white fecal sacs away from the nest.
- NE** **Nest with Eggs:** Nest with eggs (or eggshells on ground). Nest and eggs must be accurately identified via presence of an adult bird in order to use this code. If no birds are seen, use the UN code above. Be careful not to disturb the vicinity of the nest, but waiting from a distance until an adult is seen is encouraged, to confirm the identification. If a cowbird egg is found in nest, use code NE for both the cowbird and the host species; if no individual cowbirds were seen that day, then enter a "0" in the Brown-headed Cowbird number field during data entry.
- NY** **Nest with Young:** Nest with young seen or heard. Take care not to cause premature flushing of nestlings from nest. Presence of cowbird young confirms both the cowbird and the host species.

### **Examples of Breeding Code Use**

The following are examples of situations that may be encountered during atlasing to serve as guidelines in assigning codes. If in doubt, consult with your [County Coordinator](#) or post a question to the [Discussion Forum](#).

- Loons, cormorants, or ducks in adult plumage summering on a lake with suitable breeding habitat, but no display or broods (pairs of waterfowl are generally not reliable as breeding evidence): Possible – H.
- Herons or egrets (colonially nesting species) observed in marshes or along waterways away from nesting colony: Observed – (No code).
- Green Heron or bitterns (non-colonial nesting species) observed in appropriate nesting habitat: Possible, Probable, or Confirmed, depending on breeding evidence obtained.
- Black-crowned Night Heron in subadult plumage during early summer: Observed – (No code).

- American Woodcock or Wilson's Snipe display flights, Ruffed Grouse drumming, Spruce Grouse performing flutter-jumps, Greater Prairie-Chickens or Sharp-tailed Grouse lekking, Common Nighthawk booming. Display behavior warrants using Probable – C for all of these situations. If you are observing the displays during the apparent breeding season, then it is likely these birds are displaying on their breeding territory.
- Shorebirds that normally breed in tundra areas summering in marshes or on a mud flat: Observed – (No code).
- Rails heard in a marsh early in breeding season but not relocated on subsequent visits: Possible – S
- Gulls frequenting dumps, plowed fields, lawns, etc. throughout the summer in unsuitable breeding habitat: Observed – (No code).
- Woodpeckers drumming: We consider woodpecker drumming to be analogous to singing, so use Possible – S if heard once in the breeding season or Probable – S7 if encountered again 7 or more days later. Note: only Pileated Woodpeckers and Yellow-bellied Sapsuckers can be reliably identified by their drumming sound.
- Killdeer doing broken-wing distraction display along roadside but young not seen: Confirmed – DD.
- Male and female Scarlet Tanagers observed together several times in same area but no nest ever seen: Probable – P.
- Male House Wren sings all summer and stuffs nesting boxes with sticks but no evidence of a mate or fledglings: Probable – B.
- Song Sparrow seen carrying nesting material: Confirmed – CN.
- Wood Thrush seen on nest for an extended period of time but nest too high to see contents: Confirmed – ON.
- Lark Sparrow observed once in late May in abandoned field: Possible – H.
- Normal winter or typical spring migrants lingering beyond normal departure dates but no breeding evidence observed: Observed – (No code).
- Second-year male American Redstart singing abnormal song in hedgerow in early June: Possible – S.