

## MNBBA Evidence Codes, 2011

*Field Notes provide valuable information. Always add a brief comment for observations that may need explanation or are especially interesting.*

Category	Code	Evidence
Observed	O	Species observed in a block within safe dates, but no evidence of breeding. Use this code for species not in suitable nesting habitat. For example, this code applies to raptors or gulls flying over, herons and other colonial nesters foraging with no observed rookery, ducks summering on a pond, or pelicans loafing. Check Evidence Reporting Tips for other examples if you have questions.
Possible	X	Species encountered in suitable nesting habitat within safe dates such as a Virginia Rail in a marsh. Use this code when you hear a male singing in a likely nesting area on only one occasion. For raptors with extensive home ranges, 'X' is not a reliable code; code as 'O'. Check Evidence Reporting Tips. Also, use caution with northern irruptive owls (Northern Hawk Owl, Great Gray Owl, Boreal Owl).
Probable	M	Multiple (5 or more) singing or territorial birds of a species detected in suitable habitat within the block on the same day. Most species listed as (M) can be upgraded during a later visit. Check Evidence Reporting Tips for species specific examples.
Probable	S	Singing or territorial male in suitable habitat at same location at least 5 or more days apart. Be aware that some species do not sing to demonstrate territoriality or to attract a mate. Check Evidence Reporting Tips for species specific examples.
Probable	P	Pair observed in suitable nesting habitat. Geese, swans, ducks: 'P' not reliable as breeding evidence in most cases. Code as 'X'. In rare situations, P may be appropriate based on multiple observations but requires Field Notes. See Evidence Reporting Tips for example.
Probable	T	Permanent territory presumed through defense of breeding territory by fighting or chasing individuals of same species. Geese, swans, ducks: 'T' not reliable as breeding evidence in most cases. Code as 'X'. In rare situations, T may be appropriate based on multiple observations but requires Field Notes. See Evidence Reporting Tips for example.
Probable	C	Courtship or copulation behavior, includes displays or transfer of food. Geese, swan, ducks: 'C' not reliable as breeding evidence in most cases. Code as 'X'. In rare situations, C may be appropriate based on multiple observations but requires Field Notes. See Evidence Reporting Tips for example.
Probable	N	Bird observed visiting the same likely nest site repeatedly, but insufficient behavior for upgrading to Confirmed. Use for woodpeckers and wrens (many species build dummy nests) or for a shrub-nesting species that flies into the same thicket and disappears several times.
Probable	A	Agitated behavior or anxiety calls from adults usually indicate a nest site or young in the vicinity.
Confirmed	PE	Physiological evidence of breeding based on bird in the hand such as a highly vascularized swollen incubation (brood) patch or an egg in the oviduct. For bird-banders only using expert judgment.
Confirmed	CN	Bird seen carrying nesting material such as sticks, grass, mud, cobwebs, etc.
Confirmed	NB	Nest building seen at the actual nest site.
Confirmed	DD	Distraction displays, defense of unknown nest or young, or injury feigning. Killdeers may give a "broken wing" act, a Red-winged blackbird may dive at you near the nest site, or an Ovenbird may run about with wings fluttering.
Confirmed	UN	Used nest or eggshells found. Unless carefully identified, use this only for unmistakable eggshells and nests that were used during the Atlas period.
Confirmed	ON	Occupied nest indicated by adult entering or leaving nest site in circumstances indicating an occupied nest, including those in high trees, cliffs, cavities, and chimneys where the contents of the nest and incubating or brooding adult cannot be seen.
Confirmed	FY	Adult bird carrying food for young or feeding young. Be aware that some adults carry food a long distance or may be engaged in courtship feeding.
Confirmed	FL	Recently fledged, dependent short-tail or downy young, including duck broods. Be cautious of species that range widely soon after fledging.
Confirmed	FS	Adult bird seen carrying fecal sac. Many passerine adults keep their nests clean by carrying membranous, white fecal sacs away from the nest.
Confirmed	NE	Nest with eggs.
Confirmed	NY	Nest with young seen or heard.

Evidence Reporting Tips on reverse side.

## MINNESOTA BREEDING BIRD ATLAS: Breeding Evidence Code Reporting Tips

Pelicans, Cormorants, Herons, Egrets, Gulls and Terns: With a few exceptions (noted below) these are colonial nesting species that often forage far from the nesting colony. Gulls also exhibit copulation behavior far from the nesting colony. Birds observed, even in large numbers, should be recorded only as Observed unless there is clear evidence of a nesting colony (i.e. nests are seen). If there is a lot of flight traffic to or from an area, N may be appropriate with Field Notes but field surveyors should do their best to locate the colony and upgrade the observation to Confirmed. If a colony site is located, document its exact location and estimate the number of nests, then enter in Field Notes.

### EXCEPTIONS:

- Green Herons: Most birds nest in small, loose colonies but some may nest singly. Observations of bird(s) perched or foraging is sufficient for Possible evidence.
- Black and Forster's Terns: Because these marsh-nesting species are closely associated with their breeding marsh, Probable evidence codes are suitable.
- Herring Gulls: Single pairs may be found nesting on cliffs along Lake Superior or on rocky islets on inland lakes so Probable codes may be appropriate in these cases.

Crows and Ravens: These wide-ranging birds can be a challenge for atlas surveyors. The Possible code is not acceptable and Probable codes need behavior evidence.

Diurnal Raptors For raptors with extensive home ranges (Vulture, Harrier, Eagle, Osprey, Peregrine Falcon), observing a bird in suitable habitat during the safe dates is not a reliable indicator of Possible breeding; these species have home ranges larger than the size of a single atlas block. For other hawks and falcons which usually have smaller ranges (0.5 – 4 sq mi), the Possible (X) code is appropriate but always look for behavior to assign a Probable code. Raptors carrying food should not be coded as FY.

Owls: Safe dates begin as early as January 20th for the *Great Horned Owl*, and as late as May 20th for the diurnal, rare summer resident, the *Burrowing Owl*. Single observations of common migrant owls (*Long-eared, Short-eared, Saw-whet,*) should be treated with care until later in the season. Use an 'S' code to report calling owls heard 5 or more days apart in the same location.

Ducks, Swans and Geese: the P, T, and C evidence codes are unreliable for these species because non-mated birds can be observed fighting or chasing, engaging in courtship or copulation behavior, or in apparent pairs even within safe dates. Mark as Possible (X). Valid use of the P/T/C codes for these species requires multiple observations in the same location (e.g. small defended wetland not used in migration) during the nesting season. Collective observations must indicate a pair observed multiple times, including lone territorial male during time when female would logically be nesting. Luckily, these species can be easily confirmed with a brood of chicks later in the season.

Nighthawks, Swifts and Swallows: Presence of these species is acceptable as a Possible (X) code with suitable nesting sites in the area. *Common Nighthawks* place eggs directly on the ground in open areas; in urban areas, lay eggs on flat, gravel roofs. *Tree Swallows* are easy to confirm when they utilize nest boxes although some nest in existing cavity in standing dead tree. The *Purple Martin* is a colonial nesting species most often found in tended martin houses. Document street addresses or locations for active colonies. *Bank Swallows* and *Northern Rough-winged Swallows* prefer vertical sandbank face for a burrow, sometimes sand/gravel quarries. *Barn Swallows* and *Cliff Swallows* build mud nests attached under a ledge, eave, bridge, or culvert. Note: non-breeding *Chimney Swifts* roost communally during the breeding season; large groups (>40) are coded as Observed (O).

### MISCELLANEOUS SPECIES:

- Cedar Waxwings: Foraging waxwings may occur far from the nest so use caution in indicating Possible and Probable evidence codes.
- Wrens typically build "dummy" nests; males initiate construction of nests at multiple sites. Nest building without further breeding evidence (e.g. birds carrying food into nest) for these species results in Probable (N), not Confirmed, breeding status.
- Late migrant Wood Warblers: Late migrants, like Tennessee, Connecticut, Mourning, Wilson's and Canada, may linger into mid-June with some singing individuals observed that are not on breeding territory. Be careful about using X, M or S codes early in the breeding season.

### OTHER CONSIDERATIONS:

- Species with similar calls and songs: Care should be taken in differentiating between some species by calls or songs alone. Examples include the Black-billed and Yellow-billed Cuckoo, Philadelphia and Red-eyed Vireo, the Cape May and Bay-breasted Warblers, and the Golden-winged, Blue-winged warblers and their hybrids. Using evidence codes that rely only on sound for these species is discouraged. Visual confirmations are needed. Add a Field note to indicate individual was observed.
- Species that look alike: Visual confirmations, on the other hand, are unreliable for species that look alike but whose songs are very distinctive. This includes the Eastern and Western Meadowlark and the Empidonax flycatchers. Song confirmation is required for these species. Add a brief Field Note to indicate the species was heard.
- Non-singing Courtship Behavior: A few of the breeding evidence codes rely on documenting singing males (e.g. X, M and S). Many species, however, do not sing to demonstrate territoriality or to attract a mate. Some common examples include Greater Prairie-Chicken and Sharp-tailed Grouse leks, Ruffed Grouse's drumming, aerial displays by raptors and woodcock, woodpecker drumming, and dancing displays by Western Grebes. Unless otherwise noted above, these observations may be recorded as an S or C, depending on the species and circumstances (e.g. hearing Ruffed Grouse drumming 5 or more days apart in the same location would be an "S"; a pair of Western Grebes dancing would be a "C"). Common Snipe and Woodcock aerial displays and booming Common Nighthawk are considered mating display; code as "C".
- Species with same plumage for male and female: 'P' code is appropriate only with supporting Field Notes that describe pair behavior.