

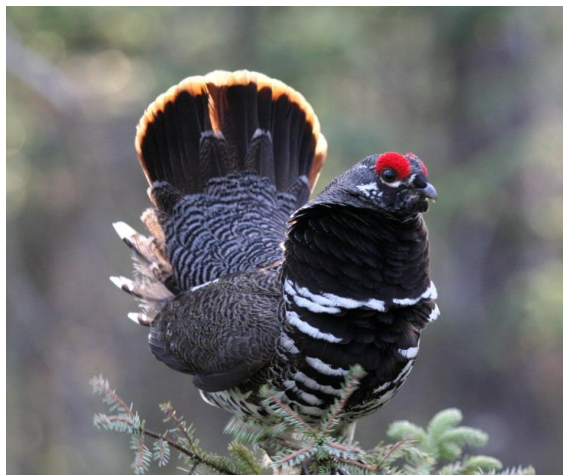


Species Survey Strategies

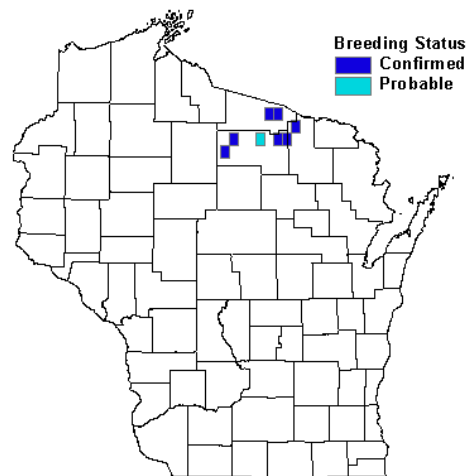
Wisconsin Breeding Bird Atlas II

Resident Boreal Species

Four species of resident birds can be found across coniferous forests of the state's northern tier counties, including the Spruce Grouse, Gray Jay, Boreal Chickadee, and Black-backed Woodpecker. All are at the southern limits of their continental range here and generally reside in low densities, making them highly-sought among birders. Each is a state Species of Greatest Conservation Need, with Spruce Grouse listed as Threatened and the others as Special Concern. The Atlas will play a key role in understanding the current status of these priority species. This document outlines tips and strategies to improve your chances of finding them.



Nick Anich/WDNR



Spruce Grouse

WBBA I Breeding Range

Spruce Grouse are more common than most people realize in Wisconsin, but because they are well camouflaged, reluctant to flush, and often located in remote conifer swamps, they are rarely seen. They should be searched for in any block in the northernmost two tiers of counties that has lowland conifer or young jack pine. Researchers have learned a great deal about this species since WBBA I. In short, the best way to find them is to seek out displaying males in off-road conifer stands during early mornings from mid-April to mid-May.

Region: Northern two tiers of counties. The WBBA I map underestimates their total range; their likely range is much closer to this: [Scott \(1943\)](#). [eBird Range Map](#)

Time of Year: Resident year-round, though they may move several miles away from breeding sites September–March. The prime display period for males is mid-March through mid-May but spring weather can determine if males get started earlier or later. On average, mid-April to mid-May is probably best for seeking displaying males. Hens on nests (mid-May through early July) are extremely hard to locate, but from June–August it is possible to stumble upon a hen with her brood, which may range out of the conifer swamp into nearby uplands. Juveniles stay with hens until they disperse between mid-September and mid-October, though they may range far from where they were hatched during this time.

Breeding Guideline Bar Chart: (Full chart is on [atlas handbook webpage](#))

January				February				March				April				May				June				July				August				September				October				November				December							
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
N	N	N	N	N	N	N	N	N	N	E	E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E	E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N				

N = Nonbreeding Season, **M** = Migration, **B** = Breeding Season, **E** = Either (a transition period)

Time of Day: In spring, dawn surveys are best to catch males performing their flutter-jump display and hens calling. Male displays typically cease by 9–10 am.

Focal Habitat: The best areas are lowland spruce–tamarack swamps, especially ones with nearby jack pine or spruce upland. These habitats typically have sphagnum, Labrador tea, leatherleaf, and blueberry understory. In general, larger swamps are probably better. Some birds use upland jack pine (especially pine 15–30 years of age). Male display areas are often, though not always, on upland edges or “islands” within lowlands.

Special Methods: Dawn surveys to listen for displaying males or calling females. The male’s display flight is very soft and usually does not carry more than about 50 yards. Be alert for a [tail flick noise](#) they sometimes make. Wear rubber boots and walk slowly through the swamp listening and looking for birds. In summer, visit these swamps and nearby uplands any time of day. Remember to look up, they often perch in conifers. Audio playback can increase your chances of detecting birds (see final page of this document). [Video of male display](#)

Code Guidance: Use C for males displaying. Males do not vocalize, so in this case, it’s okay to use S for a vocalizing female. Aside from the male’s display ground or a fall/winter flock, males and females are not often seen together. Due to cryptic nature of nesting female and the fact that young leave nest immediately after hatching, the most likely confirmed code will be FL.

Other Species: In addition to the species listed in this document, these swamps can have uncommon breeders like both kinglets, Palm Warbler, Yellow-bellied Flycatcher, Lincoln’s Sparrow, Olive-sided Flycatcher, and Connecticut Warbler.

Confusing Species: The primary confusion species would be Ruffed Grouse, see [this document](#) for details on how to distinguish the two species. The hen’s call could be confused with a chattering red squirrel.

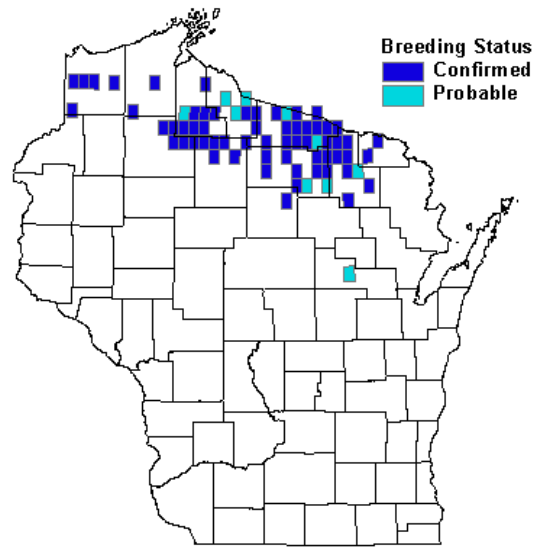
More information about Spruce Grouse:

[All About Birds](#)

[Birds of North America Account](#) (subscription required)



Ryan Brady/WDNR



Gray Jay

WBBA I Breeding Range

This jay is known for being a curious omnivore, sometimes approaching camps to clean up food scraps, or pick clean deer carcasses. Evidence suggests it is declining in Wisconsin, and WBBA II will shed additional light on this potential trend. It is particularly tied to conifer swamps, especially black spruce. This is the most common and earliest nesting of the four species in this profile, and those with a conifer swamp in their block should definitely look for this species.

Region: Mostly the northern two tiers of counties, but the next tier down should certainly be investigated, particularly in landscapes with lowland conifer swamps. Their distribution in the region north of the outlier in Shawano County needs more study, so we would especially encourage effort along the entire southern range boundary. [eBird Range Map](#)

Time of Year: Gray Jays are year-round residents (though a few may move seasonally) and one of our earliest nesters, with nest building as early as February, and fledged young as early as late April. Because most nesting is over by the prime July atlasing period, head to your block early to find and confirm this species.

Breeding Guideline Bar Chart: (Full chart is on [atlas handbook webpage](#))

January				February				March				April				May				June				July				August				September				October				November				December							
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
N	N	N	N	N	N	E	E	E	E	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	E	E	E	E	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

N = Nonbreeding Season, **M** = Migration, **B** = Breeding Season, **E** = Either (a transition period)

Time of Day: No special instructions. As with many birds, early morning hours are usually best.

Focal Habitat: The best areas are large conifer swamps, especially black spruce, but also tamarack. Birds may range into mixed (conifer/deciduous) forest adjacent to a swamp.

Special Methods: Wear rubber boots and walk through a conifer swamp. Normal atlas surveys should detect Gray Jays if present. Gray Jays are curious and may respond to any noise. Audio playback can increase your chances of detecting birds (see final page of this document).

Code Guidance: The most common confirmed codes will likely be FL and FY. Use FL with caution in mid-summer when family groups travel widely. Pairs of birds (Probable – P) are also readily noted in late winter and early spring.

Other Species: In addition to the species listed in this document, these swamps can have uncommon breeders like both kinglets, Palm Warbler, Yellow-bellied Flycatcher, Lincoln's Sparrow, and Olive-sided Flycatcher.

Confusing Species: Gray Jays have a wide vocal repertoire, with a variety of whistles and rattles and can mimic the calls of Blue Jay, American Crow, and hawk species. Similar species visually include Northern Shrike (only present Oct-Apr) and Northern Mockingbird (rare). Be especially cautious of heard-only jays — try to get a visual.

More information about Gray Jays:

[All About Birds](#)

[Birds of North America Account](#) (subscription required)

Focal Habitat: The best areas are large conifer swamps, especially black spruce, but also tamarack. Birds may range into mixed (conifer/deciduous) forest adjacent to a swamp, especially post-breeding.

Special Methods: Wear rubber boots and walk through a conifer swamp. Boreals can associate with Black-capped, especially by mid-summer, so check chickadee flocks carefully as you would during winter. Audio playback can increase your chances of detecting birds (see final page of this document).

Code Guidance: The most common confirmed codes will likely be FL and FY. However, early season visits may also yield nest building activity by excavating cavities (NB) and carrying nesting material (CN).

Other Species: In addition to the species listed in this document, these swamps can have uncommon breeders like both kinglets, Palm Warbler, Yellow-bellied Flycatcher, Lincoln's Sparrow, and Olive-sided Flycatcher.

Confusing Species: The biggest confusion species is Black-capped Chickadee by both song and call. When you are hoping to hear the lower, slower Boreal Chickadee song, it's easy to briefly fool yourself with Black-caps. Brown cap and flanks cinch the Boreal Chickadee identification.

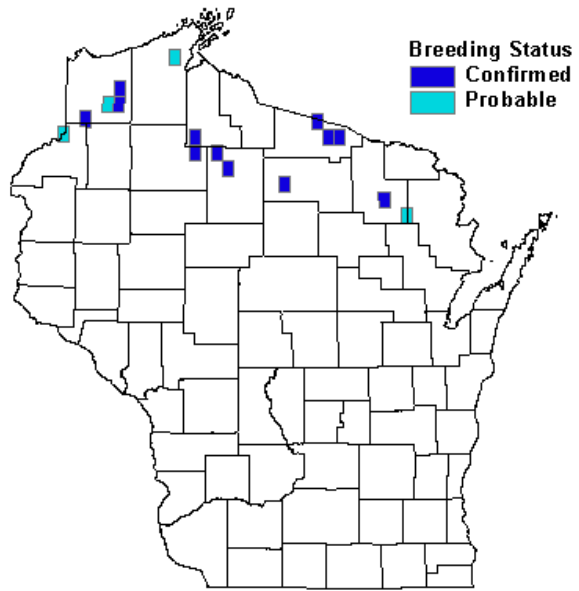
More information about Boreal Chickadees:

[All About Birds](#)

[Birds of North America Account](#) (subscription required)



Ryan Brady



Black-backed Woodpecker

WBBA I Breeding Range

Black-backed Woodpeckers are famous for their preference of recently burned areas, and may quickly colonize and nest in and near a recent burn. However, these species also widely use lowland spruce swamps, adjacent stands of upland conifers, mature pines on sandy soils, and other coniferous habitats. This is the rarest regularly-occurring woodpecker in the state and can be relatively quiet and unobtrusive even when present.

Region: Sparsely distributed across the northern two tiers of counties. Formerly more abundant southward. [eBird Range Map](#)

Time of Year: Year-round residents although some may move seasonally. Breeding phenology isn't well known but nesting behaviors may begin as early as mid-late April, suggesting surveying a bit before typical atlasing period could be productive.

Breeding Guideline Bar Chart: (Full chart is on [atlas handbook webpage](#))

January	February	March	April	May	June	July	August	September	October	November	December
1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4	1 2 3 4
N N N N	N N N N	M M M M	E E E E	E B B B	B B B B	B B B E	E E E E	M M M M	M M M M	M M M M	N N N N

N = Nonbreeding Season, **M** = Migration, **B** = Breeding Season, **E** = Either (a transition period)

Time of Day: No special instructions. As with many birds, early morning hours are usually best.

Focal Habitat: Two primary habitats: 1) conifer swamps and adjacent upland conifers (especially if diseased/dying), 2) recently burned areas. Can colonize an area after a fire quickly

and nest in relatively high density there for several years. Always near conifers, but overall ranges widely.

Special Methods: Wear rubber boots and walk suitable habitats listening for quiet flaking noises (Black-backs prefer to scrape bark off of trees), call notes, or nest cavities with young. All tapping woodpecker sounds should be investigated. Beware that other woodpecker species will also flake bark and identification by drumming pattern is not reliable. Audio playback can increase your chances of detecting birds (see final page of this document).

Code Guidance: The most common confirmed codes will likely be NY and FY. Remember that cavity excavation by woodpeckers is only Probable – B unless there is stronger evidence to upgrade to Confirmed.

Other Species: In addition to the species listed in this document, these swamps can have uncommon breeders like both kinglets, Palm Warbler, Yellow-bellied Flycatcher, Lincoln's Sparrow, and Olive-sided Flycatcher. In post-burn areas, look for Common Nighthawk, Vesper Sparrow, Field Sparrow.

Confusing Species: The very rare American Three-toed Woodpecker would be the species of greatest confusion. Three-toed has white on its back. Other woodpeckers can provide possible confusion, Hairy is closest in size and can also flake bark. It's a given that when looking for Black-backed Woodpeckers, you will come upon dozens of Hairy and Downy Woodpeckers perched on trees in suitable Black-backed habitat quietly scraping bark. Yellow-bellied Sapsuckers also may be problematic, especially the grayer juveniles (look for the vertical white wing bar!). By ear, Hermit Thrush gives a "chuck" call note that can sound very similar to that of a Black-backed Woodpecker.

More information about Black-backed Woodpeckers:

[All About Birds](#)

[Birds of North America Account](#) (subscription required)

General Audio Playback Guidelines — PLEASE READ

Audio playback can be useful for detecting birds, but may also have negative effects on birds by causing them to expend energy defending their territory against a phantom intruder. Because we are seeking breeding birds during the time of year when they are defending their territory and tending to their mate or young, playback has the potential to be more disruptive than for migrant or wintering birds. Audio playback can be detrimental to the health and breeding productivity of birds.

We do not condone playback for most general atlasing purposes and playback is strongly discouraged for any non-scientific use, i.e., bringing the bird closer for you to see or photograph. If playback is used, do so sparingly by limiting the length and frequency of use (e.g. ≤ 30 second intervals no more than twice in a given location), and with caution by avoiding heavily birded areas where cumulative effects of multiple playback users can be severe. Never use playback for threatened or endangered species unless specifically directed by WBBA II protocols or staff. Never use playback on properties specifically restricting its use (e.g., National Wildlife Refuges).

Playback should NOT be used once a species has been detected. Doing so is not only unnecessary but detrimental to atlasing because it disrupts the normal activities of a bird and will not lead you to a nest, young, or other higher levels of breeding evidence. Agitation or territoriality in response to playback does NOT constitute Probable breeding. Thus, if a bird approaches or responds to playback, turn it off immediately to avoid further agitating the bird.

In summary, playback is permissible in some instances but do not use it indiscriminately throughout your block. If using playback, have a plan to survey a particular habitat for a particular species, limit the duration of playback, and cease its use when the target species is detected, unless directed otherwise by WBBA II guidelines.

Boreal Resident Audio Playback

To improve detectability of these boreal residents we recommend use of audio playback in blocks that contain suitable habitat. However, please note that all four species can be found to some degree with patient, diligent observation and we encourage all atlasers to exert such effort first before automatically resorting to playback. Please follow the guidelines above and use playback with discretion, being cognizant of possible negative effects and keeping in mind that playback is mostly for detecting a species, not for confirming it.

If playback is used, we recommend that you:

- Use a portable speaker and an mp3 player — many models are available.
- Spring, when birds are establishing territories, is likely the most productive season for playback.
- Play audio files for 30 seconds, then stop and listen silently for several minutes.
- Don't play the audio more than twice for a given species at any location.
- Separate locations where you play audio by about 100 yards.
- Cease playback immediately if a bird is detected.
- If a bird you detected previously follows you to another location where you are using playback, discontinue playback until you are well away from that individual.
- Repeated playback at the same location is the most harmful. Avoid using playback on every site visit or in locations that are likely to be visited by other birders.
- Use your own audio files if you them, or use these from xeno-canto.org:
[Spruce Grouse.mp3](#), [Black-backed Woodpecker.mp3](#), [Boreal Chickadee.mp3](#), [Gray Jay.mp3](#)