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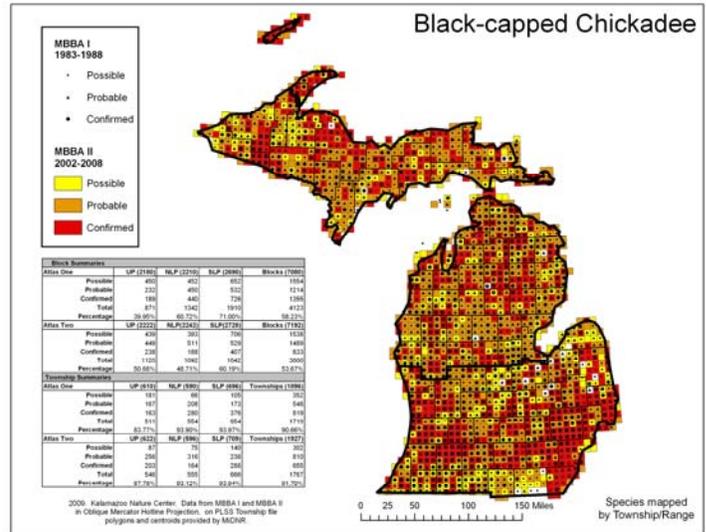
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# Black-capped Chickadee (*Poecile atricapilla*)

Alec Lindsay



Lake Erie Metropark, Wayne Co., MI  
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 This species is sponsored by:  
 Petoskey Regional Audubon Society



[\(Click to view a comparison of Atlas I to II\)](#)

Ubiquitous, social, and tolerant of human activities, Black-capped Chickadees are arguably among Michigan’s most easily recognized birds. Year-round residents of urban, rural and wilderness habitats, Black-capped chickadees are also regular visitors to bird feeders. Unlike many other “feeder birds,” chickadees are a scatter-hoarding species, storing individual food items in thousands of caches that they remember and return to over long periods of time (Hitchcock and Sherry 1990). For a small bodied bird like a chickadee, supplemental feeding can have positive impacts on winter survival (Wilson 2001). Chickadees typically spend the fall and winter months in larger chickadee flocks with linear dominance hierarchies, where males dominate females and older birds dominate new recruits (Glase 1973). Nuthatches, woodpeckers, brown creepers and kinglets will often join chickadee flocks during winter foraging.

The geographical range of Black-capped Chickadees stretches from the West Coast to the Eastern Seaboard of North America, from as far north as Alaska and Newfoundland to as far south as northern California and Pennsylvania. Near Michigan, Black-capped Chickadees are residents across the state of Wisconsin and the

Province of Ontario. Their southern range extends only partially across Illinois, Indiana and Ohio, where the Carolina Chickadee becomes more common.

### Distribution

Some of the earliest accounts of chickadees in Michigan (Barrows 1912) indicate chickadees have been breeding across both peninsulas of the state for a long period. Black-capped Chickadee distribution changed slightly between the two Atlas periods. Chickadees were reported from over 3,700 Atlas blocks during MBBA II, compared with over 4,100 blocks in MBBA I. Reports of chickadees were clearly widespread across the state, yet fewer than a quarter of reports were confirmed breeding records. With the exception of Lenawee and Hillsdale counties, confirmed breeding records were reported for all of Michigan’s counties during both the first and second Atlas periods. Lenawee and Hillsdale counties showed scant evidence of chickadee breeding in both Atlas efforts (with no confirmed records in the second effort), in rough agreement with 1970-1989 Breeding Bird Survey data. The percentage of Atlas blocks with evidence of chickadee breeding declined from 58% in the first Atlas to 52% in the second Atlas, likely as a result of changes in survey

effort, but at the township level, the remarkably high percentage of Atlas townships with breeding records in both Atlases (90%+) confirms what casual observers and backyard birders already know: chickadees are common across the entire Michigan landscape.

### Breeding Biology

In late spring and summer, breeding pairs of chickadees excavate nest cavities in dead branches or tree snags and raise a single (rarely more) clutch of offspring. These family units remain together for a few weeks after the young fledge until one day the juveniles disperse some distance away (Weise and Meyer 1979), but usually not more than a few kilometers. Both males and females excavate cavities, but nests are built exclusively by females (Smith 1993). Pairs rarely reuse nests between nesting attempts or between breeding seasons. Chickadees are socially monogamous when nesting, but both males and females will frequently seek copulations from individuals other than their social mate. Otter et al. (1998) found that up to 30% of nests can include offspring sired by males other than the attending father and that in soliciting extra-pair matings, females preferentially seek the copulations from flock mates who rank higher than their social mate.

### Abundance and Population Trends

[\(Click to view trends from the BBS\)](#)

Although the declines in reported numbers are conspicuous, it is more likely that reported declines are an artifact of variable efforts put forth between the two surveys, rather than a reflection of actual population changes. Recent BBS data indicate that Michigan ranks among the top ten states and provinces for total Black-capped Chickadee population size, and densities are higher in Michigan than most other states. North American Breeding Bird Survey data from 1983-2007 show a general, although non-significant, trend of increasing chickadee numbers in Michigan (Sauer et al. 2011). This

trend parallels the significant chickadee population increases recorded across the broader region (i.e. USFWS Region 3).

With chickadees, what is perhaps more interesting than where they were found breeding is the places where they were not found breeding. In fact, some townships (during both Atlases) lacked confirmed evidence of chickadee breeding activity. This is especially true for some of the townships in southeast Michigan during both Atlases, and some townships in the western Upper Peninsula during MBBA II. Two different factors are potential causes for the limited evidence of breeding chickadees in these areas. First, heavy agricultural activities in counties like Hillsdale, Huron and Lenawee reduce the number of available nest sites (i.e., fewer suitable trees for cavity excavation), likely leading to reduced breeding in these areas. Further, although chickadees can be found in forest edges and other disturbed habitats, forest edges create harsher microclimates in cold and windy conditions and chickadees will avoid them (Grubb 1977, Yahner 1987), making habitats dominated by agriculture less appealing to breeding chickadees. At the other end of the state, the limited evidence of breeding chickadees in the western Upper Peninsula, seen mainly in Gogebic and Ontonagon counties, is likely due to inaccessible Atlas blocks embedded in the Ottawa National Forest rather than any shortcomings in habitat quality. These counties received increased Atlas effort between the first and the second Atlas periods, but large tracts of forest in these counties remain remote and relatively inaccessible.

### Conservation Needs

Black-capped Chickadee populations appear to be stable in Michigan and they are not listed by any state, federal or conservation agency as a species of special concern. Local populations do not seem to have changed demonstrably since the first Atlas effort. It is noteworthy that on an

individual and population level, habitat modification and supplemental feeding by humans can have negative and positive effects, respectively, on winter survival in chickadees. As a broader conservation interest, the heavy consumption of plant-eating insects by chickadees, including larvae and eggs of tent caterpillars and gypsy moths (Heinrich and Collins 1983), coupled with their ubiquitous presence as year round Michigan resident birds, implies that Black-capped Chickadees may play a significant role in Michigan's forest health (Strong et al. 2000).

### Literature Cited

- Barrows, W.B. 1912. Michigan Bird Life. Special Bulletin. Michigan Agricultural College, Lansing, Michigan, USA.
- Glase, J.C. 1973. Ecology of social organization in the black-capped chickadee. *Living Bird* 12: 235-267.
- Grubb, T.C. 1977. Weather dependent foraging behavior of some birds wintering in a deciduous woodland: horizontal adjustments. *Condor* 79: 271-274.
- Heinrich, B., and S. L. Collins. 1983. Caterpillar leaf damage and the game of hide-and-seek with birds. *Ecology* 64:592-602.
- Hitchcock, C.L., and D.F. Sherry. 1990. Long-term memory for cache sites in the black-capped chickadee. *Animal Behaviour* 40: 701-712.
- Otter, K. L. Ratcliffe, D. Michaud, and P.T. Boag. 1998. Do female black-capped chickadees prefer high ranking males as extra-pair partners? *Behavioural Ecology and Sociobiology* 43: 25-36.
- Sauer, J., J.E. Hines, J. Fallon, K. Pardieck, D. Ziolkowski, Jr., and W. Link. 2011. The North American Breeding Bird Survey, Results and Analysis 1966 - 2009. Version 3.23.2011. USGS Patuxent Wildlife Research Center, Laurel, Maryland, USA.
- Smith, S.M. 1993. Black-capped Chickadee (*Poecile atricapilla*). Account 39 in A. Poole and F. Gill, editors. *The Birds of North America*. Birds of North America, Inc. Philadelphia, Pennsylvania, USA.
- Strong, A.M., T.W. Sherry, and R.T. Holmes. 2000. Bird predation on herbivorous insects: indirect effects on sugar maple saplings. *Oecologia* 125: 370-379.
- Weise, C. M., and J.R. Meyer. 1979. Juvenile dispersal and development of site-fidelity in the Black-capped Chickadee. *Auk* 96:40-55
- Wilson, W.H. 2001. The effects of supplemental feeding on wintering black-capped chickadees (*Poecile atricapilla*) in central Maine: population and individual responses. *Wilson Bulletin* 113: 65-72.
- Yahner, R.H. 1987. Use of even-aged stands by winter and spring bird communities. *Wilson Bulletin* 99: 218-232.

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