



Doug Wechsler/VIREO

Carolina Chickadee

Poecile carolinensis

One of two chickadee species in Pennsylvania, the Carolina Chickadee differs from its larger close relative, the Black-capped Chickadee, in having a proportionally shorter tail as well as gray rather than white covert feathers on the “shoulder” of the folded wing. Its most common song includes four notes of alternating pitch, *see bee see bay*, unlike the typical song of the Black-capped Chickadee, which is a two-note *fee bee*. Visual similarity of the two chickadees and their ability to learn and produce the song of the other species, especially where the two species overlap and hybridize (Reudink et al. 2007; Curry et al. 2007), complicates analysis of range and abundance. Nevertheless, the Carolina Chickadee is advancing northward in the state and becoming familiar to an increasing percentage of Pennsylvanians.

The Carolina Chickadee is predominantly a bird of forests and mixed landscapes in the Deep South, with a breeding range extending from the Atlantic coast to the Great Plains. The species’ northern limit, from New Jersey to Kansas, extends only marginally into Pennsylvania. Accordingly, the state does not contribute significantly to the overall conservation status of this widespread and abundant species.

During the second Atlas period, as in the past, the Carolina Chickadee was concentrated in the southeastern and southwestern corners of Pennsylvania but was absent from higher elevations in the Allegheny Mountain and southern Appalachian Mountain physiographic sections. The distribution overlaps minimally with that of the Black-capped Chickadee: of the blocks inhabited by at least one chickadee species (98% of all blocks), the species occurred together in only 7 percent. The Caro-

lina Chickadee has exhibited one of the largest increases in blocks with records of any Pennsylvania species, a 52 percent increase, indicating a considerable northward range expansion. Atlas results provide little support, however, for lateral shifts that would reflect upslope movement onto ridgetops in Franklin and Fulton counties. The range expansion has come at the expense of the Black-capped Chickadee: of 736 blocks occupied solely by the Carolina Chickadee during the second Atlas period, 18 percent were previously inhabited by the Black-capped Chickadee alone. In addition, the area of range overlap increased significantly between atlas periods. However, notes on some observations submitted to the atlas within the hybrid zone suggest some uncertainty with identification, which may cloud the picture somewhat.

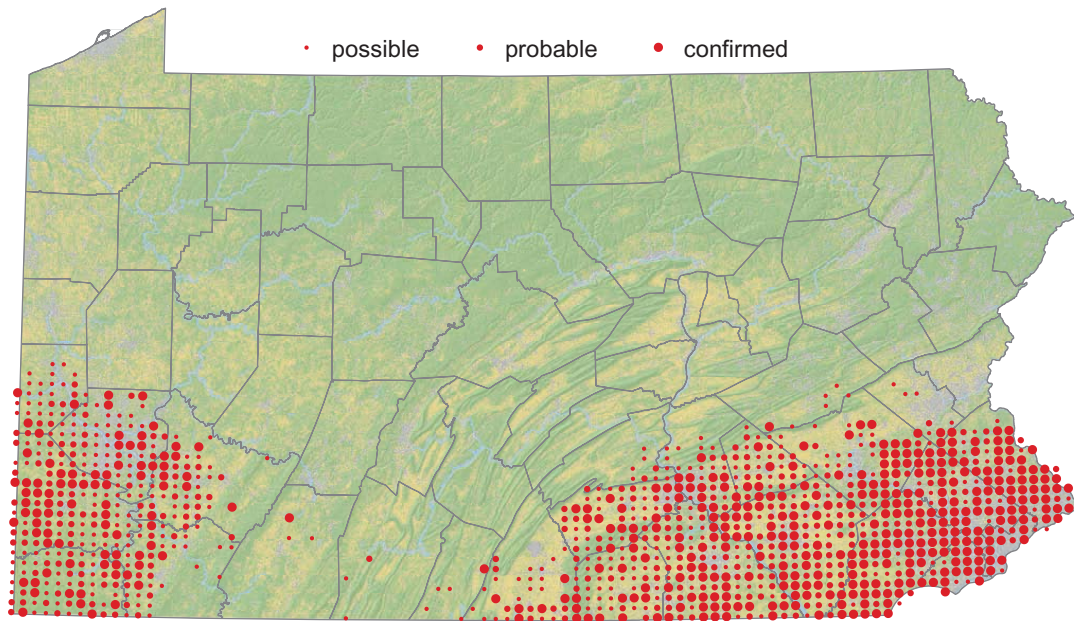
The Carolina Chickadee relies on forested habitats for breeding, but it is remarkably tolerant of human activities and landscape changes. The species can breed in areas with high human density and fragmented forest cover, provided some dead trees or nest boxes are available for nesting. Consistent with its more southerly breeding range in Pennsylvania relative to the Black-capped Chickadee, the Carolina Chickadee begins breeding slightly earlier in the spring, with many nests active by late April. Average dates for breeding confirmation were around 1 week earlier than those for the Black-capped Chickadee (appendix F). Replacement clutches are common, but second broods are rare, so active Carolina Chickadee nests seldom can be found after June.

Abundance of the species during the second Atlas period was highest scattered parts of the Piedmont Province. Pennsylvania’s Carolina Chickadee population was estimated to be 105,000 singing males during the second Atlas period. Breeding Bird Survey (BBS) data suggest little change in abundance, rangewide, 1966–2009 (Sauer et al. 2011). However, the BBS trend for Pennsylvania shows a 6.1 percent annual increase over the same period, and we estimate a population increase of more than 90 percent between atlas periods that corroborates the block expansion.

The Carolina Chickadee’s reproductive output can be greatly reduced when House Wrens usurp active nests (Doherty and Grubb 2002a). However, range expansion and mating advantages during hybridization with Black-capped Chickadees (Reudink et al. 2006) both suggest that the Carolina Chickadee will continue to become an increasingly prominent member of Pennsylvania’s avifauna.

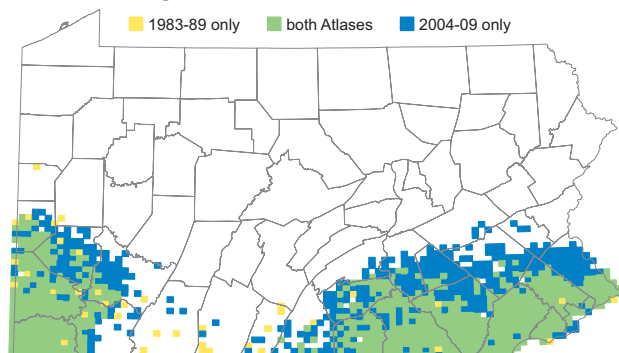
ROBERT L. CURRY

Distribution



MAP_9.104.1

Distribution Change



MAP_9.104.2

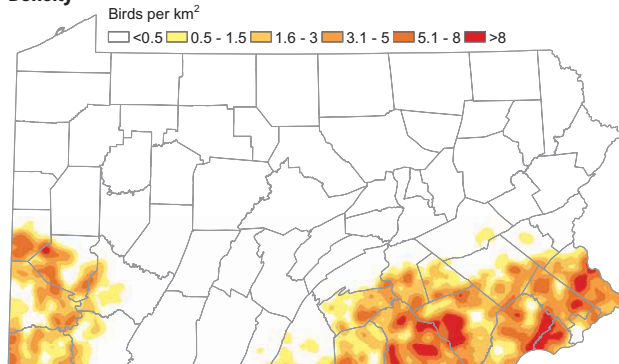
Number of Blocks

Table 9.104

	first Atlas 1983-89	second Atlas 2004-09	Change %
Possible	156	380	144
Probable	221	275	24
Confirmed	330	420	27
Total	707	1,075	52

Population estimate, males (95% CI):
105,000 (93,000-119,000)

Density



MAP_9.104.3

Breeding Bird Survey Trend

CHART_9.104

