

Carolina Wren

Thryothorus ludovicianus



The loud and emphatic *teakettle-teakettle-teakettle* song of the Carolina Wren can be heard ringing from suburban shrubs and shade trees in lowland parts of Vermont. The volume of the song can be surprising for such a small bird. The Carolina Wren has been expanding its range northward over the last century and now breeds from Texas to northern New England and west to Kansas and Oklahoma. It was first reported nesting in southeastern Massachusetts in 1901 (Veit and Petersen 1993). At the time of the first Vermont atlas, one pair was found nesting in Bennington County (Ellison 1985). As late as 1995, Vermont remained at the northernmost limits of the range (Haggerty and Morton 1995), but regular reports of the species have recently been coming from Quebec (Regroupement QuébecOiseaux 2010).

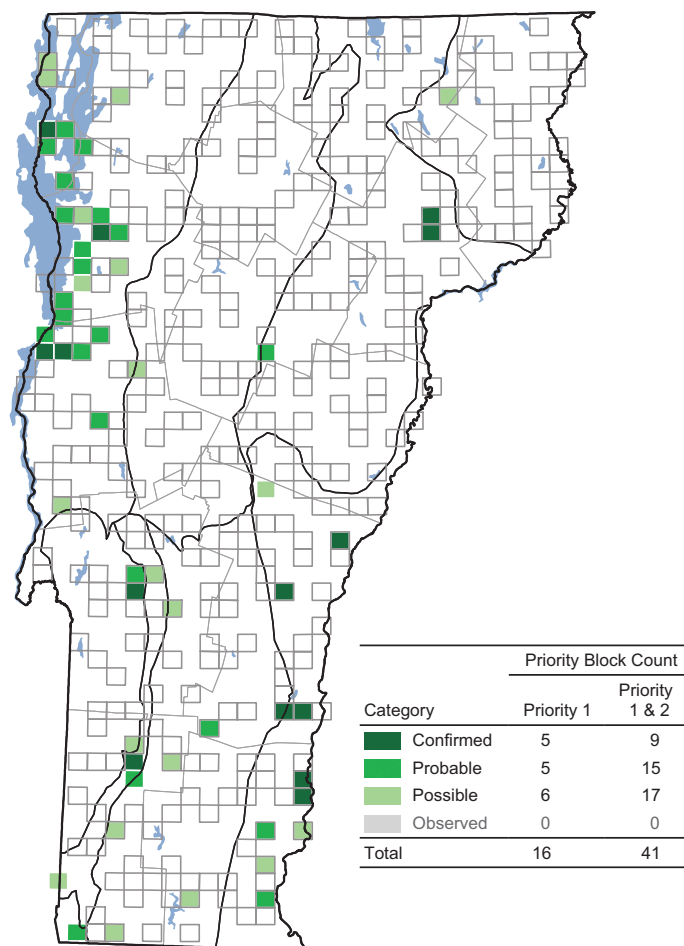
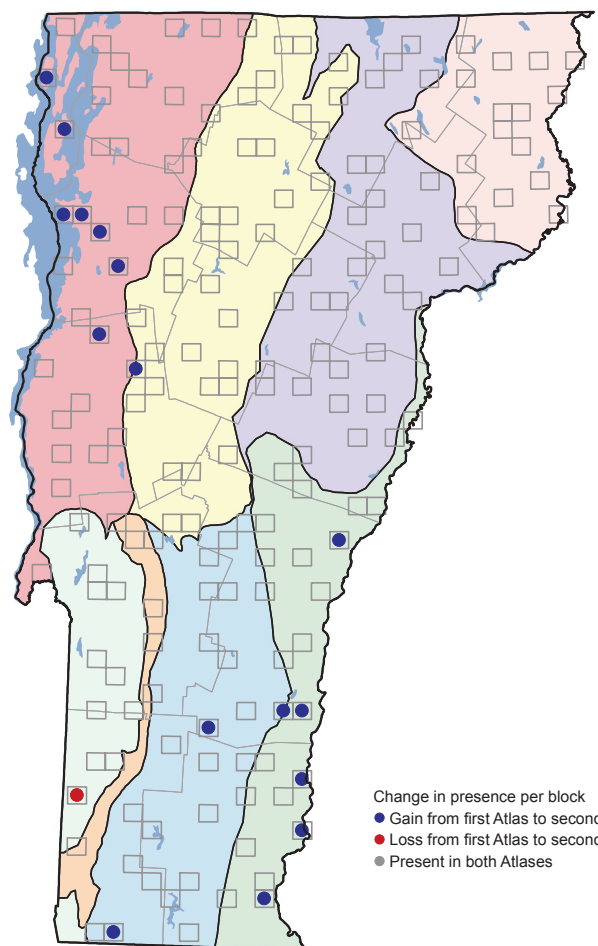
Carolina Wrens nest in a wide variety of habitats, wherever there is a tangle of undergrowth, from suburban yards to brushy clear-cuts, and from mature deciduous forests to riparian woodlands (Haggerty and Morton 1995). Present year round in Vermont, these wrens typically nest close to the ground in small cavities or niches in trees, stumps, buildings, undercut stream banks, brush piles, and root masses. A clutch of 4 eggs is laid in a bulky nest of grasses, stems, and twigs lined with rootlets, hair, and sometimes feathers (Harrison 1978). In New England, egg-laying begins in mid-April and nests are active through July. Incubation, carried out only by the female, takes about 15 days. The young are fed by both parents until they fledge at about 12 to 14 days (Petersen and Meservey 2003a).

The second atlas revealed that Carolina Wrens have greatly extended their range in Vermont. The centers of colonization are the Champlain Valley—the species' current stronghold in the state—the Southern Green Mountains, and Southern Vermont Piedmont. Their distribution remains sparse in the Northern Green Mountains, and they remain absent from the Northeastern Highlands and Northern Vermont Piedmont. As in other areas of the Northeast, most of the recent colonization has occurred in relatively low-lying areas, including the

Connecticut River Valley and the plains of Lake Champlain. A similar pattern has been observed in Ontario, where the number of atlas blocks with confirmed breeding increased from 40 in the first atlas to 233 in the second. The New York atlas saw a dramatic, 310 percent increase in occupied blocks, and the number of CO records was doubled. Not surprisingly, Breeding Bird Survey data from 1982 to 2007 show significant 7.9 and 14.6 percent annual increases in the Lower Great Lakes / St. Lawrence Plain (Bird Conservation Region 13) and the Atlantic Northern Forest (Bird Conservation Region 14), respectively (Sauer et al. 2011).

The Carolina Wren is vulnerable to severe winter weather and local populations may occasionally be eliminated by harsh conditions (Veit and Petersen 1993; Haggerty and Morton 1995). It is likely that historic winter weather conditions imposed a northern limit on this species' range, restricting it to areas south of Vermont. Winters have been growing less harsh over the past few decades, however. The mean winter temperature in New England has increased by 3 degrees Fahrenheit since the 1970s and continues to rise (Union of Concerned Scientists 2007). This is likely an important factor contributing to the northward spread of the Carolina Wren, although a harsh climate could theoretically have selected for a more resilient genotype. The proliferation of winter feeding stations over the past few decades has also likely helped the Carolina Wren to extend the northern limits of its range. Feeders, however, cannot explain its initial northward spread into New England in the first half of the twentieth century. If the trend toward warmer winters persists, as climate models predict, it is likely that the Carolina Wren will continue to expand its range within Vermont.

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CHANGE IN DISTRIBUTION BETWEEN ATLASES

Biophysical Region	First Atlas	Second Atlas	Change	% Change
Champlain Valley	0	7	+ 7	+ 700
Northeastern Highlands	0	0	+ 0	+ 0
Northern Green Mountains	0	1	+ 1	+ 100
Northern Vermont Piedmont	0	0	+ 0	+ 0
Southern Green Mountains	0	3	+ 3	+ 300
Southern Vermont Piedmont	0	5	+ 5	+ 500
Taconic Mountains	1	0	- 1	- 100
Vermont Valley	0	0	+ 0	+ 0
Totals	1	16	+ 15	+1500

DISTRIBUTION IN CURRENT ATLAS

Biophysical Region	% of region species occupies	% of all records for this species found in region
Champlain Valley	24	44
Northeastern Highlands	2	2
Northern Green Mountains	1	2
Northern Vermont Piedmont	3	5
Southern Green Mountains	12	17
Southern Vermont Piedmont	22	22
Taconic Mountains	9	5
Vermont Valley	12	2