

Canada Warbler

Cardellina canadensis



In Vermont, a late-September swamp might draw busloads of leaf peepers to its edge, but only spirited naturalists will wade into the muck and mosquitoes of that same swamp in June, to admire the colors that adorn the Canada Warbler. This active songbird appears only in fleeting glimpses through the undergrowth of moist woodlands. The Canada Warbler ranges across the northern half of North America from the southeastern corner of the Yukon, eastward to Labrador and Newfoundland. The range extends southward through the Great Lakes states and New England, and down the wrinkled crest of the Appalachian Mountains into northern Georgia (Conway 1999).

Throughout northern New England, the Canada Warbler nests in coniferous, deciduous and, especially, mixed forests that feature a low canopy, dense subcanopy, and emergent song perches, along with hummocks, roots, and debris to conceal the nest and fledglings (DeGraaf 1985, Ellison 1985, Smith 1994, Chace et al. 2009). Preferred habitats include swamps, bogs, riparian zones, regenerating timber cuts or talus slopes, and naturally occurring gaps within mature forests. The best time to detect Canada Warblers is during territory establishment and early pairing, when the males are most vocal. In west-central New Hampshire, this period ranges from 17 May to 1 June, followed by nest building from 19 May to 7 June, egg-laying from 23 May to 14 June, incubation from 28 May to 20 June, and fledging from 10 June to 2 July (M. L. Goodnow unpubl. data).

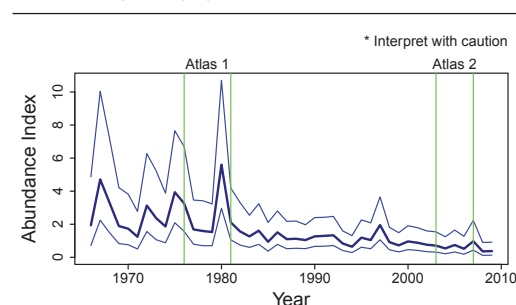
Fittingly, Canada Warbler breeding records are concentrated in areas of the state that call to mind Canada's boreal forest. Atlas observers reported some evidence of breeding in over 60 percent of the priority blocks in the Green Mountains and Northern Vermont Piedmont, with all Northeastern Highlands blocks producing nesting-season observations. The Canada Warbler was seen less frequently in the milder Champlain Valley and Southern Vermont Piedmont.

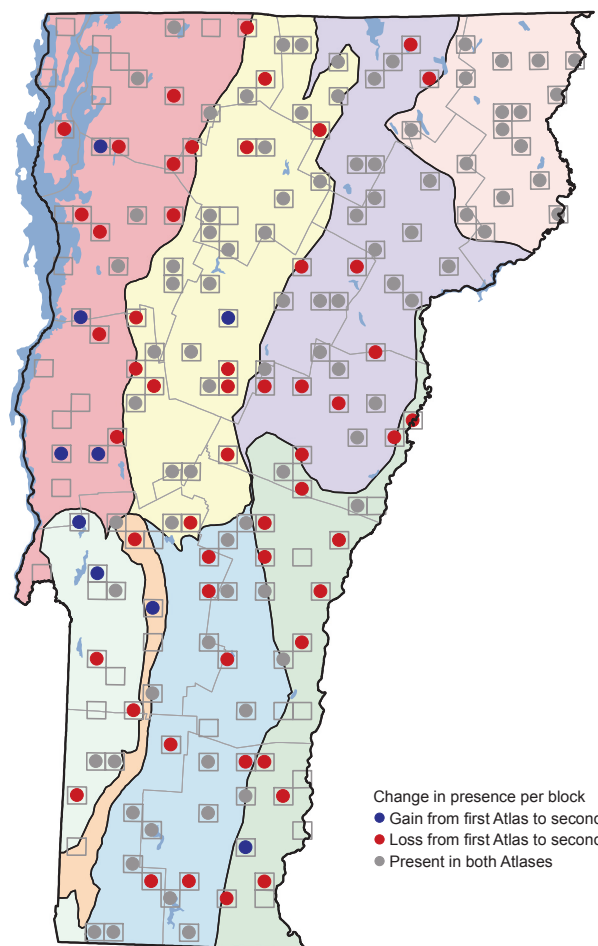
Block occupancy in the second Vermont atlas dropped 31 percent since the first atlas, with presumed losses doc-

umented statewide except in the Northeastern Highlands and the Vermont Valley. New York also experienced a sharp drop of 23 percent in block occupancy between atlases (McGowan and Corwin 2008). The Breeding Bird Survey, which surveys birds along roadways, corroborates these trends, showing a 4.4 percent per year population decline from 1982 to 2007 for the Atlantic Northern Forest (Bird Conservation Region 14; Sauer et al. 2011). State-level trends, however, show no population change between the first and second atlases (Sauer et al. 2011), and statistically insignificant declines from 1989 to 2010 within Vermont forest interiors (S. Faccio pers. comm.).

Partners in Flight and all states from Virginia to Maine include the Canada Warbler among species in greatest need of research, monitoring, and conservation (Dettmers 2003b, Rich et al. 2004, NECBM Partnership 2007). Such an integrated approach may reveal factors underlying the Canada Warbler's diminishing range in Vermont, where it is listed as a Species of Special Concern. Forest inventory data collected statewide since 1966 point to a potential threat in the dramatic loss of two cover types that are important to this species: spruce-fir and elm-ash-red maple (VDFPR 1999). There is no evident link between changes in Canada Warbler occupancy and changes in area or age of Vermont forests: forest cover increased

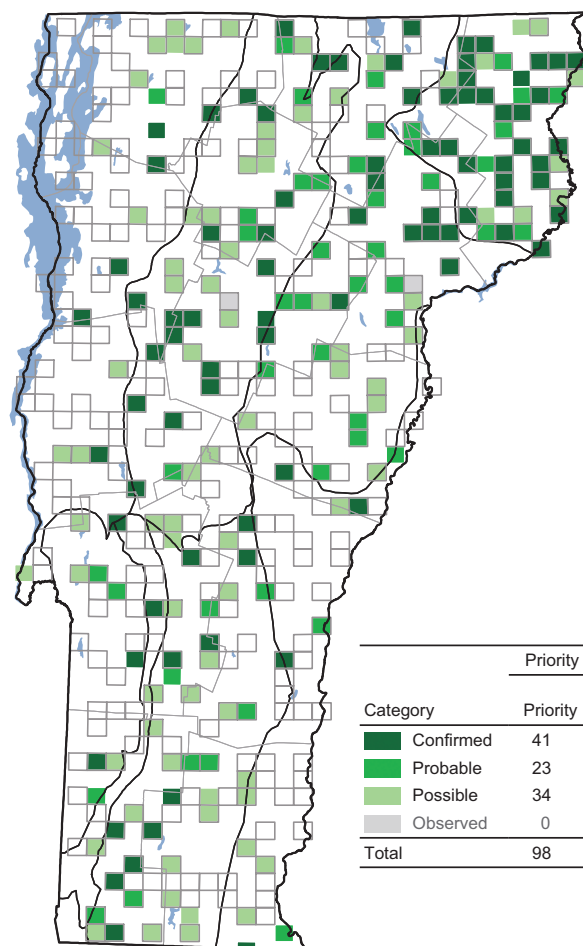
RELATIVE ABUNDANCE OVER TIME





CHANGE IN DISTRIBUTION BETWEEN ATLASES

Biophysical Region	First Atlas	Second Atlas	Change	% Change
Champlain Valley	16	9	- 7	- 44
Northeastern Highlands	17	17	+ 0	+ 0
Northern Green Mountains	33	24	- 9	- 27
Northern Vermont Piedmont	30	20	- 10	- 33
Southern Green Mountains	24	17	- 7	- 29
Southern Vermont Piedmont	14	4	- 10	- 71
Taconic Mountains	6	5	- 1	- 17
Vermont Valley	2	2	+ 0	+ 0
Totals	142	98	- 44	- 31



Category	Priority Block Count	
	Priority 1	Priority 1 & 2
Confirmed	41	79
Probable	23	40
Possible	34	68
Observed	0	2
Total	98	187

DISTRIBUTION IN CURRENT ATLAS

Biophysical Region	% of region species occupies	% of all records for this species found in region
Champlain Valley	20	8
Northeastern Highlands	100	20
Northern Green Mountains	66	23
Northern Vermont Piedmont	61	21
Southern Green Mountains	62	19
Southern Vermont Piedmont	20	4
Taconic Mountains	28	3
Vermont Valley	37	2

slightly and maturation of young forest increased substantially between the two atlas periods (VDFPR 1999).

Although red maple swamps are known to provide excellent habitat for the species (Lambert and Faccio 2005), reproductive performance of Canada Warblers in New Hampshire did not differ between a red maple swamp and a forest cut twenty years earlier (Hallworth et al. 2008b). Over 80 percent of the nests in both habitats were successful, though the regenerating forest contained a greater proportion of younger males. The same study documented low nest predation in harvested areas,

where over 80 percent of the pairs fledged 5 young (L. R. Reitsma unpubl. data). In Vermont, forest managers can contribute to the conservation of the Canada Warbler by providing dense, regenerating forests with emergent, mature trees.

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