

Golden-crowned Kinglet

Regulus satrapa



A bantam-sized songbird, the Golden-crowned Kinglet is a reproductive heavyweight that lays a clutch of as many as 11 eggs. It breeds in forests across the continent, southward to the mountains of West Virginia, California, Arizona, and Central America (Ingold and Galati 1997). Vermont is near the southeastern edge of the kinglet's breeding range in eastern North America. It winters throughout the United States, including the Northeast, where temperatures to -40 degrees Fahrenheit are tolerated by communal roosting in a squirrel nest, a cavity, or bunched on a branch against a tree trunk (Heinrich 2003). Ice storms, however, take a heavy toll and may depress regional populations in subsequent years. Kinglets have modifications on the soles of their feet that enable them to better cling to the tips of conifer branches (Keast and Saunders 1991), but these are of little value when ice glazes the evergreens.

In Vermont, the Golden-crowned Kinglet nests in mature spruce and fir, but in the Southwest it will use deciduous trees including willows and poplar (Ingold and Galati 1997). Historically, spruce-fir stands were limited to higher altitudes and boreal regions, such as Vermont's Northeastern Highlands, but conifer stands planted in the early and mid-1900s in the eastern United States attracted Golden-crowned Kinglets; the species now nests regularly in conifer plantations in the mid-Atlantic region where it previously might only have wintered.

Golden-crowned Kinglets nest in May and usually raise a second brood. The tiny, domed nest is well hidden, high on a conifer bough (Ingold and Galati 1997). In the Vermont atlas, nest building was noted only four times, between 24 May and 22 June. One nest with young was reported on 16 July. Fledglings, which are dependent on the adults for at least two weeks, were the most common source of confirmations, reported from 17 June to 30 July ($N = 50$). Unless the demanding fledglings were discovered, the species could have been overlooked.

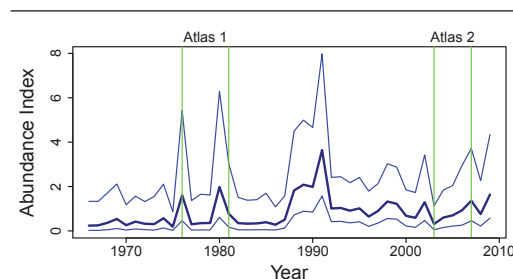
The species is well distributed along the backbone of the Green Mountains and in the boreal forests of the Northeastern Highlands. The Golden-crowned Kinglet

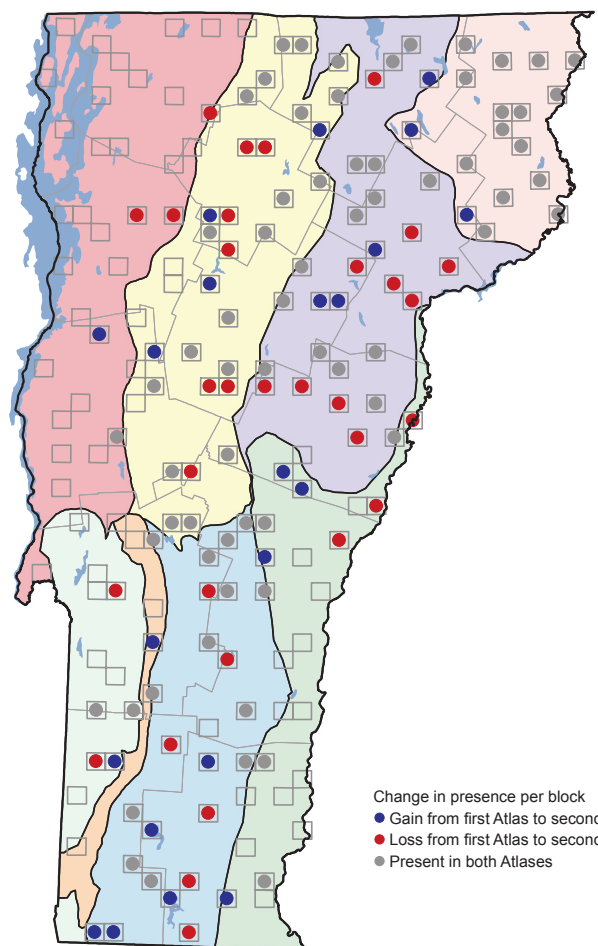
has apparently colonized few spruce plantations at lower elevations in Vermont and remains virtually absent from the western portion of the state and from the Connecticut River Valley.

A slight decline in the occurrence of Golden-crowned Kinglet was found during the second atlas. An increase in block occupancy was anticipated—in light of continued increases in the acreage of mature conifer stands and a predicted population rebound from weather-induced declines during the first atlas (Ellison 1985). This prediction went unrealized, however. Timber harvesting has resulted in a demonstrated loss of mature spruce-fir acreage in northern New England since 1983 (R. De Geus, VDFPR, pers. comm.). In Vermont, decreases in acreage of spruce-fir have not been as dramatic as regional statistics suggest, but the remaining forests are now younger (see chapter 2). A substantial ice storm in 1998—which affected 17 million acres in the Northeast—was probably also a factor (VMC 2009), although no such effect was evident in Breeding Bird Survey data (Sauer et al. 2008).

Breeding Bird Survey data within the United States show significant declines in Golden-crowned Kinglet populations from 1982 to 2007, but populations have been stable across the species' entire range, as well as in Vermont and the neighboring states of New Hampshire, New York (which showed an increase), and Mas-

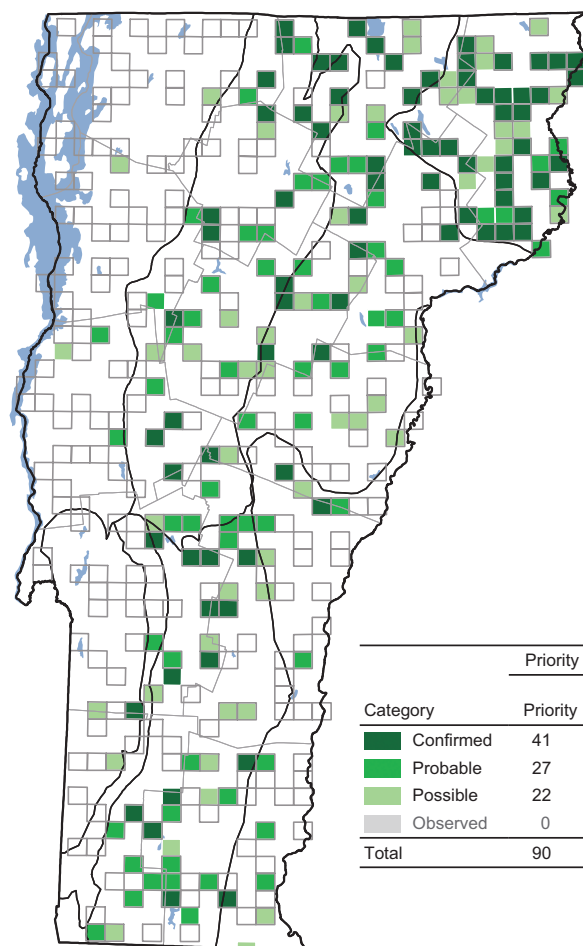
RELATIVE ABUNDANCE OVER TIME





CHANGE IN DISTRIBUTION BETWEEN ATLASES

Biophysical Region	First Atlas	Second Atlas	Change	% Change
Champlain Valley	4	2	-2	-50
Northeastern Highlands	15	17	+2	+13
Northern Green Mountains	26	23	-3	-12
Northern Vermont Piedmont	25	19	-6	-24
Southern Green Mountains	19	18	-1	-5
Southern Vermont Piedmont	6	7	+1	+17
Taconic Mountains	4	3	-1	-25
Vermont Valley	0	1	+1	+100
Totals	99	90	-9	-9



Category	Priority Block Count	
	Priority 1	Priority 1 & 2
Confirmed	41	74
Probable	27	57
Possible	22	41
Observed	0	0
Total	90	172

DISTRIBUTION IN CURRENT ATLAS

Biophysical Region	% of region species occupies	% of all records for this species found in region
Champlain Valley	5	2
Northeastern Highlands	100	22
Northern Green Mountains	63	24
Northern Vermont Piedmont	63	24
Southern Green Mountains	58	19
Southern Vermont Piedmont	30	7
Taconic Mountains	14	2
Vermont Valley	12	1

sachusetts (Sauer et al. 2011). The New York atlas found a 13 percent increase in occurrence (McGowan and Corwin 2008), while the Pennsylvania atlas documented an increase of 105 percent (Wilson et al. 2012). In Maryland, where kinglets are restricted to the Appalachian region in the extreme western portion of the state, the atlas showed a doubling of block occurrence (Ellison 2010). In Ontario, the probability of observing Golden-crowned Kinglet increased 47 percent, although the distribution remained relatively constant (McLaren 2007).

The future of breeding populations of Golden-crowned

Kinglet appears secure in Vermont's high-elevation and northeastern spruce-fir forests. Whether the species will occupy potentially suitable habitat (such as spruce plantations) at lower elevations in other portions of the state remains to be seen.

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