

Chimney Swift

Chaetura pelagica



The Chimney Swift has undoubtedly benefited directly from the European colonization of North America. Swifts apparently nested in hollow trees and other natural features but quickly adapted to nesting in chimneys and other artificial sites. The earliest record of Chimney Swifts using a chimney was in 1672 (Fischer 1958). Other nesting sites include building walls, woodpecker holes, wells, silos, and barns (Cink and Collins 2002).

Their current breeding range likely represents an expansion of their presettlement distribution, but documentation is lacking. They now breed across southern Canada east of Saskatchewan, southward to Texas and Florida. There are small populations in southern California (Cink and Collins 2002) and along the foothills of the Rockies in eastern Colorado (Kingery 1998).

Chimney Swifts return to Vermont from their Amazon Basin wintering grounds in early May. Their wintering area in the Amazon was not confirmed until 1943, although Mark Catesby, an early English naturalist, speculated correctly on the location in the early 1700s (Weidensaul 2007). To obtain nest-building material, birds in full flight break twigs from trees. Nest-building activity, noted from 23 May through 15 July, was the most frequently used confirmation criteria (N = 9). Cink and Collins (2002) indicate that 4 to 5 eggs constitute a normal clutch (range 1 to 5); data specific to Vermont are lacking. The nestling period is relatively long, lasting approximately 4 weeks. Fledglings (N = 4) were noted 10 July to 15 August.

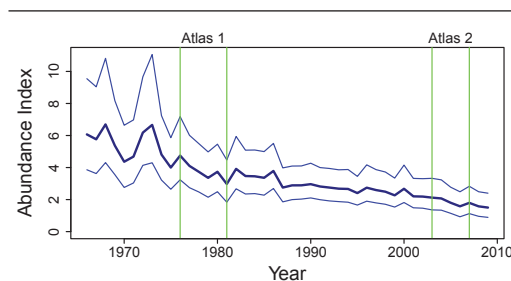
Chimney Swifts generally occur throughout the state, but the second atlas found a 26 percent loss in the number of occupied blocks. The largest losses appeared in the Champlain Valley, Northern Green Mountains, and Northern Vermont Piedmont. Because swifts may fly miles from their nest site to feed, they can be found in areas without chimneys or other such structures. In these cases, it may be impossible to determine whether a bird was nesting in a nearby natural cavity or simply foraging. Aggregations of birds near large chimneys during summer may be non-breeding individuals (Cink and Collins

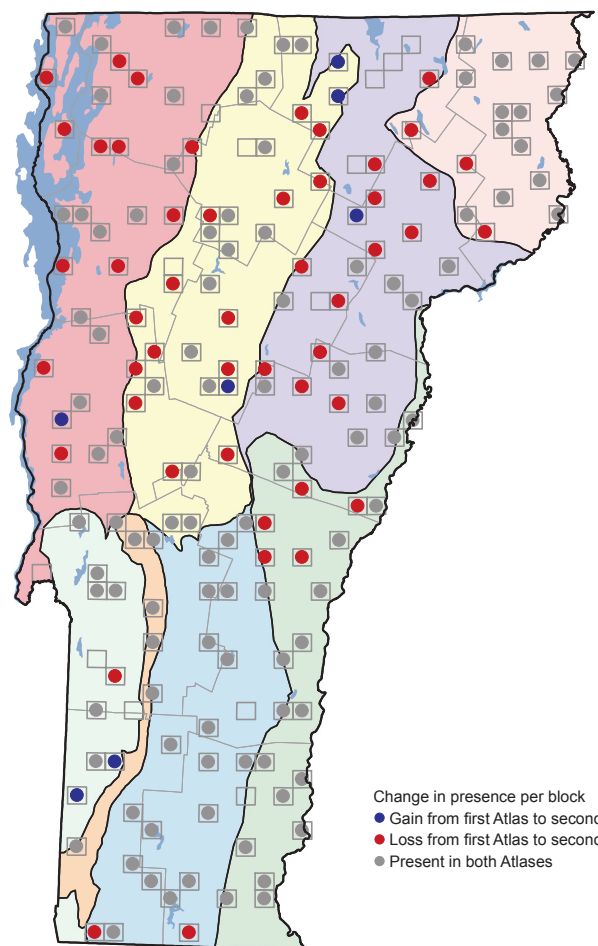
2002). This behavior has led to a common misperception that the species is a colonial nester.

Chimney Swifts have been declining throughout their range since the 1960s (e.g., Carter 1996, Mulvihill 1992, Sauer et al. 2011, Finity et al. 2010). In Vermont, Breeding Bird Survey data show a 3.1 percent decline annually from 1982 to 2007 (Sauer et al. 2011). Second atlases found declines ranging from 15 percent in New York to 2 percent in Pennsylvania (McGowan and Corwin 2008, Ellison 2010, Wilson et al. 2012). In Ontario, a decline of 46 percent was noted in the second atlas (Cadman 2007), and the species is listed as threatened in Canada (COSEWIC 2010).

One speculative cause of declines is the modification of chimney structures; capped chimneys are inaccessible and stainless-steel liners are too smooth (Kyle and Kyle 1998). Other possible causes include a reduction in aerial insect populations (Finity et al. 2010), intolerance of homeowners to birds in their chimneys, and occasional use of chimneys on cool summer nights, which can kill the nestlings (Norse and Kibbe 1985). Chimney Swifts form huge communal roosts in the non-breeding sea-

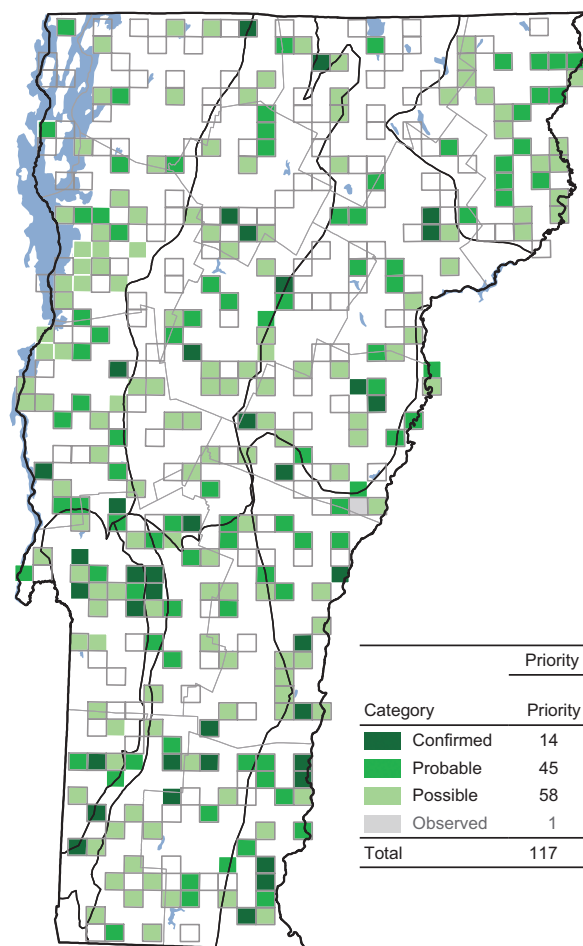
RELATIVE ABUNDANCE OVER TIME





CHANGE IN DISTRIBUTION BETWEEN ATLASES

Biophysical Region	First Atlas	Second Atlas	Change	% Change
Champlain Valley	30	19	- 11	- 37
Northeastern Highlands	17	14	- 3	- 18
Northern Green Mountains	30	19	- 11	- 37
Northern Vermont Piedmont	24	13	- 11	- 46
Southern Green Mountains	25	23	- 2	- 8
Southern Vermont Piedmont	21	16	- 5	- 24
Taconic Mountains	7	8	+ 1	+ 14
Vermont Valley	5	5	+ 0	+ 0
Totals	159	117	- 42	- 26



DISTRIBUTION IN CURRENT ATLAS

Biophysical Region	% of region species occupies	% of all records for this species found in region
Champlain Valley	52	16
Northeastern Highlands	78	12
Northern Green Mountains	60	17
Northern Vermont Piedmont	49	14
Southern Green Mountains	75	18
Southern Vermont Piedmont	80	14
Taconic Mountains	66	6
Vermont Valley	100	3

son, making them potentially vulnerable to catastrophic events such as hurricanes during migration and on their wintering grounds (Cink and Collins 2002). Management options on the breeding grounds include provisioning of artificial chimneys. First attempted in the early 1900s (Sherman 1952), this strategy has been proposed to shed light on factors affecting populations as well as to provide nesting sites (Cink and Collins 2002, Kyle and Kyle 1998).

The Chimney Swift is a medium-priority Species of Greatest Conservation Need in Vermont and is listed as a Species of Special Concern in Maine. Identification of

successful nesting sites and further research into what constitutes a productive nest site in our region are important first steps to identifying effective management strategies on the breeding grounds. Loss of suitable chimneys for nest sites has been suggested as a potential cause for declines in Canada (COSEWIC 2010). Cold spring weather and hurricanes are also considered major mortality factors. If aerial prey abundance is the major limiting factor, however, solutions to population declines may be more difficult to solve.

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