

Cooper's Hawk

Accipiter cooperii

Cooper's Hawks carry adaptations—such as relatively short, rounded wings and a long tail—for woodland pursuit of birds and small mammals. They breed in all forty-eight contiguous states, southern portions of the Canadian provinces, and southward into Mexico (Curtis et al. 2006). Populations in Vermont and points farther north are migratory, and this species is a common component of spring and fall migratory hawk counts. They, like all accipiters, exhibit substantial sexual size dimorphism, females being a third larger than the males. Considered a common breeding bird in Vermont during the nineteenth century, the Cooper's Hawk had undergone a drastic decline by the mid-1900s (Ellison 1985).

Considered a denizen of deciduous and mixed coniferous forest, the Cooper's Hawk has proven to be relatively tolerant of forest fragmentation, and may inhabit hedgerows and small woodlands in suburban areas (Curtis et al. 2006). Males return to their breeding territory year after year (Rosenfeld et al. 2009). They perform flight displays—consisting of gliding with the wings in a dihedral and tail undercoverts flared, alternating with exaggerated, slow flapping—to woo females, which return in late April. Rosenfeld et al. (2009) found dawn vocalizations to be the most effective method of locating occupied territories. The nest, built by the male, is placed high in a mature tree. Incubation of the 3 to 6 eggs lasts for a month, and another month passes before the young begin to fledge. Nests with young were observed on 26 June and 28 July, and fledglings were sighted from 6 July through 5 August ($N = 4$). Pairs are relatively secretive around the nest and intensive survey efforts may be necessary. Though recently fledged young are noisy and conspicuous, adults remain somewhat quiet. Some pairs may have been missed, and the atlas map may underrepresent the species' true distribution.

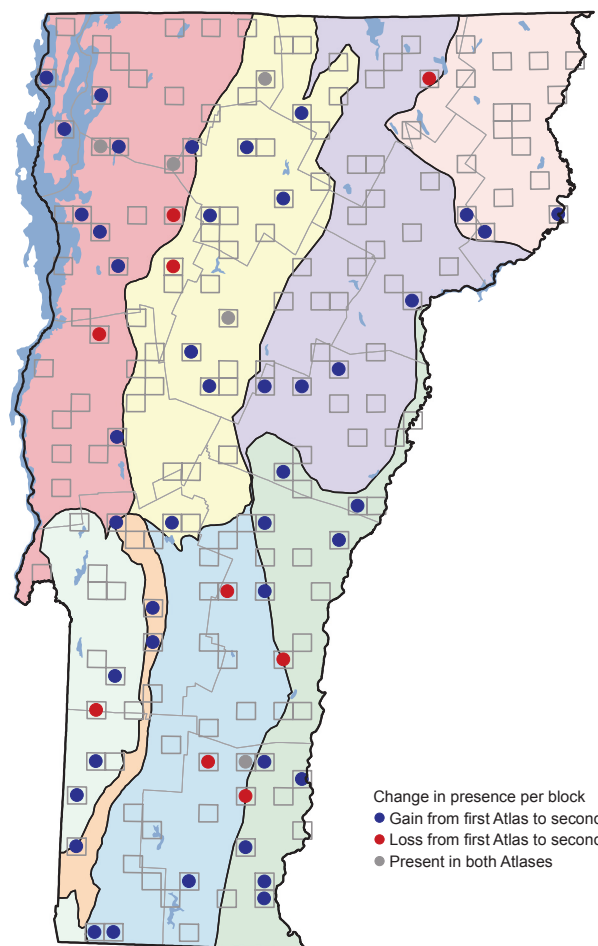
Cooper's Hawks occur throughout Vermont, including the relatively heavily populated portions of the state such as the Champlain and Connecticut River valleys. Their apparent scarcity in mountainous areas may be a reflection of the difficulty of locating breeding pairs in dense forest.



Relatively scarce (8 percent of Priority 1 blocks) during the first atlas, the species' block occupancy increased dramatically (over 200 percent) in the second atlas. There was no discernible change in distribution, and increases were recorded in every biophysical region, although confirmations remained low (11 percent).

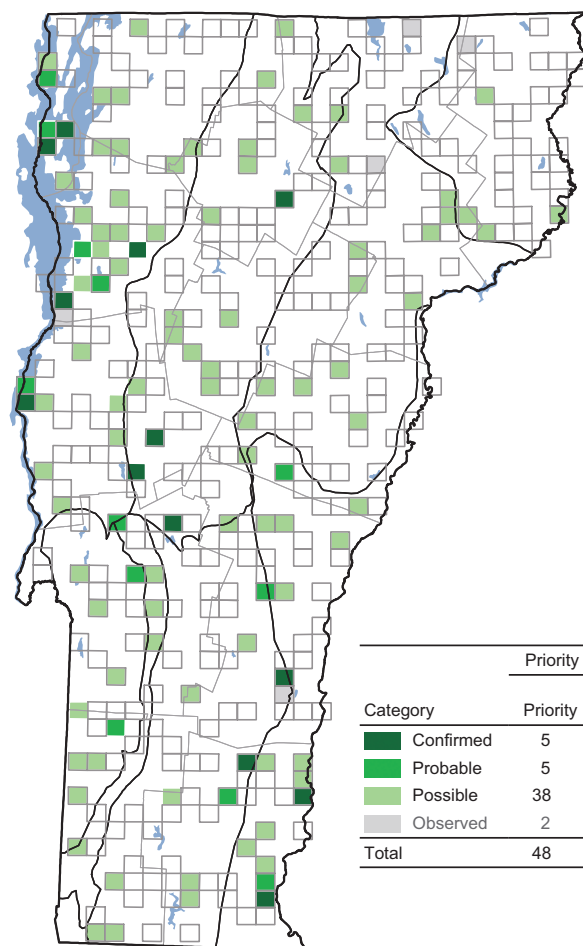
The dramatic increase in Cooper's Hawk populations in Vermont is part of a larger, regional phenomenon. Abundance increased significantly, by more than 4.8 percent per year, from 1982 to 2007 in the Eastern Breeding Bird Survey Region (Sauer et al. 2011), but too few birds are noted on Vermont routes to draw statewide conclusions. The increase in heavily populated Maryland (226 percent) was comparable to Vermont's increase (Ellison 2010). New York found an increase of 146 percent in occupied blocks (McGowan and Corwin 2008), but Pennsylvania found an increase of only 47 percent (Wilson et al. 2012). In Ontario, a tenfold increase in the probability of observance was noted in southern portions of the province, although province-wide it did not change significantly (Gahbauer 2008). These increases mirror similar changes in recent decades indicated by fall hawk-watch tallies at Cape May, New Jersey; the 2006 count was 10 times higher than numbers tallied in 1977 (Cape May Bird Observatory 2009).

DDT was deemed to have been responsible for the species' decline in the state (Ellison 1985); its ban has allowed



CHANGE IN DISTRIBUTION BETWEEN ATLASES

Biophysical Region	First Atlas	Second Atlas	Change	% Change
Champlain Valley	4	11	+ 7	+ 175
Northeastern Highlands	0	3	+ 3	+ 300
Northern Green Mountains	3	9	+ 6	+ 200
Northern Vermont Piedmont	1	4	+ 3	+ 300
Southern Green Mountains	4	5	+ 1	+ 25
Southern Vermont Piedmont	1	9	+ 8	+ 800
Taconic Mountains	1	3	+ 2	+ 200
Vermont Valley	0	4	+ 4	+ 400
Totals	14	48	+ 34	+ 243



Category	Priority Block Count	
	Priority 1	Priority 1 & 2
Confirmed	5	11
Probable	5	9
Possible	38	78
Observed	2	5
Total	48	98

DISTRIBUTION IN CURRENT ATLAS

Biophysical Region	% of region species occupies	% of all records for this species found in region
Champlain Valley	36	28
Northeastern Highlands	10	4
Northern Green Mountains	24	16
Northern Vermont Piedmont	16	11
Southern Green Mountains	21	12
Southern Vermont Piedmont	40	16
Taconic Mountains	33	7
Vermont Valley	62	5

Cooper's Hawk numbers to rebound. Additionally, the species has demonstrated its capacity to successfully inhabit urban environments. In the West, nesting densities are greater in the vicinity of urban centers (Curtis et al. 2006) and survival and reproduction is comparable to rural settings (Rosenfeld et al. 2009). The adaptability of Cooper's Hawk to human-dominated landscapes is likely to sustain populations well into the twenty-first century.

DOUGLAS P. KIBBE