Northern Saw-whet Owl

Aegolius acadicus

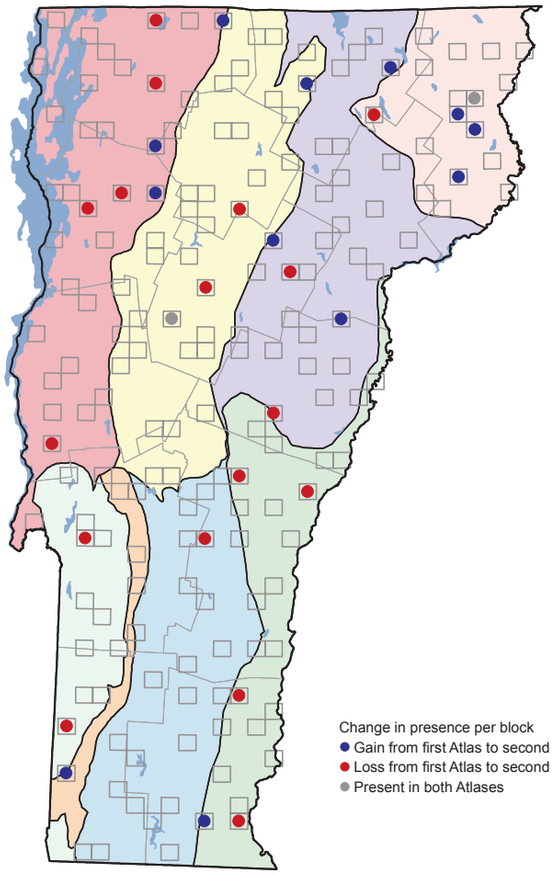
Among the waifs of the northern forest, no breeding bird may be more difficult to census than the Northern Saw-whet Owl. This nocturnal bantam is both secretive and nomadic, inclined to nest in abandoned woodpecker cavities in remote conifer swamps and beaver ponds. However, it may be one of the most common owls in the boreal and mixed forests across Canada and the northern United States (Rasmussen et al. 2008). Banding records suggest that a population of 100,000 to 300,000 birds stretches from south-central Alaska to Prince Edward Island, and southward to the higher elevations of the Appalachians, Rockies, Cascades, Sierras, Coast Range, and Sierra Madres (Cannings 1993, Rasmussen et al. 2008). Vermont lies within the heart of the Northern Saw-whet Owl's northeastern range.

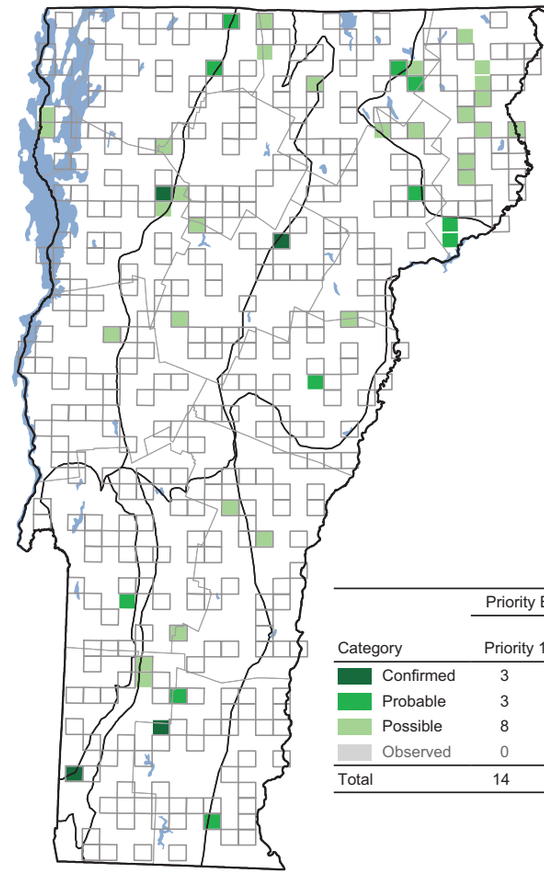
The first atlas documented Northern Saw-whet Owls in 19 blocks; 4 were confirmed breeding. The second atlas confirmed nesting in 3 Priority 1 blocks and recorded a total of 29 occupied blocks. Saw-whets were more or less scattered equally in all regions of the state except the Taconic Mountains, where they were not found. Because of its secretive habits, the bird was likely under-recorded, perhaps substantially, during both the first and second atlases. In the Northeast, the Northern Saw-whet Owl begins courtship in March and April—before most atlasers get into the field—and falls silent once egg-laying has begun (Rasmussen et al. 2008). Vermont atlasers worked under the assumption that birds recorded after 1 April were not migratory. Three of the eight PO records documented during the second atlas were found on 1 April.

Across its wide range, the Northern Saw-whet Owl is a small-mammal specialist (Rasmussen et al. 2008). A statistically significant correlation was found between biannual balsam fir cone production in montane forests and captures at mid-Atlantic migratory banding stations (K. McFarland unpubl. data). Coastal banding stations, which captured dramatically more juvenile owls the year following a bumper crop of mast, documented a possible connection between the productivity of cones and mammalian seed-eaters with increased abundance of young owls. Given this link, one might assume that, in a year following a fir-cone bonanza, the nomadic Northern Saw-whet Owl would breed in greater numbers throughout Vermont.

An overlap in the breeding and migration periods obscures the standing of the owl in adjacent New York (McGowan 2008). The second New York atlas documented Northern Saw-whet Owl on 146 blocks, up 13 percent since the first atlas. McGowan (2008) believes that a species-specific monitoring program is necessary to accurately assess the population status in New York. A similar program in Vermont could determine more precisely when overlap occurs. The second Pennsylvania atlas documented the Northern Saw-whet Owl on 287 blocks, an increase of 199 percent. The second Ontario atlas recorded a probability of observation of 8.4 percent, up from 3.3 percent. According to Badzinski (2007), the increase may have been a result of the Ontario Nocturnal Owl Survey, which was conducted during the second atlas but not during the first.

It is not known whether the Northern Saw-whet Owl is double-brooded or if females are sequentially polyandrous—both are suspected (Rasmussen et al. 2008). Even the bird's age at the onset of breeding remains unknown. According to the cone-cycle hypothesis, mast produc-





Category	Priority Block Count: Priority 1	Priority 1 & 2
Confirmed	3	3
Probable	3	6
Possible	8	20
Observed	0	0
Total	14	29

CHANGE IN DISTRIBUTION BETWEEN ATLASES

Biophysical Region	First Atlas	Second Atlas	Change	% Change
Champlain Valley	5	3	- 2	- 40
Northeastern Highlands	2	4	+ 2	+ 100
Northern Green Mountains	3	2	- 1	- 33
Northern Vermont Piedmont	2	3	+ 1	+ 50
Southern Green Mountains	1	0	- 1	- 100
Southern Vermont Piedmont	4	1	- 3	- 75
Taconic Mountains	2	0	- 2	- 100
Vermont Valley	0	1	+ 1	+ 100
Totals	19	14	- 5	- 26

DISTRIBUTION IN CURRENT ATLAS

Biophysical Region	% of region species occupies	% of all records for this species found in region
Champlain Valley	8	21
Northeastern Highlands	21	28
Northern Green Mountains	7	17
Northern Vermont Piedmont	4	10
Southern Green Mountains	7	14
Southern Vermont Piedmont	5	7
Taconic Mountains	0	0
Vermont Valley	12	3

tion and subsequent small mammal abundance would suggest when populations of this highly nomadic little owl might increase. Although there is no information on the effects of logging on the Northern Saw-whet Owl in Vermont, removal of mature forest stands—particularly coniferous roost trees, the owl's favored habitat—would likely be detrimental (Rasmussen et al. 2008). Losses could be mitigated by the placement of nest boxes (Rasmussen et al. 2008). To compensate for the lack of knowledge about the bird's basic natural history and to more accurately assess population trends, fieldworkers would need to doggedly inventory Vermont in March and April, attempting to distinguish the breeders from the migrants by tracking down as many nests as possible.

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