

Spruce Grouse

Falcipennis canadensis

The Spruce Grouse is a quiet and inconspicuous resident of the boreal forest that feeds on pine and spruce needles. It is one of the rarest breeding birds in Vermont, which lies at the very southeast edge of its range. Spruce Grouse are distributed throughout the northern coniferous forests of North America, from Labrador to Alaska (Williamson et al. 2008). Historically, the Spruce Grouse was widespread across northeastern Vermont. Now, the species is mainly restricted to a 62-square-kilometer (25-square-mile) area of spruce-fir forest in the Nulhegan River Basin of northern Essex County (Royar and Alexander 1987). Likely causes of historic Spruce Grouse declines were habitat loss and opportunistic hunting as early settlers and timber companies cleared spruce-fir forests.

Spruce Grouse prefer a relatively young successional spruce-fir forest with live branches close to the ground (Boag and Schroeder 1992). Small forest openings are an important component of the habitat because they provide food for young (Allan 1985). In Vermont, breeding occurs in late April and May. Hens with precocial young have been observed on 14 and 15 June (Oatman 1985) and on 19 June (C. Alexander unpubl. data).

During the first atlas, only two Spruce Grouse records were reported, one PO and one CO, each in a Priority 1 block. In the second atlas, one CO and three PO records were reported in four non-priority blocks. Due to their secretive nature, small populations, and restricted range, the low number of atlas records is not surprising.

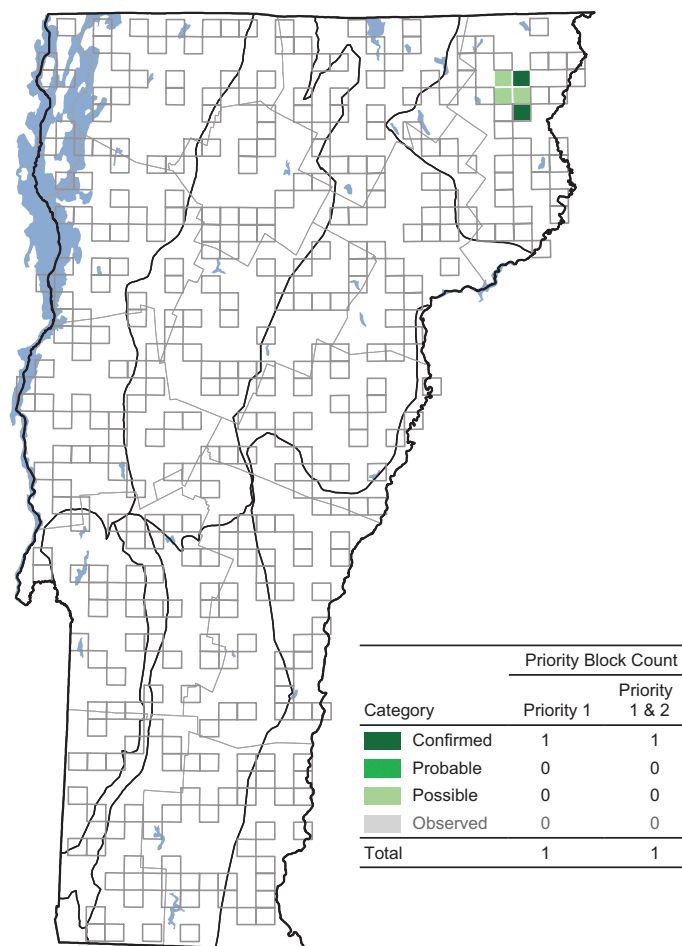
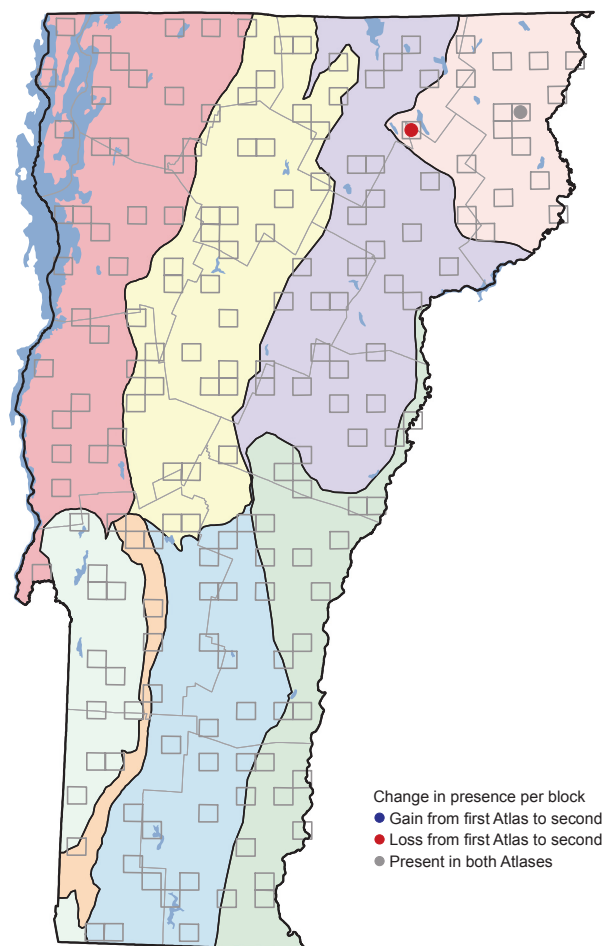
Surveys have been conducted since the early 1980s in an effort to document the status of Spruce Grouse in Vermont. From 1985 to 1987, Vermont Fish and Wildlife Department conducted annual surveys throughout northeastern Vermont but failed to find any birds outside of the Nulhegan Basin (Royar and Alexander 1987), although droppings were found 10 to 20 kilometers (6 to 12 miles) south of this basin in Granby and Ferdinand Bogs. A 1988 capture and banding study resulted in an estimate of 105 or more breeding birds in the entire Nulhegan Basin (Pence et al. 1990), and in 1990 Vermont Fish and Wildlife Department initiated an annual Spruce Grouse survey to



monitor this population. The number of birds detected remained steady at around 26 birds per year until 2006, when only 15 were detected. Because forest maturation, widespread blowdown, and paludification had degraded large areas of habitat within some transects, routes were moved to more suitable habitat in 2009. Nonetheless, in 2009 and 2010 only 17 and 14 birds were detected, respectively. Surveys in younger forest stands are proposed for 2011 to investigate whether the Nulhegan population has declined, shifted into more suitable habitat outside the permanent transects, or both.

Globally, Spruce Grouse are abundant and secure. On the southeastern periphery of their range, however, populations are in jeopardy. Spruce Grouse are protected in Maine, a Species of Conservation Concern in New Hampshire, and listed as endangered in Vermont and New York. Confirmed breeding blocks in New York declined by 50 percent between the first and second atlases (McGowan and Corwin 2008), and surveys by the New York State Department of Environmental Conservation between 2002 and 2006 found that only 14 of 32 sites that had been occupied between 1976 and 1987 still held birds. Reasons for losses include the periodic extirpation of populations in small, insular patches of habitat (Fritz 1979), and the maturation of coniferous forests in the Adirondack Park (Ross and Johnson 2008).

Currently in Vermont there are opportunities to restore subpopulations of Spruce Grouse in formerly occupied habitats. Much of Vermont's remaining suitable habitat is either state- or federally owned, or subject to



CHANGE IN DISTRIBUTION BETWEEN ATLASES

Biophysical Region	First Atlas	Second Atlas	Change	% Change
Champlain Valley	0	0	+ 0	+ 0
Northeastern Highlands	2	1	- 1	- 50
Northern Green Mountains	0	0	+ 0	+ 0
Northern Vermont Piedmont	0	0	+ 0	+ 0
Southern Green Mountains	0	0	+ 0	+ 0
Southern Vermont Piedmont	0	0	+ 0	+ 0
Taconic Mountains	0	0	+ 0	+ 0
Vermont Valley	0	0	+ 0	+ 0
Totals	2	1	- 1	- 50

DISTRIBUTION IN CURRENT ATLAS

Biophysical Region	% of region species occupies	% of all records for this species found in region
Champlain Valley	0	0
Northeastern Highlands	2	100
Northern Green Mountains	0	0
Northern Vermont Piedmont	0	0
Southern Green Mountains	0	0
Southern Vermont Piedmont	0	0
Taconic Mountains	0	0
Vermont Valley	0	0

conservation easements that require sustained forestry practices. Vermont Fish and Wildlife Department developed specific habitat management guidelines for state lands and for consideration by public and private land-owners (Alexander and Chipman 1991, Williamson et al. 2008). In an effort to recover this species in the state, Vermont Fish and Wildlife Department stocked Spruce Grouse in a portion of its former range on state-owned lands in the lower Essex County town of Victory (Alexander and Parren 2011). Between 2008 and 2010, 134 birds

were captured and translocated from Maine and Quebec. Annual censuses are planned to document the progress of this subpopulation.

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