

Osprey

Pandion haliaetus

The Osprey is unique among raptors. This species has specialized adaptations—such as reversible outer talons and closable nostrils—that allow it to catch live fish by hovering and diving (Clark and Wheeler 1987). Remarkably adaptable, this bird is one of the most widespread avian species in the world, inhabiting every continent except Antarctica (Poole 2002). Vermont is well within the Osprey's North American breeding range, which spans the East Coast from Florida to northern New England and across northern Canada (Poole 1989).

The preference of this piscivorous bird is to nest over water. Natural nest sites include snags, live trees with exposed branches, and even beaver lodges and muskrat mounds (T. Scharf pers. obs.). Most of Vermont's Osprey, however, nest on man-made structures. Osprey pairs need a large and sturdy substrate on which to build their heavy stick nests, which often weigh more than 22 kilograms (50 pounds; Poole 1989). Ospreys return to Vermont at the beginning of April and females can usually be seen incubating eggs by early May. Some nests are built in mid-May or even late May; these are usually renesting attempts or the nests of inexperienced birds. Incubation lasts for 35 to 43 days. Chicks are usually born in late May or early June, and fledge 50 to 75 days later (Poole 1989). Most chicks in Vermont fledge from late July to early August. Exact dates are not available because few nests are monitored closely enough to observe actual hatching or fledging. Osprey nests are conspicuous; therefore, the atlas map is likely an accurate record of the true distribution of the species in the state. Vermont Fish and Wildlife Department staff and volunteers monitor Osprey nests every year, lending added accuracy to atlas records.

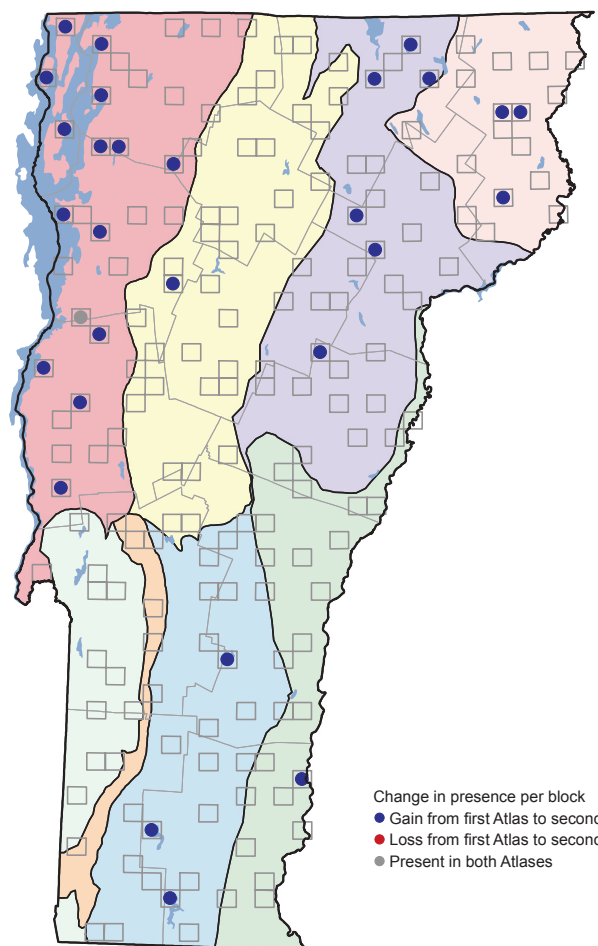
During Vermont's first atlas, there were no CO records of Osprey (Laughlin and Kibbe 1985). The second atlas revealed a well-established population with records in every biophysical region and confirmations in 16 priority blocks. A 1982 statewide survey by the Vermont Fish and Wildlife Department failed to document any nesting sites. Twenty-five years later, 92 known nest attempts were monitored in 41 blocks (VFWD 2007). In 2008, the



department recorded 119 nest attempts. Although records before the mid-twentieth century are sparse, it may well be that the increase in breeding pairs in Vermont is due to the availability of man-made nesting structures.

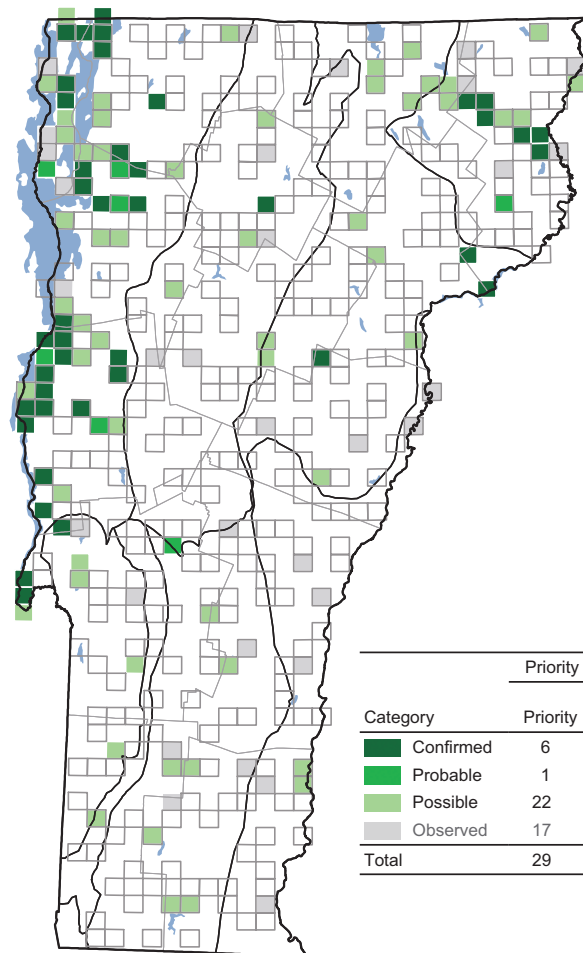
The great majority (approximately 80 percent) of Ospreys in Vermont nest near Lake Champlain (VFWD 2007). Populations are concentrated around the mouths of the Missisquoi and Lamoille rivers and Otter Creek. In the past decade, as population density increased in these presumably preferred nesting areas, the breeding range expanded to other parts of the lake, and a few pairs moved eastward into the state's interior, as far as Morrisville. The species has high natal fidelity and therefore movement into new areas is slow. There is a cluster of Osprey records in the Northeastern Highlands. To date, no Osprey breed along the Connecticut River south of Concord, but suitable habitat exists there and several nest structures have been installed.

Research shows that Osprey productivity had been limited by a lack of suitable nesting sites and complications from pesticide poisoning (Poole 1989). Beginning in the 1950s, Osprey populations in North America were decimated by the pesticide DDT, which caused eggshell thinning and consequent nest failure. DDT was banned in 1972, but it has taken many years for the species to recover. The recovery in the population can be attributed primarily to the removal of this pesticide from the food chain. Man-made nesting platforms that provide stable,



CHANGE IN DISTRIBUTION BETWEEN ATLASES

Biophysical Region	First Atlas	Second Atlas	Change	% Change
Champlain Valley	1	15	+ 14	+1400
Northeastern Highlands	0	3	+ 3	+ 300
Northern Green Mountains	0	1	+ 1	+ 100
Northern Vermont Piedmont	0	6	+ 6	+ 600
Southern Green Mountains	0	3	+ 3	+ 300
Southern Vermont Piedmont	0	1	+ 1	+ 100
Taconic Mountains	0	0	+ 0	+ 0
Vermont Valley	0	0	+ 0	+ 0
Totals	1	29	+ 28	+2800



Category	Priority Block Count	
	Priority 1	Priority 1 & 2
Confirmed	6	16
Probable	1	4
Possible	22	46
Observed	17	28
Total	29	66

DISTRIBUTION IN CURRENT ATLAS

Biophysical Region	% of region species occupies	% of all records for this species found in region
Champlain Valley	47	53
Northeastern Highlands	18	11
Northern Green Mountains	4	5
Northern Vermont Piedmont	15	15
Southern Green Mountains	12	11
Southern Vermont Piedmont	5	3
Taconic Mountains	4	2
Vermont Valley	12	2

predator-proof nest sites have also undoubtedly helped the birds maximize breeding.

Osprey populations have increased throughout the United States in the past two decades (Poole 2002). New York's second atlas showed an increase of 147 percent between survey periods, with the population expanding statewide from previous strongholds in the Adirondack Mountains and on Long Island (McGowan and Corwin 2008). Two years of data collection in the second atlas in Massachusetts have resulted in 147 blocks with records, 116 of which are confirmed (Breeding Bird Atlas Explorer

2009); this is a dramatic increase from 24 blocks with records (13 confirmed) during the first atlas (Petersen and Meservey 2003b).

The Osprey was removed from Vermont's Endangered and Threatened Species List in 2005, thanks to successful recovery efforts (VFWD 2006). Future management recommendations for Osprey in Vermont include annual nest monitoring for five years following the 2005 de-listing, and continued installation of nest structures (VFWD 2006).

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