

# Purple Martin

*Progne subis*

The Purple Martin, at least in eastern North America, has the distinction of being the only species of bird completely dependent upon nest sites provided by humans. A colonial nester, the martin occurs throughout the eastern United States and southern Canada, with disjunct populations found from the Pacific Northwest southward to the southwestern United States and central Mexico (Brown 1997). New England is at the extreme northeastern edge of its range.

The Purple Martin historically nested in old woodpecker holes and cliff crevices. Before European colonization, it had adapted to using hollow gourds provided by Native Americans, and now nests almost exclusively in structures provided by humans (Brown 1997). Most nesting colonies take up residence in specially designed “martin houses” or in natural or artificial gourds. Colonies tend to be located in open areas near water, including golf courses, campgrounds, backyards, and farm fields.

Martins arrive in Vermont by the end of April, although egg-laying often doesn’t begin until a month or more afterward. Three to six eggs are incubated for 15 to 18 days, and nestlings remain in their compartment for another 4 weeks.

In Vermont, the core of the breeding range is in the Champlain Valley, with the vast majority of records from sites less than 10 kilometers (6 miles) from the lake itself. Colonies are clustered in two areas: Grand Isle County in the north, and northwest Addison County in the south. This distribution is a significant retraction from that documented during the first atlas, when colonies were also found much farther inland and in the southern portion of the Champlain Valley. The Purple Martin has disappeared almost entirely from the Northern Vermont Piedmont in the vicinity of Lake Memphremagog, where breeding was confirmed in 2 blocks during the first atlas.

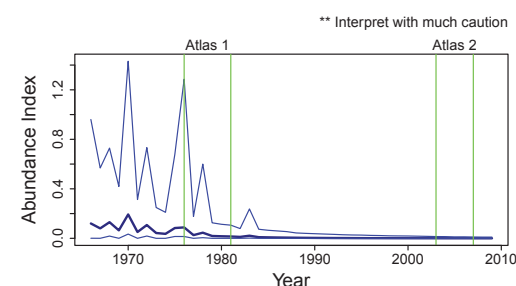
A similar pattern has been observed elsewhere in the Northeast. In New Hampshire, where more than 20 colonies were found during that state’s atlas in the early 1980s (Foss 1994), the number of colonies had dwindled to 10 by 2004 and 3 by 2009 (P. Hunt unpubl. data). Sec-

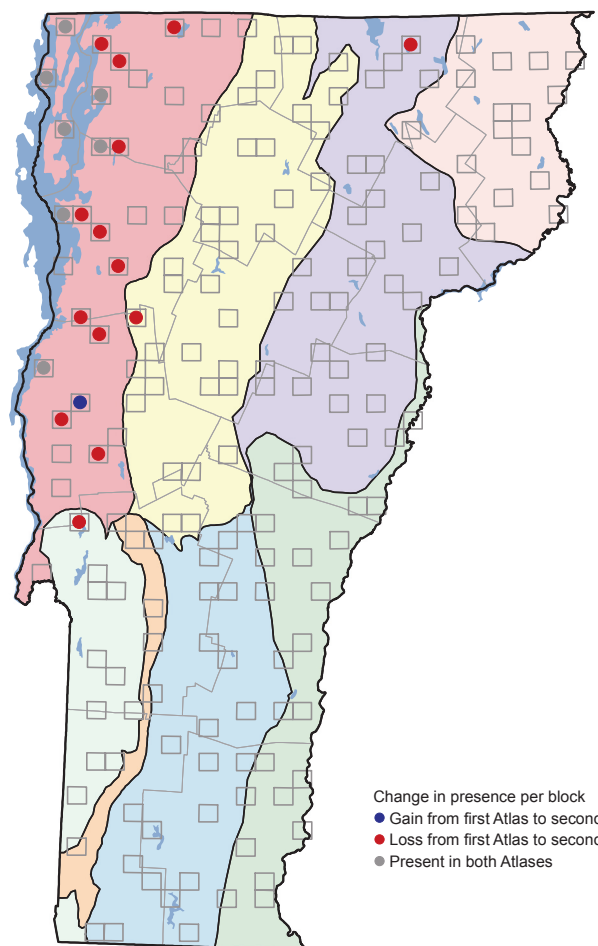


ond atlases in Ontario, New York, and Pennsylvania have documented losses of occupied blocks ranging from 39 to 48 percent (Cadman et al. 2007, McGowan and Corwin 2008, Wilson et al. 2012). In Ontario, the species disappeared disproportionately from northern regions and areas farther from the Great Lakes (Cadman et al. 2007), a pattern strikingly similar to that in Vermont. Purple Martin data from the Breeding Bird Survey are difficult to interpret because the species is so localized, but significant declines have occurred from 1982 to 2007 in Bird Conservation Regions that include Vermont: down by 4.1 percent per year in the Lower Great Lakes / St. Lawrence Plain, and by 8.4 percent in the Atlantic Northern Forest (Sauer et al. 2011).

Possible reasons for the disappearance of Purple Martin colonies across the Northeast are many. Competition for nest sites with non-native European Starlings and House Sparrows was once a concern, but populations of these competitors have declined since the first atlas (Sauer et al. 2011), and many martin house “landlords” implement measures to reduce competition, such as taking houses down during the winter, removing competitors’

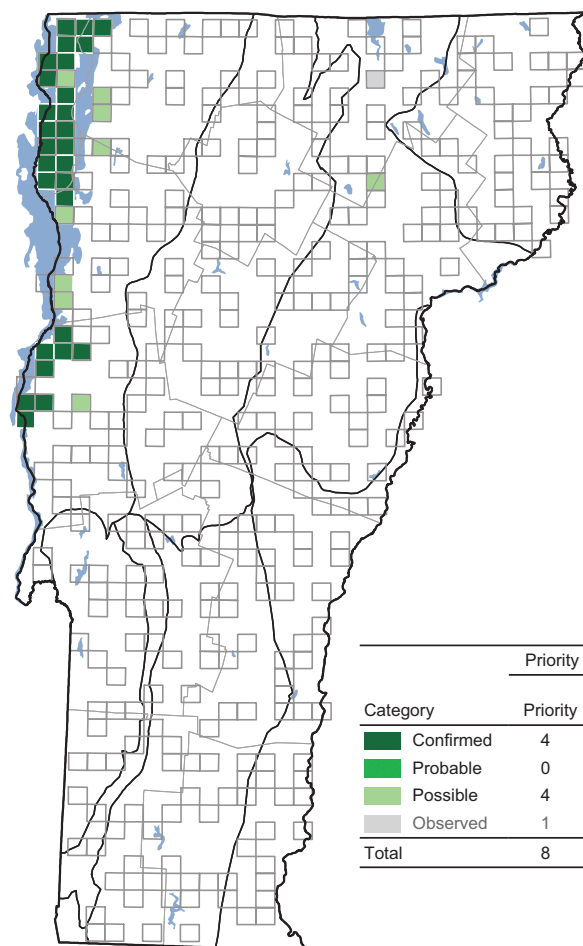
## RELATIVE ABUNDANCE OVER TIME





**CHANGE IN DISTRIBUTION BETWEEN ATLASES**

| Biophysical Region        | First Atlas | Second Atlas | Change | % Change |
|---------------------------|-------------|--------------|--------|----------|
| Champlain Valley          | 18          | 8            | - 10   | - 56     |
| Northeastern Highlands    | 0           | 0            | + 0    | + 0      |
| Northern Green Mountains  | 1           | 0            | - 1    | - 100    |
| Northern Vermont Piedmont | 1           | 0            | - 1    | - 100    |
| Southern Green Mountains  | 0           | 0            | + 0    | + 0      |
| Southern Vermont Piedmont | 0           | 0            | + 0    | + 0      |
| Taconic Mountains         | 1           | 0            | - 1    | - 100    |
| Vermont Valley            | 0           | 0            | + 0    | + 0      |
| Totals                    | 21          | 8            | - 13   | - 62     |



**DISTRIBUTION IN CURRENT ATLAS**

| Biophysical Region        | % of region species occupies | % of all records for this species found in region |
|---------------------------|------------------------------|---------------------------------------------------|
| Champlain Valley          | 26                           | 95                                                |
| Northeastern Highlands    | 0                            | 0                                                 |
| Northern Green Mountains  | 0                            | 0                                                 |
| Northern Vermont Piedmont | 1                            | 5                                                 |
| Southern Green Mountains  | 0                            | 0                                                 |
| Southern Vermont Piedmont | 0                            | 0                                                 |
| Taconic Mountains         | 0                            | 0                                                 |
| Vermont Valley            | 0                            | 0                                                 |

nests upon initiation and, in some states, culling of starlings and sparrows. Cold and wet weather that reduces prey availability can result in thousands of dead adults and near complete nest failure (Brown 1997). There were no major die-offs in northern New England between atlases, but there is some evidence of colony abandonment in New Hampshire during wet springs in 2004 and 2005 (P. Hunt pers. obs.). It may take decades for populations to recover, and even then some previously occupied sites will remain vacant (Brown 1997). Finally, pesticides used in agricultural areas of this bird's South American win-

tering grounds may have detrimental effects, as has been documented for Swainson's Hawks (Gildstein et al. 1996).

The Purple Martin maintains a precarious grip as a member of Vermont's avifauna. Although remaining Purple Martin colonies in Vermont are healthy, regional declines and local extirpations are alarming. Its status as a state Species of Special Concern, combined with the attention of martin enthusiasts who provide housing and supplemental food, may provide hope for the future of this bird in Vermont.

PAMELA HUNT