

Pied-billed Grebe

Podilymbus podiceps

The only grebe to breed in Vermont is the Pied-billed Grebe. The most widely distributed grebe in North America, it breeds from the Maritime Provinces westward across southern Canada to Saskatchewan and southward across the United States into Mexico. The core of its breeding range, where densities are highest, is the Prairie Pothole Region of North Dakota (Sauer et al. 2011). Vermont's population is migratory, but the species is hardy, wintering as far north as southern New England. Grebes regularly ingest their own feathers, and feed feathers to their young (Muller and Storer 1999, Sibley 2001). This may protect the digestive tract from sharp fish bones. Feathers contribute bulk to regurgitated pellets, which may rid the upper alimentary tract of gastric parasite buildup. Grebe feathers are very dense, and the white belly feathers were in high demand in the millinery trade for a time, almost causing the extinction of some grebe species (Gibbs and Melvin 1992). By compressing the body and plumage, expelling air, grebes can reduce their buoyancy and sink effortlessly below the water's surface.

Pied-billed Grebes prefer shallow, permanent marshland—with stable water levels, little human disturbance, and adequate prey—bordered by deep, open water. They are diving birds that eat a wide variety of prey including fish, crustaceans (especially crayfish), insects and their larvae. In the Northeast, they require marshes larger than 5 hectares (12 acres; Gibbs and Melvin 1993). Quite vocal when establishing territories, they become much more secretive later in the nesting period. Grebes build floating nests in water greater than 25 centimeters (10 inches) in depth and may build additional mating or brooding platforms. Pied-billed Grebes lay 4 to 8 eggs and, in southern Vermont, may raise two broods per year. Nests are difficult to access or find, and all confirmations (N = 7) were of young, found from 30 June to 25 August.

Pied-billed Grebes are very restricted in their occurrence in Vermont. They are reported on about 10 percent of Vermont's marshbird surveys (VFWD unpubl. data). Most breeding records are closely tied to the major marsh

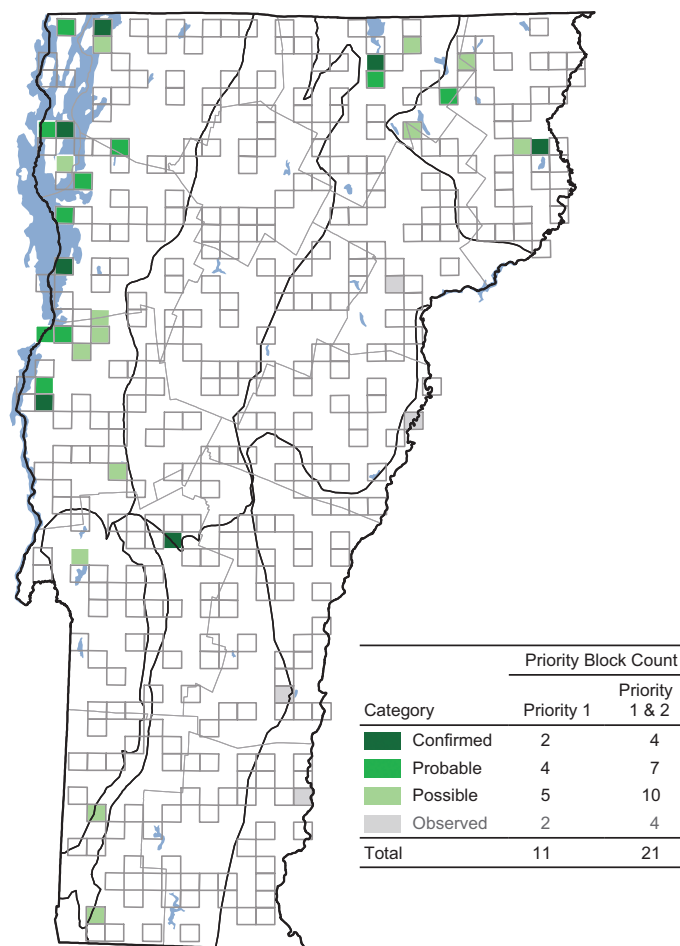
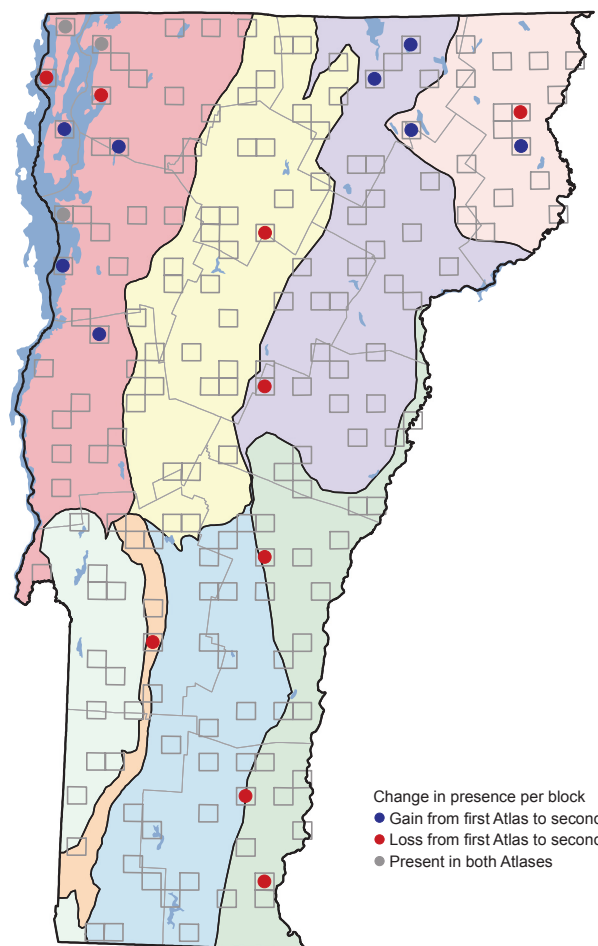


systems of the Champlain Valley or near Lake Memphremagog. Small wetlands associated with farm and beaver ponds are not accepted. Surprisingly, the larger marshes along the Connecticut River are also rejected as breeding areas, possibly because of fluctuating water levels.

There has been little change in the overall distribution of Pied-billed Grebes since the first atlas. They appear to have decreased slightly, however—a continuation of the declining trend that began before the first atlas. Most of this loss was in the central portion of the state.

In New York, the second atlas showed evidence of a substantial (47 percent) increase (McGowan 2008). Slight local increases were found in the second Ontario atlas in several areas, thanks in part to use of callback survey techniques (Sandilands 2007). But in Pennsylvania, where waterbird surveys were also given special emphasis, a decrease of 13 percent was found (Wilson et al. 2012).

In Vermont, the Pied-billed Grebe is a Species of Special Concern and a high-priority Species of Greatest Conservation Need. It is listed as threatened in New York and endangered in New Hampshire. Potential threats in the Northeast include invasive aquatic plants, mercury accumulation, and degradation of aquatic ecosystems. Continued protection of Vermont's large marsh ecosystems is necessary to safeguard populations. Maintenance of constant water levels during the breeding season and protection of nest sites from boat wakes have been proposed as measures that would aid this and other marsh nesters (New York Natural Heritage Program 2009). At present, we still have much to learn regarding the breeding biology of the Pied-billed Grebe in Vermont, and standard-



CHANGE IN DISTRIBUTION BETWEEN ATLASES

Biophysical Region	First Atlas	Second Atlas	Change	% Change
Champlain Valley	5	7	+ 2	+ 40
Northeastern Highlands	1	2	+ 1	+ 100
Northern Green Mountains	1	0	- 1	- 100
Northern Vermont Piedmont	1	2	+ 1	+ 100
Southern Green Mountains	1	0	- 1	- 100
Southern Vermont Piedmont	2	0	- 2	- 100
Taconic Mountains	0	0	+ 0	+ 0
Vermont Valley	1	0	- 1	- 100
Totals	12	11	- 1	- 8

DISTRIBUTION IN CURRENT ATLAS

Biophysical Region	% of region species occupies	% of all records for this species found in region
Champlain Valley	17	62
Northeastern Highlands	10	19
Northern Green Mountains	0	0
Northern Vermont Piedmont	3	10
Southern Green Mountains	1	5
Southern Vermont Piedmont	0	0
Taconic Mountains	0	0
Vermont Valley	12	5

ized survey efforts are recommended (Gibbs and Melvin 1992, Conway 2007). Although the use of call broadcasts is effective for certain species of rails, it is not for Pied-billed Grebes (Conway and Gibbs 2005).

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