

Warbling Vireo (*Vireo gilvus*)

NMPIF level: Species Conservation Concern, Level 2 (SC2)

NMPIF assessment score: 14

NM stewardship responsibility: Low

National PIF status: No special status

New Mexico BCRs: 16, 34, 35

Primary breeding habitat(s): Mixed Conifer Forest, Montane Riparian

Other habitats used: Spruce-Fir Forest, Ponderosa Pine Forest, Middle Elevation Riparian

Summary of Concern

Warbling Vireo is a generally stable and widespread species, but local population trends are uncertain. In New Mexico, it is associated with highland riparian and aspen communities which may be sensitive to disturbance or changes in forest structure. It may also be sensitive to nest parasitism by cowbirds and loss of winter habitat.

Associated Species

Dusky Grouse (BC2), Northern Goshawk (BC2), Red-naped Sapsucker (SC2), Purple Martin, Violet-green Swallow (SC2), American Robin, Orange-crowned Warbler, Black-headed Grosbeak

Distribution

Warbling Vireo is very broadly distributed across almost the entire United States and western Canada, excluding the southeast and Gulf Coast regions. Breeding populations also extend south in the Sierra Madre Occidental to central Mexico. The species winters along the Pacific slope of Mexico (Gardali and Ballard 2000).

In New Mexico, Warbling Vireos breed in upper elevation forests and woodlands statewide, and also occur in lowland riparian areas.

Ecology and Habitat Requirements

Across its large range, this species occupies many different woodland and forest vegetation types. It is generally associated with riparian areas and mature, mixed deciduous woodlands. In many locations, it is strongly associated with cottonwood-dominated riparian forests, which provide favored habitat structure of large trees with a semi-open canopy. In New Mexico, it also shows a preference for aspen and spruce-aspen communities. Other habitats occupied include emergent deciduous stands following logging operations, and human-associated habitats such as orchards, campgrounds and urban parks (Barrett 1998, Gardali and Ballard 2000, Ward and Smith 2000).

Warbling Vireos are present in New Mexico from late April through September. Most breeding activity occurs in June and July. The species is most common in forested mountains from 6,000 to 9,000 feet, but may occur at lower and higher elevations. Nests are built at a wide range of heights in different kinds of vegetation, but the presence of tall deciduous trees is apparently a requirement for breeding habitat. Warbling Vireos nest frequently in cottonwood, aspen and boxelder. Two broods per season are often raised (Gardali and Ballard 2000).

Conservation Status

Species Assessment

DISTRIBUTION	4
THREATS	3
GLOBAL POPULATION SIZE	2
LOCAL POPULATION TREND	3
IMPORTANCE OF NEW MEXICO TO BREEDING	2
COMBINED SCORE	14

Warbling Vireo is a Species Conservation Concern, Level 2 species for New Mexico, with a NMPIF combined score of 14. Its highest vulnerability score is 4, assigned by PIF for its relatively restricted non-breeding season distribution.

Population Size

Total population for New Mexico is unknown. PIF estimates a species population of 22 million, and that New Mexico holds about 1.4% of the species population, or about 307,000 birds. Reported breeding

densities include 2.4 pairs/ha in woodland in Manitoba; 1.1 pairs/ha in riparian areas in coastal California; 0.52 – 0.63 pairs/ha in unlogged coniferous-aspen forests in Arizona; and 0.88 – 1.1 pairs/ha in selectively logged forests in the same region with aspens left standing (summarized in Gardali and Ballard 2000).

Population Trend

BBS data indicate significant increases and decreases in different regions and over different time periods. Overall trends for the United States and Canada appear stable. BBS data for 1966-2003 are:

	Annual Trend (%)	P-value	Number of Routes
New Mexico	0.5	0.85	12
FWS Region 2	0.8	0.44	56
Western States	1.1	0.00	712

Threats

This species is sensitive to removal of cottonwoods, aspen or other deciduous vegetation in breeding areas. Habitat disturbance by humans or high levels of grazing may limit breeding success. Warbling Vireo nests are frequently parasitized by Brown-headed Cowbirds, which combined with nest predation, may be limiting to the population in some areas (Gardali et al. 2000, Ward and Smith 2000). On the wintering grounds, this species is significantly more abundant in undisturbed deciduous forests than in second growth deciduous forests, suggesting that it may be vulnerable to loss of primary forests in the tropics (Hutto 1989).

Management Issues and Recommendations

This species is considered stable in New Mexico. Management should focus on retaining healthy high and mid-elevation riparian habitat, aspen, and mixed-composition forests.

NMPIF Recommendations

- Maintain cottonwood/willow, aspen/willow and spruce/aspen associations in riparian areas.

- Maintain at least 35% canopy cover in appropriate habitats; can be up to 70% closure.
- If logging in areas where aspen occurs, maintain standing live aspen.

Species Conservation Objectives

NMPIF Objectives

- Maintain current numbers statewide.
- Determine impacts of cowbird parasitism on state populations.

Sources of Information:

Barrett, N. M. 1998. Warbling Vireo. Pp. 308–309 *in* Colorado breeding bird atlas (H. E. Kingery, ed.). Partnership and Colorado Div. Wildl., Denver, CO.

Gardali, T., and G. Ballard. 2000. Warbling Vireo (*Vireo gilvus*). *In* The Birds of North America, No. 551 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Gardali, T., G. Ballard, N. Nur, and G. R. Geupel. 2000. Demography of a declining population of Warbling Vireos in coastal California. *Condor* 102:601–609.

Hutto, R. L. 1989. The effect of habitat alteration on migratory land birds in a west Mexico tropical deciduous forest: a conservation perspective. *Conservation Biology* 3:138–148.

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