

Wilson's Warbler (*Wilsonia pusilla*)

NMPIF level: Biodiversity Conservation Concern, Level 2 (BC2)

NMPIF assessment score: 12

NM stewardship responsibility: Low

National PIF status: No special status

New Mexico BCRs: 16

Primary breeding habitat(s): Montane Riparian

Summary of Concern

Wilson's Warbler is a widespread and still common species associated with riparian and wet habitats in boreal and montane forests. Populations have been decreasing rangewide. This warbler breeds in very small numbers at the southern periphery of its range, in the mountains of northern New Mexico.

Associated Species

Broad-tailed Hummingbird (SC2), House Wren, MacGillivray's Warbler, Lincoln's Sparrow, White-crowned Sparrow

Distribution

This warbler of boreal and humid coastal forests breeds throughout Alaska and most of Canada, south along the Pacific coast and Sierra Nevada to southern California, and along the Rocky Mountain chain to Colorado and northern New Mexico. It winters in forest habitat from central Mexico to Panama (Ammon and Gilbert 1999).

In New Mexico, Wilson's Warbler has historically bred in very small numbers in riparian habitat at higher elevations in the San Juan and Sangre de Cristo Mountains; Parmeter et al. (2002) note there have been "few if any recent records." The species is a common to abundant migrant passing through the state from mid-April to early June, and mid-August through September (Parmeter et al. 2002).

Ecology and Habitat Requirements

Wilson’s Warbler typically breeds in riparian shrub thickets or adjacent meadow patches. In the Rocky Mountain region, the species often occurs in streamside habitats, around edges of beaver ponds, lakes, or bogs, and in overgrown clear-cuts (Ammon and Gilbert 1999). Breeding may occur at high elevations, extending into the alpine zone (Finch 1989). Although territories may include edges of coniferous or aspen forest, this species does not normally breed under a dense tree overstory. Breeding habitat is often dominated by willows, with an understory of forbs, mosses and sedges (Ammon and Gilbert 1999).

Nests are placed on the ground or in a hollow, either at the base of shrubs or well-concealed under bunches of grass, sedge, or other ground vegetation. In Colorado, nests were placed in interior of wet meadows or near forest edges (as close as 2 m), with no preference shown for either extreme (Ammon 1995). Ammon and Gilbert (1999) report 91% of nest sites in the Rocky Mountains were in moist meadows, 6% by streams, and 3% in willow thickets. Clutch size is 3-5 eggs. In central Colorado, no double-brooding or renesting was observed, despite an unusually long warm season, in which other, normally single-brooded species nested twice (Ammon 1995). Wilson’s Warbler may be present on breeding grounds in New Mexico from June-August.

Conservation Status

Species Assessment

DISTRIBUTION	3
THREATS	3
GLOBAL POPULATION SIZE	2
LOCAL POPULATION TREND	3
IMPORTANCE OF NEW MEXICO TO BREEDING	1
COMBINED SCORE	12

Wilson’s Warber is a Biodiversity Conservation Concern, Level 2 species for New Mexico, with a total assessment score of 12. It receives no vulnerability scores higher than 3.

Population Size

PIF estimates a species population size of 36 million. The New Mexico breeding population is very small; breeding in the state may be irregular.

Population Trend

Wilson's Warbler populations have shown variable increases and decreases in different regions and over different time periods. Population declines have become steeper and more prevalent since 1980, and BBS data for 1966-2004 show significant negative trends rangewide (annual trend = -1.6%, $p = 0.00$, $n = 545$). This species is not sampled by BBS in New Mexico, or in FWS Region 2. In Colorado, steep declines have occurred 1980-2004 (annual trend = -6.1%, $p = 0.09$, $n = 45$). NMPIF assigns a score of 3 for local population trend, indicating uncertainty.

Threats

This species increased in northern forests in the 1960s and 1970s, probably due to increased availability of early/mid-successional habitats following logging. Decreases in western regions since 1980 are most likely related to extensive destruction of riparian habitats, which support highest breeding and migrant densities. Increased predation and nest parasitism in disturbed areas may also be a factor in local population declines (Ammon and Gilbert 1999). Livestock grazing in high-elevation meadows and riparian areas may remove ground cover, degrade shrub cover, and facilitate nest parasitism by Brown-headed Cowbirds. NMPIF assigns a moderate score of 3 for threats to breeding in the state.

Management Issues and Recommendations

Management options are limited for maintaining Wilson's Warbler as a breeding species in New Mexico. Efforts should focus on maintaining undisturbed riparian habitat and wet shrubby meadow and hillsides in alpine areas in current or historical breeding areas in the northern mountains.

NMPIF Recommendations

- Seek to reduce or eliminate livestock grazing impacts in high-elevation meadow and riparian habitats in the northern mountains.
- Avoid timber cutting within 100 feet of riparian areas.
- Locate roads, trails and campgrounds away from riparian areas.
- Protect all wet shrubby meadow habitat in alpine areas such as Santa Barbara Ridge.

Species Conservation Objectives

NMPIF Objectives

- Survey and monitor to better understand species status trends in New Mexico.
- Maintain Wilson's Warbler as a regular breeding species in the state.

Sources of Information

Ammon, E. M. 1995. Reproductive strategies and factors determining nest success in subalpine ground-nesting passerines. Ph.D. Diss., Univ. of Colorado, Boulder, CO.

Ammon, E. M., and W. M. Gilbert. 1999. Wilson's Warbler (*Wilsonia pusilla*). In *The Birds of North America*, No. 478 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, PA.

Finch, D. M. 1989. Habitat use and habitat overlap of riparian birds in three elevational zones. *Ecology* 70:866–880.

Parmeter, J., B. Neville, and D. Emkalns. 2002. *New Mexico bird finding guide*. New Mexico Ornithological Society, Albuquerque, NM.