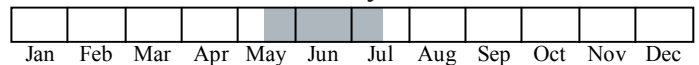


Best Survey Period



**Status:** State endangered

**Global and state ranks:** G5/S1

**Family:** Emberizidae (warblers)

**Range:** The prairie warbler primarily breeds in the southeastern United States. Two sub-species are recognized and include *Dendroica discolor discolor* and *Dendroica discolor paludicola* (Evers 1994). The more northern sub-species (*D. d. discolor*) ranges from eastern Oklahoma and northeast Texas; east to the Atlantic coast; and north to New England, southern Ontario, and Michigan. Highest abundances are concentrated in the southern Piedmont Region (Robbins et al. 1986). Midwestern populations are often local, disjunct, or absent from areas of seemingly suitable habitat (Evers 1994). Wintering grounds for *D. d. discolor* occur in southern Florida, the West Indies, Central America, and South America, with small numbers wintering in Mexico (American Ornithologist Union 1983). The southern sub-species, *D. d. paludicola*, is found in mangrove habitats along the southeast coast (primarily in Florida) (Robbins 1986) and typically it is non-migratory (American Ornithologist Union 1983).

**State distribution:** Michigan is on the northern periphery of the prairie warbler’s range (Evers 1994). Breeding activity primarily occurs in the Lower Peninsula. Evidence of breeding in the Upper Peninsula has only been documented in Baraga County (i.e. juvenile birds observed) (Evers 1994 and Walkinshaw 1959) and Delta County (Brewer et al. 1991). Most populations and solitary singing males are confined to dune and shoreline habitats

along the Lake Michigan coast (Brewer et al. 1991). Largest populations are located in Mason and Benzie counties, and this species is now scarce in the high plains area, where it was once abundant (Evers 1994). Nesting is confirmed in Benzie and Livingston counties; nesting is probable in Cheboygon, Kalkaska, Crawford, Alcona, Mason, Muskegon, Newaygon, Van Buren (Brewer et al. 1991), Allegan, Presque Isle, Alpena, and Berrien counties (Michigan Natural Features Inventory unpublished data 1999); nesting is possible in Delta, Emmet, Leelanau, Oscoda, Wexford, Lapeer, Ottawa, Kalamazoo, Jackson, Cass, and Branch counties (Brewer et al. 1991).

**Recognition:** The prairie warbler is a medium sized warbler that has yellowish-green upperparts and a bright yellow under-surface. Prominent **black streaks are confined to the flanks** and chestnut colored streaks are apparent (upon close examination) along the back. **Two black streaks are on the head** (one through the eye, and the other along the jaw). Sexual dimorphism is minor with females having less prominent streaking. Immatures look similar to females. The song of the prairie warbler is a **distinctive buzzy song that ascends in scale (e.g., zee, zee, zee, zee zeet)**. Typical songs consist of 8-14 notes. Prairie warblers are also the only yellowish warbler with a characteristic “tail bob” (Evers 1994).

**Best survey time:** The best time to survey for prairie warblers is from late May through mid-July. This time period is optimal because breeding males readily sing on their territories and are quite conspicuous. A standard survey methodology for this species is to systematically place observation points every ¼ mile throughout suitable



habitat. At each observation point an observer listens for 10 minutes and records all birds observed and/or heard within 50 m and beyond 50 m of the survey point (Ralph et al. 1995). Another simple method is to simply walk a transect through suitable habitat during the breeding season (mid-May to mid-July) and record individuals observed and/or heard (Bibby et al. 1992). All surveys should be conducted between sunrise and 10:30 am during good to fair weather conditions (e.g., low winds, dry).

**Habitat:** The prairie warbler prefers upland scrub-shrub habitats. Optimal breeding habitats are usually associated with poor soils and include brushy dune/lakeshore communities, fallow fields with scattered trees, young jack pine stands, pine plantations (especially Christmas tree plantings), oak clearcuts, and powerline right-of-ways (Evers 1994). Large openings surrounding or containing clumps of shrubs are typical components of breeding habitat. Populations typically exploit sites for short periods of time because preferred breeding habitat (early seral) coincides with rapid structural change in plant structure and composition (Evers 1994).

**Biology:** This species is a neo-tropical migrant that breeds in Michigan. Breeding in Michigan typically takes place from late May through mid-July. Prairie warblers place their nests in a shrub or sapling, usually 1-10 ft above the ground. The nest is a compact cup of plant fibers, small dead leaves, grasses, bud scales, fern and seed down, and lined with hair and/or feathers. Eggs are typically laid in June and young hatch within 11 – 15 days after eggs have been laid. Typically, 3-5 eggs are produced and are solely incubated by the female. The young are altricial at the time of hatching and are tended by both parents. Most young fledge between 8 – 10 days old and remain dependant on the parents for an additional 30 – 35 days after hatching (Baicich and Harrison 1997). The diet of the prairie warbler consists of a variety of small invertebrates. Adults glean insects and spiders from vegetation and young are primarily fed caterpillars (Evers 1994)

**Conservation/management:** Populations of the prairie warbler have declined nation-wide (Askins 1993) as well as in Michigan (Evers 1994). Globally this species seems secure but populations in the Mid-west are of moderate to high management concern (Robinson et al. 1999). Historically, prairie warblers in Michigan were common in the north-central (i.e., jack pine plains) and southwestern lower peninsula. Currently, Michigan populations are small and disjunct, which results in isolated populations that are forced to be self-sustaining or dependent on the sporadic immigration of individuals into the population. As a result of the diffuse nature of Michigan prairie warbler populations, it is difficult to assess the relative rarity of this species (Evers 1994). Michigan currently supports large areas of apparently suitable habitat (i.e., jack pine plains), however many of these areas remain unoccupied. The reasons for this are not well understood and some researchers have suggested that the habitat requirements of the

prairie warbler may be much more specific than anticipated. Conditions on the wintering grounds also might explain declines in Michigan and throughout the Mid-west (Evers 1994). Major threats to the prairie warbler in Michigan are habitat loss and cowbird parasitism, which significantly lowers nesting success. Further, nesting success is significantly hampered due an extremely high rate of nest predation (which effects nearly 80% of all nesting attempts). Typical nest predators include snakes, chipmunks, and blue jays (Nolan 1978).

Management practices that are beneficial to the prairie warbler include prescribed burning, allowing natural succession to proceed in fields, creating large cut-over areas, maintenance of large thickets in agricultural areas, and establishment of pine plantations (Askins 1993). Dune/shoreline habitats should be protected since they often provide excellent habitat for prairie warblers and apparently support viable populations in Michigan (Evers 1994). Before creating early seral habitats for the prairie warbler in a largely forested area, managers should assess the impacts on other species, such as forest interior birds. Extensive tracts of forest should not be fragmented with numerous open areas, since many species are patch size sensitive and cowbird parasitism increases as habitats become more fragmented. Rather, large contiguous blocks of open habitats and forest should be aggregated into separate areas to abate the adverse effects of fragmentation on open-land and forest interior species (Askins 1993, Petit et al. 1995). Prairie warbler management is most likely compatible with Kirtland's warbler management, pine barrens restoration, and regeneration of upland intolerant tree species such as oak, pines, and aspen.

**Research needs:** A better understanding of the state's distribution and relative abundance/rarity is needed. Further, research conducted on the habitat requirements such as minimum patch size, vegetation structure, and landscape patterns are needed to better manage this species.

**Related abstracts:** pine barrens, open dunes, wooded dune and swale, Hill's thistle, pale agoseris, rough fescue, Lake Huron tansy, Pitcher's thistle, Houghton's goldenrod, Kirtland's warbler, piping plover

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