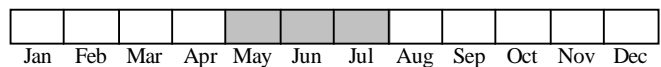


Best Survey Period



Status: State Special Concern

Global and state rank: G5/S3S4

Other common names: Long-billed Marsh Wren

Family: Troglodytidae – Wrens

Total range: The marsh wren is found throughout most of North America, but is restricted to appropriate freshwater and saltwater marsh habitat (Kroodsma and Verner 1997). Breeding occurs in most of the northeastern, Midwestern, and northwestern U.S. In Canada, marsh wrens breed in coastal Nova Scotia, southern Quebec, Ontario, and Manitoba, central Saskatchewan, northern Alberta, and southern New Brunswick. Resident marsh wren populations are found along the Atlantic, Pacific, and Gulf Coasts of the U.S., as well as the Central Valley of California, southwest Arizona, and most of Nevada, Utah, and Colorado. Marsh wrens will occasionally winter almost as far north as it breeds, if marshes with open water are available (Kroodsma and Verner 1997). However, most migrant marsh wrens winter in the southern U.S. and Mexico. See Kroodsma and Verner (1997) for detailed description of breeding and wintering ranges.

State distribution: Marsh wrens have a wide distribution in the Lower Peninsula, but appear to be more common south of the tension zone and in coastal marshes. The species was observed at scattered locations across the Upper Peninsula; however, breeding has only been confirmed in the two easternmost counties (Payne 1983, Sydlik 1991). The above map indicates counties with confirmed breeding during the first Michigan Breeding Bird Atlas (survey period 1983-1988) or known breeding occurrences from the Michigan Natural Features Inventory database. Payne (1983) listed marsh wren as a common transient and local summer resident and noted that the species was occasional into December in southeastern counties. He also listed marsh wren as a common nester in marshes from Saginaw Bay southward, as well as those of the St. Mary’s River in Chippewa County.

Recognition: Habitat is often the best clue to identification of this species, since it typically uses deeper-water cattail (*Typha* spp.) or bulrush (*Schoenoplectus* spp.) marshes. The similar sedge wren (*Cistothorus platensis*) is usually found in shallow-water wetlands dominated by sedges (*Carex* spp.) and grasses. Kroodsma and Verner (1997) describe the marsh wren as a small wren 104 – 140 mm in length and weighing 9.0 – 14.0 g. Although the sexes have similar plumages, the male is larger than the



female. Marsh wrens have a **dull black crown**, a **black triangular area striped with black** on the **upper back**, cinnamon brown upperparts with faint black barring, **whitish underparts**, buff coloring on the sides and sometimes breast, a **white superciliary stripe**, and black or cinnamon barring on the tail (Kroodsma and Verner 1997). Sedge wren is smaller, has a shorter bill, streaked crown and rump, a less conspicuous buff eyeline, paler upperparts, and buff undertail coverts (Kroodsma and Verner 1997). Song is also useful in distinguishing between the two species. Sibley (2000) describes the marsh wren song as a gurgling, rattling trill with a distinctive musical and mechanical quality. Sedge wrens usually begin their song with three or four deliberative notes, followed by a rattle, or a series of repeated syllables in a rapid trill (Bent 1948, Kroodsma and Verner 1978). The trill of the sedge wren is fainter and less musical and does not contain the bubbling notes of the marsh wren (Kroodsma and Verner 1997).

Best survey time: Surveys for marsh wrens are best done during the breeding season, when males are territorial and conspicuous singers. Males are especially vocal during the early morning, but will often sing during other daylight hours and even throughout the night (Kroodsma and Verner 1997). In Michigan, the breeding season usually spans the period from about early May through most of July. Marsh wrens can be surveyed using a variety of techniques, such as transects, boat or canoe surveys, or point counts. Given the difficult terrain in which this species breeds, point counts done by foot or watercraft are probably best. Conway (2005) provided a method for surveying marsh birds that can be applied to a variety of species.

Habitat: Marsh wrens use a variety of emergent marshes throughout North America, but it typically prefers deeper-water marshes when compared to the sympatric sedge wren. Dominant plant species found in wetlands selected by marsh wrens varies by region. In Michigan, marsh wrens usually nest over water in cattail and bulrush stands. Males built nests more often in cattail compared to bulrush and mixed stands in Washington; however, bulrush was preferred later in the season after cattail stands dried out (Verner and Engelsen 1970). Breeding marsh wren abundance did not appear to be associated with marsh area in Connecticut tidal marshes (Benoit and Askins 2002).

While marsh wrens usually inhabit cattail and bulrush marshes, the species also uses wetlands containing *Phragmites australis* (Benoit and Askins 1999, pers. obs.). However, we need more research to determine the level to which marsh wren and other species can tolerate the expansion of invasive haplotypes of *P. australis*.

Biology: Wood (1951) stated that marsh wrens typically arrive in the Lower Peninsula in late April or early May and reach the Upper Peninsula by mid May. Marsh wrens are polygynous, with most males mating with 1 – 3 females; the number of males attracting more than one female varies by population (see summary of research in Kroodsma and Verner 1997). Eggs of first broods in southern Michigan can occur between mid May and early June, while those of second broods can be found in mid to late July (Barrows 1912, Wood 1951). Nests are domed structures built of cattail, sedge, or grass supported by several stems in tall vegetation over water (Baicich and Harrison 1997, Kroodsma and Verner 1997). Verner (1965a) found mean nest height was 75 – 95 cm above the wetland floor in Washington marshes. Males construct the outer shells of several (“dummy”) nests within their territory and each mated female typically selects one for nesting and lines the inside with finer materials, such as strips of grass or sedge, small stems, cattail down, and feathers (Verner 1965a, Kroodsma and Verner 1997). Dummy nests not used for breeding are sometimes used by recently fledged young and wintering adults of resident populations for shelter (Bowles 1898 cf. Kroodsma and Verner 1997, Verner 1965a). Bent (1948) described the eggs as generally ovate, sometimes more rounded, and rarely more pointed. Eggs are smooth to moderately glossy and generally dark brown in appearance, with a dull buff, pinkish-buff, or light brown ground color and very fine and heavy scribbles and freckles of purplish-brown or grayish-brown (Baicich and Harrison 1997). Clutch size ranges from 3 – 10 but is usually 4 – 6 (see multiple sources in Kroodsma and Verner 1997). Eggs are laid at daily intervals and are incubated by the female alone for 12 – 14 days, beginning with the third or fourth egg (Baicich and Harrison 1997). This species typically double broods and three broods are sometimes produced (Verner 1965a). Marsh wrens will often peck and break the eggs of other species and conspecifics and remove nestlings when present (Picman 1977a, b).



Adults of both sexes and recently fledged young exhibit this behavior (Picman 1977b). Picman et al. (1996) demonstrated that marsh wrens have stronger and rounder eggs than similar sized eggs of other passerines, which supports their hypothesis that the selective force of pecking behavior has led to the evolution of stronger eggs. Young are altricial, blind, and helpless at hatching (Kroodsma and Verner 1997), and typically leave the nest at 13 – 15 days (Baicich and Harrison 1997). Nestlings are brooded by the female alone, but males will sometimes feed older young (Kroodsma and Verner 1997). Aquatic insects are the major food item in freshwater marshes (Kroodsma and Verner 1997). A variety of invertebrates are fed to young, including mosquitoes and their larvae, larval Tipulids, midges, beetles, caterpillars, sawflies, and dragonflies (Welter 1935, Verner 1965a). Verner (1965a) found that the size of foods increased as the young grew. Adults continue to feed young for about 12 – 14 days after fledging (Welter 1935, Verner 1965a). Marsh wrens usually feed on or near the marsh floor, and glean foods from stems and fallen vegetation, leaves of standing plants, and at or just below the water surface (Verner 1965b, Kroodsma and Verner 1997). Most marsh wrens depart Michigan between late September and early October (Barrows 1912, Wood 1951); however, some have remained in southern Michigan marshes into December (Payne 1983).

Conservation/Management: Marsh wren remains a common species in many marshes in Michigan; however, it has clearly declined in the State (Brewer et al. 1991). Concerns over possible population declines and habitat destruction led biologists to consider marsh wren a species of special concern in Michigan. North American Breeding Bird Survey (BBS) data do not indicate significant declines for Michigan, but marsh wren abundance appeared to decline by 5.25% annually for the eastern BBS region from 1980 to 2005 (Sauer et al. 2005). However, marsh wren abundance and sample size were not sufficient for reliable trend estimates, so these data should be viewed with caution (Sauer et al. 2005). Wetland loss and degradation caused by drainage, filling, other human disturbances, and invasive species continue to threaten habitats used by this species. Expansion of an invasive European haplotype of *P. australis* is of concern in the northeastern and Midwestern U.S., because it may

reduce biodiversity and impair wetland functions. *P. australis* could impact marsh birds through changes in the physical structure and food resources; however, marsh wren abundance in *P. australis*- and cattail-dominated tidal marshes was similar in Connecticut (Benoit and Askins 1999).

Research needs: As with many wetland birds, BBS data are usually not sufficient to monitor trends in marsh wren populations. We need better monitoring data if we are to detect significant declines over time. Conway (2005) presented a standardized protocol to survey marsh birds (e.g., grebes, rails, bitterns) in North America. Although this protocol does not target passerines, researchers can collect data on such species at the same time as other marsh birds with little additional effort. Kroodsma and Verner (1997) highlighted three areas for future marsh wren research: 1) systematics and interaction of eastern and western North American populations, 2) aspects of its polygynous mating system and associated differences between eastern and western populations, and 3) understanding the role that its large song repertoire and complex singing behaviors play in mating success. Research is needed to understand the potential effects of invasive plant species on wetland birds, including marsh wren.

Related abstracts: least bittern, black tern, yellow-headed blackbird, Great Lakes marsh.

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